Hegel's Critique of Pure Mechanism and the Philosophical Appeal of the *Logic* Project

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Hegel criticizes mechanistic explanation in both versions of his *Science of Logic*,[1] assigning it a subordinate or inferior status: teleology, he says, is 'the truth of *mechanism*' (WL 6:437-8/735). As always with Hegel, the meaning of this claim is not immediately and transparently clear. Does mechanism somehow describe or classify the world in a false, misleading, or unhelpful way? Are mechanistic accounts supposed to be incomplete in some way which prevents them from being truly explanatory? Or is Hegel's complaint to be understood in some other terms? And, whatever the claim, how could it possibly be supported by any sort of *a priori* philosophical considerations, as opposed to empirical consideration of how the world actually is?

What *is* clear is that Hegel connects his mechanism argument directly to the conclusions of the *Logic* as a whole. In particular, Hegel complains that conceiving objects in mechanistic terms leaves 'the notion' merely 'subjective' or 'outside' of them (§195). Hegel aims to defend, by contrast, '*the absolute unity of notion and objectivity*', which he calls simply 'the idea' (§213). Needless to say, this desired conclusion too stands in need of interpretation; it raises the largest, most important and difficult interpretive questions concerning Hegel.

I undertake here the challenges of clarifying and defending Hegel's mechanism argument, and showing how it throws some much-needed light on the nature and philosophical appeal of the *Logic* project. I will argue that the key to all this is Hegel's focus on a philosophical problem concerning *explanation* itself. Unfortunately, this problem can easily be obscured from us by contemporary tastes and assumptions. In particular, where Hegel discusses mechanism and teleology, we must not read him as if he meant to distinguish and examine something like two distinct but compatible ways of describing or classifying the world so as to address our different pragmatic or subjective interests. This reading would seriously constrain our understanding of Hegel's complaint about mechanism: the point would have to be that mechanism inaccurately, incompletely, or unhelpfully *describes* the world. Such a complaint would have to draw upon premises about the actual world and its contents, and it is hard to see how these could be compelling except as empirical claims.

But this approach gets off on the wrong foot. There may or may not be philosophical benefits to the idea that different forms of explanation are akin to compatible but distinct ways of describing or classifying the world. But to attribute such a notion of explanation to Hegel is to misunderstand his philosophy and its historical context. As is well-known, Hegel draws his basic terminology for formulating the contrast between mechanism and teleology from Kant's

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Critique of the Power of Judgment (KU). What is less well-recognized is that Kant's contrast brings with it an *objective* notion of explanation. Explaining, in the sense that interests Kant and Hegel, involves more than just describing or classifying objects or events in a manner which addresses whatever subjective interests we might have; explaining requires identifying those factors which objectively determine why events occur as they do, specifically in the manner that is objectively most relevant to this determination of the course of events (section 1 below).

This objective notion of explanation raises a series of philosophical difficulties, beginning with the problem of accounting for the distinction between the explanatory and the non-explanatory. In particular, what *makes* something the most relevant way of accounting for an explanandum, in contrast to the innumerably many ways of describing it which, though perfectly true, do not explain it? For example, one might propose that explanations are distinguished in virtue of describing explananda in terms which subsume them under general laws. Or one might propose that they are distinguished in virtue of identifying the underlying forces at work behind the phenomena to be explained. Hegel's mechanism argument itself does not propose a solution of this sort. It rather exploits the problem in support of a conclusion concerning mechanistic explanation in particular. The target of Hegel's attack is the idea that everything which can be explained at all can ultimately be explained in mechanistic terms. Hegel argues that assuming mechanism is 'absolute' in this sense would make the general problem concerning explanation in principle irresolvable. That is, under the conditions imposed by the assumption, there can be no way of accounting for the distinction between explanation and description (section 2). Appeal to the notion of causal or natural laws does not help, but rather brings out general reasons to doubt that we can distinguish explanation in terms of any sort of requirement on the *form* of individual explanations (section 3). Nor can it help to expand our ontology to include a 'real ground'—such as the force of gravity—which is supposed to be distinct from or independent of the natural phenomena to be explained (section 4).

The result, Hegel argues, is that the notion of explanation itself is collapsed, or reduced to 'only an *empty word*' (WL 6:413/713-4). And that means we cannot after all coherently entertain the idea that only mechanism might be explanatory; to try is to undercut the notion of explanation needed to formulate that very proposal. So Hegel's mechanism complaint is neither that mechanism incompletely describes the world, nor that mechanism cannot completely account for natural phenomena, such as the rotation of matter around a center of gravity. His complaint is that making mechanism 'absolute' would undermine any possible account of explanation itself. And that means that mechanistic accounts will have to depend, for whatever explanatory legitimacy they do have, on the legitimacy of some form of teleology (section 5).

Investigating the premises of this argument leads, first of all, to the central commitment of Hegel's theoretical philosophy: to avoid any foundational appeal to a supposed form of immediate self-justifying knowledge (section 6). We can

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understand in these terms why Hegel's mechanism argument does not appeal to a proposed form of immediate knowledge of ourselves as spontaneous, free, or otherwise non-mechanistic beings. And we can understand why Hegel's mechanism complaint is not and cannot be—contra a great many interpretations—that mechanism fails because it cannot account for the totality of everything there is in a perfectly complete manner. For Hegel does not and cannot begin by appealing to any special immediate insight into the supposed seamless unity and intelligibility of reality as a whole. In fact, Hegel's real argument is nearly the reverse: to suppose that mechanism alone is explanatory (Hegel argues) would be to dissolve everything into one single undifferentiated whole, leaving no way to grasp what it would be to explain anything in particular.

Finally, these results show that we can and must move beyond traditional approaches, both metaphysical and non-metaphysical, to Hegel's overall argument strategy. Hegel's arguments are grounded in a genuinely internal criticism of Kant, not in mere assumptions drawn from pre-Kantian metaphysics. And yet to make good on this internal criticism would require Hegel to go significantly beyond a non-metaphysical inquiry; he must attempt to justify an account of 'the absolute', or that which most fundamentally exists—specifically in the sense of that in virtue of which true explanations truly explain (section 7). I will conclude by posing some questions which can narrow the interpretive options concerning the Logic's conclusions about the absolute, and concerning the nature of Hegel's robust but unusual idealism (section 8). In sum, careful consideration of Hegel's focus on problems concerning explanation will allow us to see how the *Logic* itself might really be what Hegel means it to be: an extended philosophical argument *from* non-question-begging premises *to* far-reaching and controversial conclusions.

