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Hegel's *Logic* as Metaphysics*

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'Logic,' says Hegel, 'coincides with metaphysics, with the science of things grasped in thoughts that used to be taken to express the essentialities of things.'[1] In the larger *Science of Logic* he expands on this comment:

> The objective logic thus takes the place rather of the former *metaphysics* which was supposed to be the scientific edifice of the world as constructed by *thoughts* alone.—If we look at the final shape in the elaboration of this science, then it is *ontology* which objective logic most directly replaces in the first instance, that is, that part of metaphysics intended to investigate the nature of *ens* in general (and *ens* comprises within itself both *being* and *essence*, a distinction for which the German language has fortunately preserved different expressions).—But objective logic comprises within itself also the rest of metaphysics, the metaphysics which sought to comprehend with the pure forms of thought such particular substrata, originally drawn from imaginative representation, as the soul, the world, and God, and in this type of consideration the *determinations of thought* constituted the *essential factor*. Logic, however, considers these forms free of those substrata, which are the subjects of *figurative representation*, considers their nature and value in and for themselves. That previous metaphysics neglected to do this, and it therefore incurred the just reproach that it employed the pure forms of thought uncritically, without previously investigating whether and how they could be the determinations

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> of the thing-in-itself, to use Kant's expression—or more precisely, of the rational. The objective logic is therefore the true critique of such determinations—a critique that considers them, not according to the abstract form of the a priori as contrasted with the a posteriori, but in themselves according to their particular content.[2]

Kant's *Critique of Pure Reason* delivered the funeral oration over the remains of traditional metaphysics. Because it did not examine critically how pure thoughts apply to the world of things in themselves it ventured into realms beyond its competence, drawing conclusions about the self, the cosmos and God which were pure forms of thought divorced from any contact with the universe as it is in itself. What remains is a discipline that simply explores the concepts and categories that thought requires when it considers whatever is, and whatever is the ground of what is—being and essence.

That, however, opens up a significant question. Kant draws a sharp distinction between the way we have access to what exists, and the way we think about things. Our intellects passively intuit sensations and reflections whose brute existence is evident in their being simply presented to us. We then apply conceptual categories to make sense of them; but those categories are determining structures of our minds, not products of the world we encounter in our experience. Since, then, the thoughts we apply are functions of our minds and distinct from the direct impressions we receive from the world, they provide no access on their own to things in themselves. That means that any attempt to organize our thoughts conceptually and critically never gets to metaphysical conclusions, since it tells us nothing about the way things really are—their being—much less what is their ground, or essence.

In *Hegel's Idealism* Robert Pippin suggested that Hegel in the *Science of Logic* preserved the Kantian project; he is exploring 'the conceptual conditions required for there to be possibly determinate objects of cognition in the first place, prior to empirical specification, and that the key element in such an investigation will continue to be a focus on the self-reflexive character of any possible judgment and what *that* condition requires.'[3] It is, then, an extension of Kant's transcendental logic, justified by the internal connections that bind the categories together and exemplify the self-determining power of pure thought. It may tell us how we must think about objects in our experience, but it can tell us nothing about the way the world really is in itself. It would seem that there is no metaphysical claim at all. In response Robert Stern asks 'why we should think that the concepts which are necessary to enable us to have experience actually correspond to the world?' and proceeds to defend Hegel's metaphysical project 'as an investigation into the structure of reality at a fundamental level, concerning

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the nature of cause, substance, relations, universals, individuals, and so on, where this is motivated by the idea that because our beliefs about such things shape so much of our thinking, we need to ensure that we are conceiving them correctly.'[4] While Stern shows that Hegel's texts provide no justification for the non-metaphysical reading Pippin seemed to be proposing, he is not so clear on how Hegel can claim that the *Logic* ensures 'that we are conceiving the categories correctly'. For he agrees with Pippin in denying 'that a firm distinction can be drawn between intuitional and conceptual elements in knowledge.'[5] Yet he justifies the move, required to remove the challenge of subjective idealism, by nothing more than the claim that 'individuals can be understood as instantiations of such 'universals, ideal entities', which then in turn explains how such individuals are accessible to minds.'[6] He grounds this affirmation by developing an exposition of Hegel's concrete universal that shows how, when reflectively examined by thought, universals need not be abstract, but can at the same time be particular and individual.