1. Problems Raised by the Objective Notion of Explanation in Kant and Hegel

I have outlined a complaint about mechanism based on a problem concerning explanation; but why think that *Hegel* is really so concerned about this problem? The answer begins with Kant's KU discussion of the contrast between teleology and mechanism, and Hegel's response in the 'Teleology' section of the *Logic*—where Hegel praises Kant's notion of 'internal purposiveness' (*innere Zweckmäßigkeit*) as one of the most important ideas in Kant, and perhaps in all of philosophy (WL 6:440-1/737; §204).

In the KU discussion which so influences Hegel, Kant uses the term 'mechanism' to single out accounts which explain without reference to any special organization, structure, or arrangement of whole systems. In other words, mechanism explains the structure and behavior of the whole in terms of the independent changes of the parts, and ultimately in terms of matter and the natural laws governing it. For example: 'if we consider a material whole, as far as its form is concerned, as a product of the parts and of their forces and their

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capacity to combine by themselves…we represent a mechanical kind of generation' (KU 5:408).[2]

The results of such 'mechanical kind of generation' are supposed to contrast with truly organized systems, or *Zwecke* ('purposes' or 'ends'). To be organized in this sense, it is not enough merely to be truly *describable* in teleological terms. To borrow Kant's example, we might truly describe a sea as depositing the sandy soil which benefits a forest of spruce trees (KU 5:367). But that is no reason to think that the sea deposits the soil in order to benefit the trees—on account of that end or purpose. Such benefit gives us no reason to doubt that the movements of sea and soil and their arrangement relative to the spruce trees can all be explained perfectly well according to a 'mechanical kind of generation', without reference to benefit, purpose, function, etc.[3] Matters would be different with respect to a system whose origin could not be explained in terms of the independent changes of its parts, specifically because its parts are present at all only on account of some role they play within the whole. Thus we might explain in teleological terms—more specifically by attributing functions or purposes to the parts of a system—only where the 'parts (as far as their existence and their form are concerned) are possible only through their relation to the whole' (KU 5:373). And this organization requirement is Kant's first step away from the merely 'external purposiveness' (*äußere Zweckmäßigkeit*) (KU 5:368) of sand and sea-type cases, and toward the genuine 'internal purposiveness' which so interests Hegel.

It is crucial that this specific contrast does not treat teleology and mechanism as two different forms of description or classification, but as two different forms of explanation: to apply either is to purport to account, in the most relevant manner, for *why* a system is as it is. And this generates a problem concerning their compatibility which is of central concern to Kant. With respect to the origin of one single system, its parts either are present on account of their roles within the whole, or they are not and can be explained without any such reference. Concerning this specific question there cannot be compatible but different perspectives or points of view. As Kant says, 'one kind of explanation excludes the other' (KU 5:412).[4]

This is an incomplete look at Kant's notion of internal purposiveness, and I have ignored Kant's own attempt to resolve the philosophical problems by limiting teleological judgment of nature to a merely subjective validity—to 'reflective' judgment serving a 'regulative' function but unsuitable for explanation in the objective sense (*Erklärung*).[5] Discussions of Hegel's response often begin with Hegel's rejection of that conclusion, especially as this rejection is expressed in Hegel's early *Glauben und Wissen* (1802).[6] But the right way to understand Hegel's response to Kant, at least in the *Logic*, is to begin with a continuity: Hegel's arguments may aim at very different conclusions, but they are driven everywhere by an appropriation of Kant's basic contrast and the objective notion of explanation carried with it. Thus Hegel too treats mechanism and teleology as forms of explanation in the objective sense: both purport to get at the why or the because of things. Hegel does not treat them as ways of describing or

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classifying things which would be mutually 'indifferent', in that one and the same object could be truly described in many different ways, legitimately classified using different conceptual schemes, etc. More specifically, Hegel says that mechanism and teleology *cannot*

> be taken as *indifferent* concepts, each of which is for itself a correct notion, in possession of as much validity as the other, the only question being where one or the other can be applied. This equal validity of both is grounded merely because they *are*, that is to say, because we *have* them both. (WL 6:437/735)

So Hegel too sees the contrast, built on an objective notion of explanation, as a source of philosophical problems. It means that teleology and mechanism are not merely distinct and 'indifferent' ways of conceptualizing the world; they threaten to conflict. And it means that questions about their justification or legitimacy specifically as forms of explanation cannot be addressed just by reflecting on the forms of description or classification which we 'have' or tend to prefer and find of interest in different cases.

How will Hegel approach these philosophical problems? He is clear, at least, what he will not do. For he criticizes the approach of 'earlier metaphysics': 'it has for one thing presupposed a certain representation of the world (*Weltvorstellung*) and labored to show that one or the other concept fitted it, while the opposite one was defective' (WL 6:437/734). But one assumption is only as good as another, and merely presupposing a basic picture of the nature of reality cannot possibly resolve philosophical questions concerning mechanism and teleology. So it is a mistake to see Hegel as interested in examining the compatibility of mechanism or teleology with one or another *Weltvorstellung*. For example, Hegel will not evaluate mechanism in terms of its compatibility with a common-sense picture of the world, which might suggest difficulties when it comes specifically to living beings, our own actions, etc. Nor will he evaluate mechanism in terms of its incompatibility with a picture of reality as a completely intelligible whole, a single unified mind, or single developmental mental process, etc. Instead, Hegel promises to approach directly what he calls 'the notion (*Begriff*) of mechanical cause and of end' with an eye to determining 'which possesses truth *in and for itself*' (WL 6:437/734). Of course, we have seen enough to know that the point is not to ask the degree to which mechanism and/or teleology are true *descriptions* of the world; the point is to evaluate the truth of their claims to *explain*, to get at the why or because of things.