While this is compelling and attractive (and, as I shall show, there is much I find congenial in Stern's discussion), one still has the sense that Stern has not established Hegel's *Logic* 'as an investigation into the structure of *reality* at a fundamental level.' For the activity of understanding individuals by means of universals is still conceptual and 'subjective'—it is talking about individuals only insofar as they are referred to by thought. What is it that enables Hegel to claim that such structures of pure thought can encompass the being and essence of a real universe that extends far beyond our thoughts—that 'the concepts which are necessary to enable us to have experience actually correspond to the world'? Simply because Hegel avoids all transcendental language when talking about the logic does not mean that he has established his metaphysical claim.

In a recent paper, 'Logic and Metaphysics: Hegel's Realm of Shadows,'[7] Pippin acknowledged that Hegel saw his logic as also a metaphysics, and modified his earlier reading by incorporating an Aristotelian strand into his interpretation. 'Entities are the determinate entities they are 'in terms of' or 'because of' their concept or substantial form or true actuality. Such a form accounts for such determinacy. Such entities embody some measure of what it is truly to be such a thing, and instantiate such an essence to a greater or lesser degree.'[8] Hegel is adopting a version of Aristotle's appeal to forms, then, when in the *Logic* he articulates 'the intelligibility conditions of ordinary objects.'[9] But while this proposal incorporates aspects of an Aristotelian metaphysics, it does not escape the challenge of Stern's question. For exploring the essential intelligibility conditions of objects still takes place in the realm of pure, non-empirical thought, and it is still possible for the world to be quite different from the way our thinking happens to proceed. To claim that the world in itself is rational in the way we understand it to be—essential to any kind of

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metaphysics—goes beyond the rational conditions for the cognition of objects and requires some reference to those conditions that generate the rational process of thinking in the first place. Both Pippin and Stern, then, present us only with a coherent set of conceptual categories that are interrelated in some kind of intricate way. Both ignore the challenge Kant posed when he said that concepts without the content of intuitions are empty, for it is this content that provides contact with the world of actuality.[10] It may well be, as both of them claim, that Hegel has simply absorbed pure intuitions into the domain of concepts—of the transcendental unity of apperception. But having abstracted such intuitions from the messy content present in actual sensations and reflections, all such concepts are isolated from their moorings in the actual world and left to develop as pure possibilities in the free-floating domain of thought. For all that Stern in his Introduction seems to recognize the importance of this challenge,[11] he takes us no further in providing a response. For both, then, the realm of pure non-empirical concepts remains free floating and, in Kant's terms, empty. To use Peirce's characterization, by allowing reason to hold its sway without any need to face up to the challenges presented by the real world, they 'let the action of natural preferences [or rational 'necessity'] be unimpeded and under their influence let men, conversing together and regarding matters in different lights, gradually develop beliefs in harmony with natural causes.' But, says Peirce, this a priori approach 'makes of inquiry something similar to the development of taste; but taste, unfortunately, is always more or less a matter of fashion, and accordingly metaphysicians have never come to any fixed agreement.'[12] A caricature, perhaps, but with more than a modicum of truth.

For all of the attempts to establish some reference to actuality embedded within concepts, the proposals put forward by Pippin and Stern remain within the domain of logic and have not broached the realm of metaphysics. One can always entertain Nietzsche's sceptical suggestion that what our human minds discover as conceptually necessary or true is nothing more than a lie that has enabled a particular species to survive.[13]

When we turn to Stephen Houlgate, we find that, for all of his efforts to escape Kant's transcendental distinction between the actuality of existence and the possibilities of thought, we are no further ahead. In *The Opening of Hegel's Logic* Houlgate distinguishes Hegel from Kant in that 'Hegel insists … that thought can know through purely intellectual intuition that *there is being as such* and that being takes (and *must* take) the form of finitude, quantitative and causally determined being, self-determining reason, and ultimately, nature. In this sense pure thought by itself can make certain general existence claims.'[14]

Here Houlgate recognizes that one needs to integrate what Kant has called the possibilities of thought with the actualities of existence; and he does so by introducing the Kantian term 'intellectual intuition'. For Kant, we humans cannot

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attain such insights, because our intuition is passive and receptive; only a being that can intuit what it actively produces is capable of such a direct insight. Schelling, drawing on Fichte's transcendental analysis, did go on to claim that the self-positing ego (as well as the creative artist) can be immediately aware of its own activity. But it is hard to see how Hegel can claim that, in thinking being, I am actualizing being.