We are interested specifically in the first step of this extended inquiry, namely, in Hegel's investigation of the claim of mechanism in particular to explain. How can Hegel approach this topic directly, without bringing to bear either empirical data or mere assumptions about the world? He does so by means of a thought experiment. The hypothesis to be tested is that everything explainable can be explained in mechanistic terms. I'll call this the 'total mechanism' hypothesis. Is it possible, Hegel asks, to make sense of mechanism's claim to explain, as opposed

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to merely describe, while staying within the bounds of that thought experiment? Hegel argues that we can answer 'no' on philosophical grounds. For the total mechanism hypothesis will render the general problem of explanation in principle irresolvable. That is, within these bounds there can be no way to successfully account for the distinction between explanation and description, and so there can be no genuine notion of explanation at all. In Hegel's terms, the *Logic* tests whether different 'logical determinations' might succeed as 'definitions of the absolute' (§85).[7] He will argue that 'the mechanical point of view must be rejected quite decisively when it pretends to take the place of comprehensive cognition generally, and to establish mechanism as absolute category (*als absolute Kategorie*)' (§195Z).

Or so Hegel will argue. But how? After all, accounting for explanation itself presents a perfectly general philosophical problem; why should it have any special significance concerning mechanistic explanation in particular? As we will see, the answer turns on the implications total mechanism would have concerning concepts which discriminate individuals.

2. The General Case: Mechanism and the Problem of Merely External Notions

Hegel begins with Kant's definition, according to which mechanism is explanation of wholes as the 'product of the parts and of their forces and their capacity to combine by themselves' (KU 5:408). To imagine such explanation alone is legitimate, and legitimate everywhere, is to imagine that everything explainable is a composite of independent, non-coordinated parts. So even if the relationship between parts suggests 'a semblance of unity', Hegel says, 'it remains nothing more than composition, mixture, aggregation and the like' (WL 6:410/711; also §195). Furthermore, for any two or more objects, we can think of the larger whole system they constitute together, and this too will have to be merely an aggregate of independent parts. Thus the original objects must be operating independently of one another. In Hegel's terms, 'whatever relation obtains between the things combined, this relation is one foreign to them that does not concern their nature' (WL 6:409/711).[8]

Now consider the implications of this point concerning concepts which discriminate individuals. We might approach Hegel's claim via an example. It is not an arbitrary matter whether I apply the concept *black* or the concept *pink* to my cat, because she is black and not pink. But should I consider her as a whole, in terms of the concept *cat*? If the total-mechanism hypothesis is correct, then she is an aggregate of independent non-coordinated parts. So I might just as well consider her as a bunch of atoms. What's more, the relations between those parts of my cat will be no different than their relations with everything else, so I might as well consider her instead as a tiny part of everything in this room, this continent, solar system, galaxy, etc. Or even as a tiny part of all the carbon, aggregated with a tiny part of all the oxygen, etc. Within the terms of the mechanism thought experiment, none of the innumerably many possible sets of

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concepts we might use to discriminate and relate objects can be privileged over any other, and the choice between them will be arbitrary, or a matter of subjective or pragmatic interest.

Hegel puts the point by saying, of the 'mechanical object', that

> the determinatenesses … that it has in itself, do indeed belong to it, but the *form* that constitutes their difference and combines them into a unity is an external [*äußerliche*], indifferent one. (WL 6:412/713)

Similarly, 'the object' has the 'notion' 'as subjective' or 'outside itself (*außer ihm*)' and all 'determinateness is imposed from without (*alle Bestimmtheit ist als eine äußerlich gesetzte*)' (§195; see also WL 6:440/736). In a sense, then, any given object lacks certain features and has others; there are 'determinatenesses' which 'do indeed belong to it'. But this is so only on the basis of a concept which picks out the object in question—what Hegel here calls the object's 'form' or 'notion' (*Begriff*). And under the conditions imposed by the mechanism thought experiment, the choice among *these* will be arbitrary. That is, the concepts by which objects are individuated—their 'notions'—are a matter of indifference, merely 'external' to the matter at hand, or merely determined by 'subjective' interest.

The question is, however, why should any of this be a *problem*? Why shouldn't precisely the independence of mechanistic accounts from whatever individuating concepts we happen to favor be a hallmark of mechanism's superior explanatory legitimacy? Hegel himself concedes that this does seem a superiority if mechanism is contrasted with traditional forms of 'external purposiveness' explanation, according to which different natural beings all have a place and a purpose within the whole of reality, usually for the sake of human beings—with the idea, for example, of explaining the cork tree in terms of its relation to wine-making.[9] Viewed in that light, the arbitrariness mechanism introduces 'gives the consciousness of infinite freedom as compared with teleology, which sets up for something absolute what is trivial and even contemptible in its content' (WL 6:440/736). So why complain about external or subjective 'notions'?

To see why, we must consider the constraints the thought experiment will place on any attempt to ground or explain the distinction between description and explanation itself. If mechanism alone is explanatory, then any object to be explained is merely an aggregate, and cannot change in ways which require explanation in terms of that very particular whole. In Hegel's terms, the mechanical object 'has the determinateness of its totality outside it in other objects' (WL 6:412/713). To explain, then, we will have to recharacterize our object in terms of its dependence on its parts or its relations with other objects within a larger whole system. But now how specifically shall we break our object into parts? And to which other objects shall we relate it? Obviously there will be innumerably many ways of doing both, and not all of these promise to explain anything. Say the explanandum is the process of digestion in my cat's stomach. Clearly there are innumerably many ways we can describe her relations to many other objects without hitting on anything remotely explanatory: we can describe

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her precise distance from the Golden Gate Bridge, from Saturn, etc. We could similarly analyze her into cube-shaped parts as divided by innumerably many arbitrary and imaginary coordinate systems without making any contribution toward explaining. Hegel's is not an epistemological worry, namely, that we cannot *know* which of the innumerably many possibilities can explain. The worry is that the total mechanism hypothesis—if taken seriously—would undercut any possibility of a genuine distinction between those which contribute to explaining and those which do not. For the thought experiment constrains us to hold that *every* way of discriminating the parts of my cat, and *every* way of relating my cat or the parts of my cat to other objects within some larger system—all of these are *equally* arbitrary, or *equally* a matter of subjective preference. No matter what parts we distinguish, each of these would have to be itself merely an aggregate. No matter what larger system we distinguish, all its parts would have to be external to one another, explainable without essential reference to that particular whole system and its other parts. If no way of redescribing can be privileged over or better than any other, and all are equally arbitrary or a matter of subjective preference, then there can be no distinction between those which explain and those which merely describe. In Hegel's terms, each account 'assigns for each determination of the object that of another object; *but this other is likewise indifferent*' (WL 6:412/713; emphasis mine).