In *An Introduction to Hegel* Houlgate presents a justification for his claim: 'If we are to set *all* our presuppositions—including those about being—to one side, we cannot simply suppose that being constitutes a world of objects that are external to thought or that it exceeds the reach of thought in some way. Initially we may suppose nothing about being at all, except for the fact that it is minimally pure and simple being. This means, however, that we have no warrant to assume that being as such is anything other or different from the indeterminate being of which *thought* is minimally aware.'[15]

I am afraid that this argument just does not work. Simply because we have no warrant to assume that the being of which we are thinking and actual being are different does not entail that we must make the contrary assumption that they are the same. The most obvious alternative, since Houlgate stresses that we are to avoid all presuppositions, is to adopt complete agnosticism. For he has introduced the assumption that, through some sort of non-Kantian intellectual intuition, thought is *aware* of being—a claim that involves much more than simply thinking the thought of being.

Even were we to accept the claim that, at the beginning of the logic, the 'being' which we are thinking *is* in some sense, we are faced with the fact that either its being is quite attenuated, and not tremendously robust, or that the thoughts we are talking about are quite different from those reflective concepts that have been carefully formulated in our minds. To make his thesis work, Houlgate needs to show that the thinking of being is forced to move beyond its indeterminate beginning by a necessity that thought discovers (again through some form of intellectual intuition) and does not generate. Being *must* take the form of 'finitude, quantitative and causally determined being, self-determining reason, and ultimately nature.' But this extension of his claim is equally problematic.

Let me illustrate. In his discussion of the first chapter of Hegel's *Science of Logic*, Houlgate explains the transition from becoming to *Dasein* in this way: 'The vanishing of being and nothing turns out to be not merely the vanishing of each into the other but the vanishing of the very difference between them and so the vanishing of both of them into their mutual indistinguishability.' (…) 'Pure being and pure nothing truly vanish, however, only where they do not constantly reappear.'[16] I must confess that I do not find much necessity in that argument, since I cannot see how the difference between pure being and pure nothing disappears. For ceasing to be is always balanced by a coming to be: being passes over to nothing, yet nothing passes over into being. They not only perpetually

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vanish, but they also perpetually reappear. Any necessity I find builds on that *double* transition—a dynamic that Hegel, in the second edition of the *Science of Logic,* stresses as of utmost significance.[17] Where we have a double transition that continually repeats itself in a circle, the whole complex dynamic can then (I would say) collapse into a new simple concept, which is of a being that is continually a coming to be and a ceasing to be. And that is the concept of determinate being or *Dasein*. I point out that disagreement in the way we understand Hegel's argument to make an important point. In thinking through Hegel's move from *becoming* to *Dasein,* Houlgate and I have come up with quite different explanations of its necessity. From my point of view, the double transition in the section on 'The moments of becoming' is critical. For Houlgate they are simply details in the logic of becoming which indicates its impurity. We could complicate the picture even further by including explanations provided by a legion of other commentators, including Pippin, on the logic of this initial move. But if a logical move is necessary, then it cannot be otherwise. That means that it needs to provide evidence that is persuasive, if not convincing, to any objective, open and reflective thinker. If it fails to do so, its necessity has not yet been established. We become aware of genuine logical necessity as consensus emerges from sustained and careful reflection by a community of intellectual agents. So when we have a fundamental disagreement about the first moves in the *Logic* where does the necessity lie? Each of us would seem to be, in Peirce's terms, simply articulating our taste.[18]

We could claim that Hegel has by some means activated an intellectual intuition that has up to now escaped most of us and that he has found the genuine path of conceptual necessity. But when we look at the various versions of the logical argument that Hegel himself provides, we find that he is quite ready to alter quite significantly the structure of the logical progression. To take but one example: a critical term for Hegel is *die Sache*—'the heart of the matter' or 'the real thing'. In 1813 it is found in the discussion of grounding as what is absolutely unconditioned; in 1817, in the first edition of the *Encyclopaedia,* it disappears entirely, to reappear in the second edition, once again in a discussion of conditions, this time not under 'ground' but in the discussion of possibility in the chapter on 'actuality'; when Hegel comes to revise the larger Logic in 1831, however, he places it much earlier in the argument, in the final stages of real measuring. It becomes the unity that underlies the radical changes in quality that occur as quantitative ratios vary. Which one of these represents the metaphysical necessity that Hegel is disclosing?

In other words, the reliance on conceptual necessity to establish the reliability of metaphysics is a very weak pillar upon which to base one's claim to metaphysical truth. Given the variety of explanations provided by commentators, one must attribute the intellectual intuition of necessity either to Hegel himself

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(which makes the alternative patterns in the various editions of the larger and smaller *Logics* puzzling) or say that the necessity is inherent in being itself and the pure thought that is identical with such being, but that we have no unambiguous access to this transcendent unity. When we poor mortals are exploring the necessity of the logic, we are simply investigating a range of possible conceptual orders. An apparent conceptual necessity, whether formulated by Houlgate, Burbidge, Pippin, Stern or even Hegel, may well represent nothing more than what Peirce has called 'something similar to the development of taste,' and provides no access to the way things really are.

Houlgate's solution, then, gets us no further than Stern's does. For we may well have to *understand* or think about things according to the determinations of *our* thinking; but that does not mean that things actually *are* the way we have to understand them to be. Thought, even the most presuppositionless, is still thought. If metaphysics is to have any credibility, it needs to establish, not simply that things are as we necessarily understand them to be, but that things *as they exist independent of our conceptual apparatus* are as we necessarily understand them to be.

Neither Pippin, Stern nor Houlgate, then, provide satisfactory explanations of how Hegel's categorial analysis can be a fully-fledged metaphysics—one that probes into the being and ground of the universe that exists whether we happen to be thinking it or not. Nevertheless I want to claim that one can find, within Hegel's discussion, clues that point toward a possible solution.

My argument begins with Kant. He is the one who delivered the death blow to traditional metaphysics in his Transcendental Dialectic. Efforts to reach reliable conclusions about the soul, the cosmos or god reach far beyond the evidence we have and lead into transcendental illusions. But at the same time his digest of the *Critique of Pure Reason* is called the *Prolegomena to any Future Metaphysics* and he not only lectured extensively but also wrote three other books on metaphysics: *The Metaphysical Foundations of Natural Science*, *The Fundamental Principles of the Metaphysics of Morals*, and *The Metaphysics of Morals*. Certainly these metaphysical essays rely on the a priori character of the twelve basic categories. But those categories on their own are, as we have seen, empty possibilities until they are given content through the intuition of actualities. While they stipulate the conceptual conditions of any possible object of experience, they remain transcendental, limited to the realm of possibilities. To generate a metaphysics of nature or of morals more is required. So in these works Kant applies these pure categories to 'the *empirical* concept of a matter or of a thinking being' and then explores 'the range of cognition of which reason is a priori capable regarding these objects.'[19] In other words, in addition to the transcendental series of concepts, which tell us nothing specific about the world of experience, but only its conditions of possibility, we have a metaphysics that begins from general empirical concepts, concepts which are 'given in such a way that besides what lies

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in this concept, no other empirical principle is needed for cognizing the things.' For Kant, pure concepts require some kind of generic empirical content if we are to draw metaphysical conclusions.[20] Kant does not clarify how we generate these empirical concepts of matter and thinking being. They would seem to be based on some of the most general kinds evident in experience. Nonetheless, he is suggesting that a genuine metaphysics requires some such empirical content if it is to emerge from the empty formalism of pure reason.

So when Hegel says that his *Science of Logic* 'takes the place of the former metaphysics' he need not be arguing for some intelligible set of pure a priori categories, as Pippin and Stern suggest, nor need he retreat to a pre-Kantian Spinozistic focus on a rational construction of the universe, as Houlgate argues. He could be developing in a more systematic way the kind of metaphysics that Kant himself practised.

It is worth remembering that, in 1804-5, just two years before the *Phenomenology* appeared, Hegel prepared a manuscript on Logic and Metaphysics which moved from the logic of simple connection, relationship and proportion to the metaphysics of cognition, of objectivity (soul, world and god) and of subjectivity (consciousness, the practical I, and absolute spirit).[21] The fact that he abandoned the attempt, leaving a very incomplete draft, suggests that he had seen the need to provide a different kind of philosophical analysis—one which required a prior discussion of the conditions of knowledge. In the Introduction to the *Science of Logic* he points out that 'The concept of pure science and its deduction is therefore presupposed in the present work in so far as the *Phenomenology of Spirit* is nothing other than that deduction.' Far from being a presuppositionless discipline, the *Logic* presupposes, as Houlgate himself admits, that the opposition of consciousness has been overcome: pure science 'contains thought in so far as this thought is equally the fact [*Sache*] as it is in itself, or the fact as it is in itself in so far as this is equally pure thought.'[22] If, as seems likely, 'the *Sache* as it is in itself' with its Kantian phraseology refers to real actuality in contrast to the realm of thought, then Hegel is saying that the end result of the *Phenomenology* integrates something like empirical content with the concepts of pure reason.