Note that this is *not* the complaint—sometimes mistakenly attributed to Hegel—that mechanism cannot explain because it cannot reach the end of the infinite series it would need to complete before explaining the totality of absolutely everything, and thereby first yielding a complete explanation of anything in particular.[10] Hegel's point is rather this: even imagining the completion of an infinite ideal mechanistic inquiry—even if this ideal project *were* possible to complete—still this would do nothing to improve matters with respect to grounding the notion of explanation itself, or distinguishing between explanation and description. In this respect, inquiry might just as well 'halt and be satisfied at any point at will' (WL 6:412/713). To complete in isolation an infinite mechanistic inquiry would be to redescribe the explanandum in relation to everything throughout the universe in every possible way, down to the finest possible detail. But more information does not always contribute to explanation; on the contrary, the problem is precisely that so many possible ways of breaking things down and relating them have no explanatory relevance. To distinguish explanation and description would be to find some way to single out some part of this infinite information, screening out the vast majority of it. But even the imagined completeness of infinite descriptive information would make no contribution toward such a distinction. In Hegel's terms, the mechanistic 'progression to infinite' aims only at an infinite aggregation of everything, a 'universe' in the sense of a 'totality' characterized by 'indeterminate individuality', (WL 6:412/713) or a 'totality indifferent to determinateness' (WL 6:429/727). Even if it were achieved, this goal would still not include any distinction within the whole of those determinate relevant factors which can actually explain anything in particular.

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The mechanism thought experiment is doomed to fail, then, because *if* mechanistic explanation alone were legitimate, then all 'notions'—that is, all ways of discriminating individuals and relating them to others—would be equally fit to explain. And that is just to say that there could not be any distinction between explanation and description, and so no genuine notion of explanation at all. Or, within these confines, 'the *explanation* of the determination of an object and the progressive determining of the object made for the purpose of explanation, is only an *empty word*' (WL 6:413/713–4).[11]

3. The Problem of Laws, and Why We Cannot Distinguish Explanations in Terms of their Form

This general case is so abstract, of course, that it seems to leave standing any number of specific ways of trying to account for the distinction between explanation and description. Hegel himself proceeds to consider several such specific attempts, and his responses clarify his general reasons for thinking that no such proposal can succeed within the constraints of the mechanism thought experiment.

One such proposal is that explanations explain, rather than merely describe, in virtue of identifying general natural laws connecting causes of a particular sort to effects of the sort to be explained.[12] The problem is, however, that there are innumerably many ways to assign individuals to general classes, and there can be true generalizations connecting such classes which nonetheless lack any law-like force or necessity, and so lack any explanatory power. It is worth reaching back to the (1807) *Phenomenology* for some humorous examples: ' ''it always rains when we have our annual fair'' says the dealer; ''and every time, too'', says the housewife, ''when I am drying my washing'' ' (PG 3:241/193). These generalizations might be true—by some remarkable coincidence it might rain every day that woman dries her laundry for her entire life. And describing in such terms may best address her subjective interests. Still, the fact that she is drying her laundry would never *explain* why it rains. The problem, then, is how to distinguish between a true law and a non-explanatory generalization, or—in Hegel's terms—between a 'law' (*Gesetz*) and a mere 'formal uniformity' (*Gleichförmigkeit*) which 'is indeed a *rule* (*Regel*), but not a *law* (*Gesetz*)' (WL 6:427/725).[13]

To draw this distinction, we would need some way to distinguish those concepts which are fit to state genuine explanatory laws from the vast majority of the possible ways of distinguishing individuals of a certain general kind or class, which are not so fit—including, presumably, the concept *wash-day*. But within the bounds of the mechanism thought experiment, the problem of merely external notions will prevent us doing so. Under these conditions, *all* such concepts would be *equally* 'external', or simply different arbitrary ways we have of describing the world based on our merely subjective interests. In Hegel's terms, under these conditions, for the object cited as cause under a proposed law, 'its being cause is for it something contingent' (WL 6:415/715).[14] In sum, the total mechanism hypothesis undermines not only the distinction between explanation and

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description, but also the distinction between laws and generalizations; thus there can be no question of drawing on the latter to resolve the difficulties concerning the former.

This point concerning laws in particular should make clear that Hegel's worry about merely external notions provides him with general considerations which cut against many more specific proposals than just those he explicitly considers. For example, consider the proposal that explanations are distinguished by their predictive power. The problem is, *any* generalization which is universally true without exception would provide a perfectly good basis for prediction. Since not all such true generalizations are explanatory, predictive power cannot itself distinguish explanation.[15] And Hegel provides general reasons to doubt matters can be improved by adding restrictions on the *form* explanations must take. For the proposal that explanation is distinguished by the inclusion of something with the form of a general law suffers not from a defect of form but of *content*—specifically it cannot help to distinguish those *specific concepts* suitable to state genuine explanatory laws.[16]