To provide support for this suggestion, it is worth considering how that opposition of consciousness, which represents both Kant's appeal to transcendental analysis and Nietzsche's scepticism about what humans call truth, could be overcome. Hegel sets the stage in the Introduction to the *Phenomenology*. Rather than starting out with a preconceived idea of what knowledge is, he says, it is better to allow consciousness to formulate its own claim. Any such conceptual claim to knowledge spells out with confident conviction the moves an intellect must take if it is to reach truth. It sets its own standard of measurement, for what results from putting that method into practice should correspond with what the claim to knowledge expects. Whenever in despair it discovers from the resulting experience that its conceptual proposals are flawed and need to be abandoned, it is thrown back

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on itself where it needs to formulate a new claim concerning the nature of knowledge—one that takes account of what it has discovered. In other words, consciousness has conceptually formulated what kinds of effects that might conceivably have practical bearings would result from implementing its claim to knowledge in practice. And it has discovered through experience that the real world in which it acts does not correspond to its most confident expectations. Here we have a process of confident belief, an experiential encounter with reality that shows the belief lacks truth, and the transition to a new, more comprehensive and thus more adequate, belief. Consciousness learns from experience and in the process constantly revises and reformulates its conceptual framework until it can predict conceivable effects that survive the crucible of experience.

I have formulated that dynamic in terms of belief and conceivable effects in order to evoke echoes of C.S. Peirce. In his essay, 'The Fixation of Belief' Peirce points out that the only reliable way of fixing belief does not involve the a priori method mentioned above but assumes that the real will ultimately frustrate and disprove inadequate beliefs; and in its sequel 'How to get our ideas clear' he defines a clear idea as one in which we work out what kinds of 'effects that might conceivably have practical bearings, we conceive the object of our conception to have.'[23] What Hegel is outlining in his introduction is essentially a version of Peirce's pragmaticism—a process whereby consciousness formulates conceptually a claim to knowledge which includes its conceivable practical implications, discovers that in the real world those do not follow, and retreats to revise its concepts in light of what it has discovered and prepare for the next step in its quest for knowledge. It is not surprising that the first title for the *Phenomenology* was 'Science of the Experience of Consciousness.'

There are several things to notice about this analysis. In the first place, experience has its critical impact on the formation of concepts not by any positive content it initially presents in intuition, but by the way concepts fail to produce in the real world the results that they entail. Things in themselves frustrate the blithe assumptions of pure thought. The significance of that breakdown has to be noticed by the dynamic of thinking itself when it revises its conceptual expectations. This implies, in the second place, that just as there are no pure unmediated intuitions, no brute empirical facts, but all intuitions are mediated by thought, as Pippin and others have argued, so there are no pure concepts, for all concepts have been refined in light of the experience of failed expectation so that they have become more adequate and inclusive. They incorporate essential features of the world as it is in itself. So, in the third place, thought does not start from a set of intuited data but with expectations concerning the way the real world functions. And it can have some confidence in the concepts that have emerged only to the extent that, as a result of their practical reformulation over time, they have not yet failed when they have been applied.

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It is worth noting that this is not simply an example of the scientific method in which an hypothesis is proposed and then tested through experiment. What is being tested is a complex conceptual framework that incorporates the implicit presuppositions of all such specific investigations. As consciousness proceeds, its conceptual expectations become more complex and intricate. Hegel is describing the way we formulate the most general thoughts by which we conceive the intelligibility of objects and how, to the extent that they have survived the crucible of experience, they have acquired a general empirical character.