It is another matter entirely, however, when we come to proposals which distinguish explanation, not in terms of the form of individual explanations, but in terms of some global formal standard. For example, one might propose that explanations and/or laws are distinguished in that they fit into the total theoretical system which best combines overall simplicity with explanatory power. On such an account, what explains some explanandum is not fixed within its locale; it is fixed globally in terms of the best total theoretical system. This sort of proposal is less of a challenge to Hegel's desired conclusion, and more an illustration of it—or at least an initial step toward it. For this proposal links explanatory status and/or lawhood to what is supposed to be the *goal* of the overall endeavor of inquiry into nature—for example, the best balance of maximum simplicity and explanatory power.[17] But what is the status of this goal? If it is just an arbitrary subjective or pragmatic interest that we happen to have, then this sort of proposal would make the distinction between explanation and description relative to our subjective interests; this would not account for, but rather undermine, the objective notion of explanation. So such proposals must require that this goal is instead a sort of objective aim constitutive of scientific inquiry itself; that is, scientific inquiry will have to be a process which is intrinsically organized by a goal or purpose. There will now be no arbitrariness when it comes specifically to explaining any particular moment of this larger process; each scientific experiment or revision of theory would be best explained in teleological terms, in terms of the objective goals of scientific inquiry itself (even if the individual researchers in question did not explicitly think of their project in just such terms). And from here we might expand to a general account of the distinctions between explanation and description, law and generalization. For instance, we might then say that 'it always rains when I dry my washing' could not be a law because classifying it as such within a total theoretical system—alongside 'F = ma', etc.—would gain absurdly little power at significant cost of simplicity. I'll return below to compare this sort of proposal with the

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interpretive options concerning Hegel's own solution. For now, the important point is how this proposal illustrates Hegel's general point: it is only insofar as we admit some form of teleological explanation that we begin to get any sort of grip on the problem of explanation; within the constraints of the total mechanism hypothesis the problem remains irresolvable.

4. Forces At Work behind Natural Phenomena, and Why Such an Expansion of Ontology Will Not Resolve the Problem

Hegel continues in 'Mechanism' to discuss the proposal that explanation can be distinguished by appealing to powers or forces at work behind empirical events—specifically, the 'communication' of 'motion, heat, magnetism, electricity and the like' (WL 6:416/716), the interaction of various fundamental forces, and especially the force of gravity. In looking at his argument we must remain focused on the specific question at hand. The question is, can appeal to fundamental forces such as gravity help, within the constraints of total mechanism, to account for the distinction between explanation and mere description? We must not confuse this with another question, namely, can fundamental forces such as gravity explain any natural phenomena? There can be no question here of resolving the traditional disputes concerning Hegel's answer to this second question, but it is worth noting the 'Mechanism' section in the *Logic* itself appears to suggest an affirmative answer. In particular, this section concludes with discussion of the law of gravity, governing the motion of matter around a 'relative center' and of all matter around an 'absolute center' (§198; WL 6:423ff/721ff). Hegel claims that this is indeed a 'law' as opposed to mere 'rule' or generalization (WL 6:427/725). This is perfectly in keeping with the *Philosophy of Nature*, which portrays the scientific endeavor generally as 'directed to a knowledge of forces' and 'laws' (§246). And, in particular, 'gravitation is the true and determinate *notion* of material corporeality' (§269). To apply the law of gravity in an account of the motion of matter around a center is not merely to apply an external characterization, but a 'notion' (*Begriff*)—it is, in short, explanatory.[18]

But Hegel's focus in the *Logic* is not on the second question, above, but the first: how are we to distinguish explanation from mere description? It is one thing to say that accounts in terms of the law of gravity are explanatory; the philosophical problem Hegel pursues in the *Logic* is, *why*? And Hegel argues that appeal to forces cannot help resolve this sort of philosophical question within the constraints of the mechanism thought experiment. The specific arguments Hegel offers in the 'Mechanism' section reach back to the earlier second major part of the *Logic*, the 'Doctrine of Essence', which considers various philosophical proposals for treating ordinary objects as the 'reflection' of underlying essences. He draws upon in particular a dilemma posed by two 'Remarks' concerning explanation in the WL discussion of 'Ground' (*Grund*), specifically in the sense of 'ground' or 'reason' demanded by the principle of sufficient reason (WL 6:82/446).

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On the first horn of the dilemma we find accounts in which the appeal to forces is not meant to expand our ontology but rather to distinguish a special general type or form of redescription of events; thus Hegel classifies such proposals as ways of appealing to 'formal ground' (WL 6:96ff./456ff.). Here we meet an even broader formulation of the problem discussed above concerning laws: to redescribe, even in terms of universally true generalizations, is not necessarily to explain. If describing events in terms of gravity were distinguished *only* in that it is a way of classifying an explanandum together with other instances in which masses accelerate toward one another, or subsuming it under a mathematical generalization about such cases, then there would be no reason to think this truly explains anything.[19] Hegel's complaints about Newton tend to focus on this sort of worry: Within the terms of Newton's theory, there can be no account for why his own laws should be explanatory, rather than just redescriptions of the phenomena. This appeal to gravity is not objectionable because, as Leibniz suggests, it is 'occult'; it is objectionable but because it is simply 'too familiar' (WL 6:99/459).

On the second horn of the dilemma we find the proposal that appeal to fundamental forces expands our ontology by introducing something independent of the events to be explained: a 'real ground' (WL 6:102ff./461ff.) responsible for producing, determining, or necessitating events. Explanation could then be distinguished in a very different way: not in virtue of being a special type or form of expression of the same sort of fact expressed by true descriptions of the explanandum, but in virtue of expressing the facts about something else, about the true forces or powers at work behind the scenes. But what is the relationship supposed to be between independent ground and explanandum? That is, what is the relationship in virtue of which the latter is supposed to be explained? This cannot be, Hegel insists, just another ordinary mechanistic relationship. The force of gravity would then be, as it were, just another billiard ball on the table, colliding with those billiard balls we can see and so explaining their motion. As Hegel puts it in the *Philosophy of Nature*, the temptation is to 'give a physical meaning of *independent forces*' (§270) to the laws of motion. But clearly this sort of answer cannot help to ground the distinction between explanation and description. If forces themselves were really supposed to be just more of the same mechanical objects, just a few more billiard balls on the table, then the expansion of ontology would have achieved nothing new, and we would be returned to the initial problem: forces themselves would themselves have to be merely aggregates, indifferent to any particular characterization—any particular way of breaking them down into parts and relating them to others—and so unable to help resolve the problem concerning explanation.[20]

Within the specific limits of the total mechanism hypothesis, however, there is no alternative way to approach the question of the relationship between real ground and explanandum in virtue of which the latter is supposed to be produced, determined, necessitated, etc. In effect, we are left only with philosophical terms which *suggest* explanatory power, such as 'real ground'. But the term 'ground' itself can do nothing to show that there is some way to

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distinguish what really is the ground, or what explains: 'the real ground does not itself indicate which of the manifold determinations ought to be taken as essential' (WL 6:107/465). Alternatively, reaching back to the *Phenomenology*, we might also say that an essential force is supposed to 'necessitate' the explanandum. But when we accord an independent existence to those forces, we simultaneously undercut our ability to give this claim any content; thus we discover that 'necessity'—like 'explanation' itself—'has shown itself to be only an empty word' (PG 3:122/93).