The *Phenomenology*, then, traces the way conceptual formulations are constantly being corrected by the given recalcitrance of experience in a long and on-going process as they become more effective in predicting what will occur in the real world when we put a knowledge claim into practice. Indeed, when we look at the final chapter on 'Absolute Knowing' we find that it describes nothing more than the pattern of that process. From the beautiful soul consciousness has learned that, whenever one acts on the distilled essence of what one knows, one discovers that the results are not what one expects, and one has to incorporate that discovery into what it already knows; and from revealed religion it has heard that this is the ultimate rhythm of the universe, where the divine essence acts to create a world, discovers the result is not what it expected, and then initiates a pattern in which original design is integrated with the way the world actually is. The concept of pure science, which is presupposed by the *Science of Logic*, is nothing other than this process of learning from experience.[24] It is because the logic emerges from this process and, as I shall suggest, continues to implement it that it can be confident that the concepts it articulates and develops are not simply the a priori categories of transcendental thought, but metaphysical principles that are inherent in the universe.[25]

As I have already suggested, the concept of science that has thus emerged from the *Phenomenology* has an important implication. Kant had drawn a sharp distinction between the passivity of intuition when we receive what is presented to us in our sensations and reflections, and the activity of concepts and thought. That is the ground of his claim that we can have no conceptual access to things in themselves. It also means that concepts are brought to intuitions as some kind of alien other. Since they do not come from experience, they must be a priori. But by developing an account of experience that involves a reciprocal interaction between conceptual expectations and the disappointments of experience, Hegel has broken down the sharp dichotomy that defines the Kantian philosophy. Concepts determine what one notices in the dynamic field of sensory experience; and the brute recalcitrance (or secondness) of experience disrupts and destroys the calm confidence of the concepts. As Freddy Kislev observes, 'the mark of Hegelian thought, and the category that moves the *Logic* from Essence to Concept, is reciprocity.'[26] Even when the claim is that whatever we immediately sense without any action of the mind is what is true—the implicit presupposition

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of all empiricism—it turns out that the vagaries of one's particular space and time controvert any supposed 'truth' into a 'falsity'. Day turns into night; house replaces tree. The continuities that bridge the changing phenomena that present themselves require some kind of conceptual mediation.

Once we abandon the sharp distinction between a priori and a posteriori, then, there is no need to situate a particular set of twelve concepts in some kind of a priori Platonic heaven. Quantity, quality, relation and modality emerge in their own time and take their own place within the systematic development of the logic.

In sum, the concept of science that the *Science of Logic* presupposes is the conviction, established by the *Phenomenology*, that concepts and the reality of brute experience interact to refine our conceptual understanding of the way the world is. The task of the logic is to work out, based on our cumulative experience, what kinds of 'effects that might conceivably have practical bearings, we conceive the objects of our conception to have.'

If this is the case, however, it has several important implications for the status of the logic itself. In the first place, since concepts are the result of an ongoing process of revision of the conceptual framework that is to characterize adequately the dynamics of experience, they are not isolated atoms of meaning, but contain links and connections with other concepts and features. The inferential moves of logical thought draw on those relationships, and what we call logical necessity acquires its necessity from those links, embedded within our concepts, that have stood the test of time. Relative to the accumulated experience of our human species, such moves are necessary. The embarrassing fact that careful researchers identify a variety of necessary paths, then, may reflect nothing more than that we are drawing on diverse strands of that heritage.[27]

In the second place, since absolute knowing involves the process of confident claim, dismaying experience, and incorporating what one has learned from the failure into a more refined concept, we would expect that the *Logic* does not represent a final absolute stage, but is itself amenable to revision, both in the light of further conceptual reflection, and in the light of what experience throws up as time passes on. Indeed, Hegel introduces his preface to the second edition of the *Science of Logic* with these words:

> I undertook this revision of the *Science of Logic,* of which the first volume is hereby being published, in full consciousness—not only of the difficulty of its subject matter and of its exposition besides, but equally of the imperfection from which its treatment in the first edition suffers. As earnestly as I have striven after many years of further occupation with this science to remedy this imperfection, I still feel that I have cause enough to appeal to the reader's indulgence.[28]

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Houlgate takes a very strange position on this question. He points out that Hegel differs from Kant in that 'the categories of thought are not fixed, eternal forms which remain unchanged throughout history, but are rather concepts which alter their meaning in history.' But he then goes on to claim that for Hegel 'the categories as they are conceived in his own 'dialectical' philosophy are the categories in which the structure of being *is fully revealed*.'[29] Somehow the history of concepts stops with Hegel, and what before were alterable now become fixed, eternal forms that will remain unchanged.