Again, Hegel's complaint is not that mechanism could never yield perfectly or ultimately complete explanation, because there will always be an infinitely recurring gap between any 'real ground' and the explanandum from which it is supposed to be distinct; Hegel is not arguing that mechanism cannot explain, and he does not judge mechanism in terms of a questionable ideal of perfectly complete or total explanation.[21] Rather: mechanism itself must draw on the idea that there is some distinction between explaining and describing, and total mechanism would prevent any account of that distinction, including any 'real ground' account. These general considerations would apply similarly beyond the examples of forces which Hegel considers—for example, to the proposal that natural phenomena have a 'real ground' in laws which are themselves relationships between real universals.[22] Finally, this general problem of the 'real ground' is itself distinct from epistemological worries about the possibility of explanatory knowledge, and of any premises about the limits of our knowledge.[23]

5. Recapping and Evaluating the Argument

Our original question above was this: what is the meaning of Hegel's claim about mechanism? Not, we have seen, that mechanistic accounts offer a way of describing or classifying the world which is untrue, partially true, or limited. For Hegel does not treat mechanism as a form of description at all; he investigates mechanism's explanatory purport. Nor is Hegel's claim that all mechanistic accounts are incomplete and so not explanatory. Hegel's claim is rather that mechanism cannot be the only legitimate form of explanation, because this would undercut any possibility of accounting for the distinction between explanation and description. So mechanism is limited because it cannot account for its own explanatory status. In Hegel's unusual terms, mechanism does not 'posses truth in and for itself' (WL 6:437/734). But that does not mean its claim to explain is false. Ultimately Hegel wants to show that mechanism does 'posses truth', not 'in and for itself' but only (as Hegel might say) *in another:* he wants to show that some form of teleology is 'the truth of mechanism' (WL 6:437–8/735).

How does Hegel support this criticism of mechanism without appealing either to empirical considerations or to mere assumptions about the world? He does so by connecting Kant's sense of mechanism with a problem concerning merely 'external' 'notions' which creates general difficulties concerning the distinction between explanation and description. On the one hand, generally anti-realist

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proposals will attempt to distinguish explanation as a special type or form of redescription of the explanandum, for instance, one that provides general laws covering such cases. But the total mechanism hypothesis would render arbitrary all the concepts in which such laws or explanations might be stated, blocking such proposals. On the other hand, generally realist proposals will claim that explanation is distinguished in stating the facts about the distinct and independent 'real ground' at work behind events. But introducing any sort of real ground as distinct and independent of the explanandum inevitably blocks any substantial account of the relationship in virtue of which anything is supposed to be explained. So whichever way we turn, within the limits of the mechanism thought experiment, we are bound to lose the distinction between explanation and description, and so the notion of explanation itself.[24] It thus turns out that any attempt to take seriously the proposal that only mechanism explains will inevitably undermine itself by collapsing the notion of explanation needed to frame that very proposal.

This argument is surprising in several respects. It differs from many accounts of Hegel's argument, in that it draws neither on a stringent standard concerning complete, total or perfect explanation, nor on claims about specific types of phenomena (e.g. living beings, ourselves) which are supposed to be mechanically inexplicable.[25] There is nothing especially unusual about the problems concerning explanation which drive Hegel's argument, but Hegel's attempt to turn these problems to the end of a criticism of mechanism and, ultimately, a defense of teleology is certainly an unusual and ambitious endeavor.

How successful is Hegel? That will have to depend, first of all, on the status of two crucial premises, namely: (i) that the distinction between explanation and description is objective, not merely relative to arbitrary or subjective interests; and (ii) that this distinction needs, and can be given, a substantial philosophical account. That the total mechanism hypothesis blocks such accounts is, given these premises, indeed good reason to reject the hypothesis. Of course, like any philosophical argument, Hegel's mechanism argument cannot do everything. It succeeds at associating philosophical costs with the total mechanism hypothesis, and suggesting philosophical benefits to follow from the rejection of that hypothesis; but it does not itself counter every possible argument that these costs are worth paying and/or that these benefits are worth foregoing or perhaps not forthcoming at all. In this respect Hegel's treatment of mechanism essentially depends on the surrounding arguments in the *Logic*. In particular, the preceding sections of the *Logic* must contribute some way of driving up the philosophical costs involved in simply rejecting the premises. Furthermore, Hegel's subsequent treatment of teleology needs to make the case that philosophical benefits too valuable to ignore or overlook—for instance, a superior account of the grounds of explanation itself—really do follow the rejection of the total mechanism hypothesis. Hegel's own premises will make this a very tall order, and so far I've said nothing to show he can meet the challenge, other than sketching above a possible Hegelian strategy concerning the goal-directed nature of the process of scientific inquiry.

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But the ties between Hegel's mechanism argument and his broader project, while diminishing the independence of that argument, also present an important opportunity. In the final sections below, I'll show how investigation of these ties not only clarifies the character of the mechanism argument, but also helps to illuminate Hegel's broader philosophical project in the *Logic*.

6. Why Explanation Cannot Be Inexplicable, and the Basic Commitment of the *Logic*

Let's begin with what I have distinguished as Hegel's second premise. Why think that the distinction between explanation and description needs, and can be given, a substantial philosophical account? Why not hold instead that this distinction is simply primitive, and so philosophically inexplicable? Certain concepts, we might say, just are explanatory, fit for stating natural laws, etc. Not because they correspond to special ontologically distinct entities, though they might, but just because they are so fit. After all, one might reasonably propose that no philosophy can account for everything; if something must be primitive, why not this?[26]

To see the response suggested by Hegel's mechanism argument, compare Kant's account of the objectivity of experience. Why think that objectivity is something for which we need a philosophical account? Why not say instead that some of our representations simply capture the way things really are and others simply do not, but that this distinction itself cannot and need not be further explained? The answer is that this would render utterly mysterious our own grasp of the distinction between objective and subjective. We are on to the idea, for example, of a distinction between objective and subjective time-order, regardless of how well or how poorly we manage to sort this out in practice. And so we need an account of how the distinction is fixed *within* our experience or empirical cognition; Kant will famously argue that this requires *a priori* objectively valid formal conditions of cognition, and that recognizing instead only empirical 'laws of association' would collapse the distinction between objective and subjective entirely.[27] To refuse to engage such philosophical problems by saying that the distinction between objective and subjective is primitive and philosophically inexplicable would make necessary a special account of our own grasp of the objective as opposed to the subjective. And this special account will have to be a form of what Kant characterizes, in the famous February 1772 letter to Marcus Herz, as a '*deus ex machina*': it might be, for instance, a Platonic 'previous intuition of divinity', or Crusius' appeal to 'concepts that God implanted in the human soul' (a form of pre-established harmony between subject and object). Kant responds that accepting such a '*deus ex machina*' so close to home, at the very heart of our experience or cognition of the world, would mean we are willing to accept it anywhere. We could then justify pretty much anything at all by viewing it as 'implanted' by God, encouraging 'all sorts of wild notions and every pious and speculative brainstorm' (Ak. 10:131/C 134). As Kant says of Crusius' proposal in the *Prolegomena*, the problem is the 'lack of

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sure criteria to distinguish the genuine origin from the spurious, since we never can know certainly what the spirit of truth or the father of lies may have instilled into us'.[28]

Now compare Hegel's mechanism argument. The idea is that our thinking about the world aims at explanation—we try to understand in the sense of grasping the *why* of things. This means we are on to the distinction between explanation and description, regardless of how well or poorly we are able to sort it out in practice. We thus need an account of how that distinction is fixed *within* our thinking about the world. Hegel wants to argue that this requires the legitimacy of some form of teleological explanation, and that recognizing instead only mechanism as legitimate would collapse the distinction between explanation and description entirely.

What is the alternative to engaging with this philosophical problem concerning explanation? Hegel takes the alternative to be represented best by an argument of Jacobi's recounted near the beginning of the *Encyclopedia*. Jacobi (Hegel says) claims that any finite and determinate rational account of anything merely connects it to something else finite and determinate, and so itself in need of explanation; such accounts therefore can never truly explain. But we do seek for true explanations. We must therefore have a prior understanding of the goal which we seek in trying to explain: 'God, or what is infinite and true' which necessarily 'lies outside of the mechanical interconnection of this kind' (§62A). Our understanding of this goal cannot stem from the sort of thought or cognition which seeks to explain or derive, by which the goal would merely be 'perverted into untruth' or 'transformed into something conditioned and mediated' (§62). We must instead have an 'immediate knowledge (*unmittelbare Wissen*) of God and the true', (§62A) specifically in the form of faith (*Glaube*) (§63).

One can, then, refuse to engage the philosophical problem of accounting for the distinction between explanation and description by making that distinction primitive and so philosophically inexplicable. But there is a price. Given that we do seek to explain things, we would have to possess some special grasp of this inexplicable distinction—for we would have to have some grasp of the goal we seek in trying to explain rather than merely describe. This special grasp would have to be so transparent, deep, and certain that no doubt could possibly arise as to whether it gets at the heart of the matter, or reveals the essence of what it is to explain rather than a merely describing explanation in an inessential manner. For this special grasp would have to itself provide the standard relative to which all such doubts could arise at all. We would need, in short, to appeal to immediate self-justifying insight into the inexplicable distinction between explanation and description—into something prior to, distinct from, and the foundation for all explanatory thinking. And that, Hegel argues in his response to Jacobi, is too high a price to pay. For it would make this most fundamental truth something which in principle cannot be subject to any form of justification save the apprehension or feeling of immediate self-justification.[29] As in Kant's worries about the *deus ex machina*, the problem with this concerns *criteria*: such 'immediate knowledge' can only be 'subjective knowing'; it must take a mere '*factum of consciousness* as the

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criterion of truth' (§71). And by this standard any 'superstition or idolatry' might rightly be 'proclaimed as truth' (§72). If we were willing to allow that, then why bother with philosophy? Philosophy, by contrast, 'will not tolerate any mere assurances or imagining' (§77) and so must exclude appeals to forms of immediate knowledge, such as 'inspiration, revelation of the heart, a content implanted in man by nature', (§63A) etc.

It would be well worth pursuing this argument at greater length, for Jacobi himself might have more to say on behalf of his proposals, or there might be some other promising defense of inexplicability. But for our purposes what is crucial is to recognize how radically different Hegel's approach is. This is crucial because Hegel's response to Jacobi highlights the general appeal not only of a key premise of the mechanism argument, but also of what is perhaps *the* central commitment of Hegel's theoretical philosophy. For Hegel generally begins his theoretical works—starting already with the (1807) *Phenomenology*—by ruling out any foundational appeal to immediate knowledge, including as well forms of 'intellectual intuition' proposed by Fichte and Schelling.[30] Hegel does not do so because he assumes that reality must be so thoroughly unified that everything can be explained, as a whole, so that in principle nothing could possibly be inexplicable. (Merely to assume this would be question-begging in the extreme, and manifestly so in the face of Kant's *arguments* against the unrestricted application of the principle of sufficient reason.) Hegel's reason is rather this: If the most fundamental truths were such as to admit only a merely subjective justification, then there would be nothing to be gained by engaging in philosophy, or by attempting philosophical derivations, demonstrations, or justifications.[31] If the project of philosophy is to make any sense at all, then, it must renounce all foundational appeals to immediacy. Thus the WL begins by parting ways with 'those who begin, like a shot from a pistol, from their inner revelation, from faith, intellectual intuition, etc., and who would be exempt from *method* and logic' (WL 5:65/67; Cf. PG 31/16). Philosophy, itself a form of the 'thinking consideration of objects', (§1) must attempt to do without any 'absolutes' which are supposedly accessible by going outside thought or explanatory thinking, or beyond that sort of cognition which aims to understand or grasp the *why*. The proof, however, is in the pudding: this procedure can be justified only insofar as Hegel can demonstrate philosophical results without any illegitimate appeals to immediacy. Thus there is a natural sense in which Hegel insists that his results must circle back to justify his beginning (e.g. §17).