This seems to me wildly implausible. And in fact, it can be shown, when one compares the first and second editions of Hegel's 'Doctrine of Being', that the categories of the logic continued to change from 1812 to 1831. Many of the changes involve cleaning up the logic: placing the categories in a different order or developing a dialectical move earlier or later, as it plays a different role in the development. But some may reflect developments that occurred in the sciences of the period.[30]

In his introduction to the second edition of his chapter on 'Measuring', Hegel comments that it presents some of 'the most difficult of subject matters.' Conceptually defined as the bringing together of quantitative and qualitative considerations, it works with abstract generalities as it moves through various quantitative strategies for measuring qualities. Probably for this reason he deemed it unnecessary to go into much detail in the shorter *Encyclopaedia* version. In the longer text, however, one can trace the logical transitions that generate the moves from (1) applying an external quantitative rule or standard through (2) measuring one quality of a thing against another of its more superficial features and (3) a process where two qualitative entities measure each other when they are combined to (4) what happens when one varies the ratio of quantities in a compound of two entities.[31] In the first edition, many of these moves are phrased in abstract language of dense obscurity. By the second edition he endeavours to make the moves plausible by pausing to adopt phrases and conceptions derived from the sciences. To be sure, it turns out that a different science is involved at one stage from that required at another; and in his introduction Hegel bewails the fact that one cannot draw examples easily from the social and spiritual realm. But to make sense of the combining of two measures, he appeals to the mechanics of specific gravity, a way of measuring reputedly discovered by Archimedes while taking a bath; to make sense of the fact that, out of a number of possible combinations, some are preferred to others, he appeals to an analysis of elective affinity developed by Torbern Bergmann in the eighteenth century (and questioned, even in his own time, by Claude Louis Berthollet); and his exposition of the nodal line draws on the way qualitative changes emerge when the ratios of elements in a compound vary, which became evident once chemical elements were progressively isolated after the discovery of oxygen in 1770. The logical distinctions became significant,

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indeed only became apparent, when the sciences found effective methods of measuring at various times throughout history. So it is not surprising that, in his revisions in 1831, Hegel incorporates references to the empirical discoveries of chemistry to make his argument plausible. The necessity that governs the development of this part of the logic would not have been that apparent had he limited himself to the abstractions of pure thought.

The conclusion to be drawn from my argument in this paper is that Hegel's logic can be a metaphysics because the most general concepts that govern the ways we understand the world have emerged over time as we humans have formulated precise expectations of what knowledge should involve only to discover that we were mistaken and had to take our failures into account when we proposed more adequate frameworks. Our cumulative experience becomes distilled into a network of concepts that becomes explicit only when logic turns its attention to making precise the definition of concepts, exploring implications, and integrating complex unities with some kind of rational necessity.

What excites me about this way of understanding Hegel's metaphysics is that it opens up a way to practise metaphysics in the twenty-first century. The sciences and our understanding of human society has expanded to the point where it is no longer possible for anyone to assume, as Hegel seems to have done, that one can incorporate the whole dynamic of nature and spirit into a single philosophical perspective. Nonetheless we still adopt concepts as the foundation for our understanding of the world, concepts which are adopted, often unthinkingly, by our colleagues in other disciplines. Since these concepts govern our understanding of the way the world functions, they have metaphysical implications. And so metaphysicians can play an important role by turning our attention to some of these fundamental concepts, analyzing them carefully, taking into account the kinds of 'effects that might conceivably have practical bearings, we conceive the object of our conception to have,'[32] how those implications fit with our cumulative experience, and how successful the predictions based on them turn out to be. I had originally intended to suggest how this might apply to our concept of cause, but that will have to wait for another occasion.

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Notes

[1] Hegel, *The Encyclopaedia Logic*, 1991, §24, 56.

[2] Hegel (2010), *The Science of Logic*, 42.

[3] Pippin (1989), *Hegel's Idealism: The Satisfactions of Self-Consciousness*, 176.

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[4] Stern (2009), *Hegelian Metaphysics*, 47, 30.
[5] *Hegelian Metaphysics,* 75, citing *Hegel's Idealism*, 9.
[6] *Hegelian Metaphysics*, 76.
[7] Read at the meeting of the Hegel Society of Great Britain on September 3rd, 2013.
[8] Ibid. Quoting from the unpublished manuscript, 6-7.
[9] Ibid. 13.
[10] Pippin identifies Hegel's term *Wirklichkeit* (actuality) with Aristotle's *energeia* as a way of bridging this gap. But one is still faced with the distinction between thinking the concept of actuality and actually encountering the actual.
[11] *Hegelian Metaphysics*, 20-1.
[12] C. S. Peirce, 'The fixation of belief,' [*CP*] volume 5, paragraph 382-3 [5.382-3].
[13] 'Wahrheit ist die Art von Irrtum, ohne welche eine bestimmte Art von lebendigen Wesen nicht leben könnte.' Friedrich Nietzsche (1966), III, 844.
[14] Houlgate (2006), *The Opening of Hegel's Logic*, 126; my emphasis.
[15] Houlgate (2005), *An Introduction to Hegel*, 44.
[16] *The Opening of Hegel's Logic*, 290-1.
[17] See *The Science of Logic*, 279.
[18] That such consensus is not impossible was illustrated by Houlgate's paper, presented to the Hegel Society of Great Britain on the 2nd of September 2013 on the logic of Hegel's chapter on Quantity. I found that his exposition of the moves made in the initial parts of that chapter both captured details of Hegel's obscure prose and was convincing in its own terms.
[19] Kant (1985), *Metaphysical Foundations of Natural Science*, 6; my emphasis.
[20] Ibid. Compare also the Introduction to the *Metaphysics of Morals*: 'We shall often have to take the special *nature* of man, which can only be known by experience, as our object, in order to *exhibit* in it the consequences of the universal moral principles; but this will not detract from the purity of the latter nor cast any doubt on their *a priori* origin – that is to say, a Metaphysics of Morals cannot be founded on anthropology, but may be applied to it.' Tr. T. K. Abbott, in *Kant's Critique of Practical Reason and other works on the Theory of Ethics*, 272.
[21] See Hegel, *The Jena System*.
[22] *Science of Logic*, 29.
[23] C. S. Peirce, 'The fixation of belief,' and 'How to make our ideas clear,' in *Collected Papers* [*CP*] volume 5, paragraphs 384 and 402 [5.384 & 5.402]. There is no evidence that Peirce ever read the *Phenomenology*. The Harvard libraries, however, hold a copy of the second edition of the *Encyclopaedia of the Philosophical Sciences* of 1827 with Peirce's book plate. This edition preceded the posthumous edition of the *Werke* which included material from Hegel's lectures as additions. In other words, the parallels that Stern discovers in the thought of Peirce and Hegel can significantly strengthen his claims about Hegelian metaphysics.
[24] I defend this reading of the chapter on Absolute Knowing in 'Hegel's Absolutes', *The Owl of Minerva*, 29(1) (Fall 1997), 23-37 and 'Absolute Acting', *The Owl of Minerva*, 30(1) (Fall 1998), 103-118. Both were incorporated into chapter 5 of *Hegel's Systematic Contingency*.

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[25] Stern recognizes that, in the Introduction to the *Phenomenology*, Hegel contrasts the real doubt that emerges from experienced failure from the artificial doubt proposed by Descartes, and that, in doing so, he is capturing an important theme in Peirce's pragmaticism. (See *Hegelian Metaphysics*, 218-225.) But he does not explore the way real doubt has implications for Hegel's metaphysical claims. Pippin, in contrast, sees the *Phenomenology* as fundamentally theoretical and conceptual, amounting to 'an extended reductio ad absurdum of any skepticism about Notion-object "identity" once the full development of that relation has been explicated and developed.' (*Hegel's Idealism*, 108). There is here no sense that the world as it is in itself has any role to play in generating the pathway to absolute knowing.

[26] In her comments on an earlier draft of this paper.

[27] I develop the role of these links (or 'tendrils of thought') in *Ideas, Concepts, and Reality,* 2013.

[28] *Science of Logic*, 11.

[29] Houlgate, *Introduction to Hegel*, 6; my emphasis. In response to this comment he asserted that there is no contradiction in making this move. Nonetheless, it leaps rather hastily over the nasty broad ditch that Lessing identified between the contingent facts of history and the necessary truths of reason. See 'On the Proof of the Spirit and of Power', in G. E. Lessing, *Theological Writings*, 51-56.

[30] See my 'Contingent Categories: A Response to Professor Lau', in *Owl of Minerva* 40:1: 115-131.

[31] See my discussion of this chapter in *Real Process: How Logic and Chemistry combine in Hegel's Philosophy of Nature*, 27-64.

[32] C. S. Peirce, 'How to make our ideas clear', *CP* 5.402.

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