7. Implications of this Central Commitment Concerning the Mechanism Argument and the *Logic* Project

This rejection of appeals to immediacy has, to begin with, important implications concerning the character of Hegel's mechanism argument and its relationship to considerations introduced by his contemporaries. For instance, this explains why Hegel cannot take what might seem an easier route, and deny the total

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mechanism hypothesis on grounds that it leaves no room for spontaneous, self-conscious subjects such as ourselves. (On grounds, that is, that a complete conceptual scheme limited to mechanism alone would exclude any place for anyone capable of actively *applying* that scheme in judging or experiencing objects.) The problem is, any such argument would have to begin with a form of supposedly immediate insight into our own spontaneous subjectivity. It would require, in fact, something very like Fichte's appeal to 'intellectual intuition' as 'immediate consciousness that I act'.[32] Aside from his general complaint about immediate knowledge, Hegel worries that thus assuming of the spontaneous *subject* as an independently authoritative standard governing forms of explanation of *objects* would insurmountably divorce subject from object, specifically in the sense of making their relation in knowledge and action inexplicable.[33]

And it should now be clear why Hegel's complaint cannot be that mechanism fails to account in a perfectly complete manner for the totality of everything. Many interpretations, perhaps most, boil down to some version of this 'incompleteness complaint'.[34] But this would amount to a criticism of mechanism only given the additional premise that reality *is* the sort of unified totality which can and must be completely and perfectly explained as a whole. And what can be the status of that premise? The premise cannot be *justified* by consideration of different forms of explanation if it must be in place already, from the beginning, to provide the standard according to which mechanism is supposed to fail. Such a premise could only be delivered by a supposedly immediate or self-justifying insight into the unity and intelligibility of reality itself. And this is precisely what Hegel rules out. Furthermore, Hegel's discussion of Jacobi shows that he is very much aware of the difficulty: an appeal to immediate knowledge would be required to support an argument that, because finite accounts are inevitably incomplete, true explanation would require something which 'lies outside of the mechanical interconnection of this kind' (§62A). So attention to Hegel's relation to the historical context should not encourage us to read him as deploying a mechanism argument which mirrors Jacobi—or other contemporaries (such as Fichte) who appeal to forms of immediate knowledge or intellectual intuition. Hegel's basic commitment requires, as he correctly recognizes, a new argument which operates in a very different manner.

And such an argument is just what we have found. In fact, Hegel's argument is nearly the precise opposite of an appeal to the total unity of everything there is. Recognizing mechanism alone as explanatory, Hegel argues, would make arbitrary or subjective all differences between individuals, dissolving all reality away into a perfect seamless unity of everything, a 'totality indifferent to determinateness' (WL 6:429/727). But Hegel stresses—in the 'Mechanism' section and also in his various complaints about traditional forms of monism—that such a totality would leave no way to account for the distinction between explanation and description, no way to grasp what it would be to explain anything in particular.[35] Thus we cannot coherently suppose that mechanism alone is explanatory. This argument does not judge mechanism from a standpoint which we are assured is higher, complete, infinite, unconditioned, etc. It judges only in

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terms of mechanism's *own* intrinsic claim to explain rather than merely describe; Hegel finds that total mechanism would inevitably undercut this claim, even at the imagined completion of infinite inquiry.

Finally, all this means that we can—and indeed must—move beyond traditional interpretive approaches to Hegel's overall argument strategy. Traditional approaches tend to divide, over the issue of Hegel's relationship to Kant's critical philosophy, into metaphysical and non-metaphysical interpretations. What characterizes metaphysical interpretations is not so much their reading of Hegel's conclusions, but their insistence that Hegel's premises include an assumption of the possibility of complete knowledge of all reality as an unconditioned whole, or of the total transparency of reality to thought.[36] Hegel is then supposed to read Kant through the lens of this assumption, assimilating Kant's comments about what God and the cosmos *might* be like while ignoring Kant's arguments against the possibility of theoretical knowledge of such topics and against pre-critical metaphysics generally.[37] The result would be neither an internal critique nor a philosophically promising argument, for to assume that we can basically know everything would be to beg the question against Kant and (remarkably) against every single form of skepticism ever entertained. Non-metaphysical interpretations reverse this reading of Hegel's relation to Kant. The idea is that Hegel agrees with Kant that we cannot know that one or another fundamental sort of entity most fundamentally exists and ultimately explains; though Hegel may occasionally waver, his core project is supposed to avoid such metaphysical questions in favor of reflection on only the general notions necessary for us to think of any object at all, on the form of our knowledge, the conditions of the possibility of any conceptual scheme, etc.[38]

But the evidence of Hegel's mechanism argument suggests a very different way of understanding both his relationship to Kant and his basic argument strategy.[39] To begin with, we have just seen that Hegel does not and cannot begin with the assumptions concerning unity and total intelligibility which are attributed to him by metaphysical interpretations, as these could only be an appeal to immediate knowledge which Hegel rejects. Hegel insists instead that we renounce all foundational appeal to immediacy and generally to what is supposed to be an inherently authoritative standard governing thought or cognition from outside their reach. Hegel takes himself to be *agreeing* here with the basic insight behind Kant's own critical turn, which Hegel expresses like this: 'all authority can receive validity only through thought' (VGP 20:331/424).[40] In Kant's terms, 'pure reason' must be the 'supreme court of justice for all disputes' (A740/B768).

The dispute between them turns largely on Kant's limitation of our knowledge to appearances. Kant takes explanatory thought, or 'reason', to aim implicitly at knowledge of the completely unconditioned—especially at knowledge of the absolutely necessary being which would completely and perfectly explain everything, because its 'concept' would contain 'within itself the ''Because'' to every ''Why?''' (A585/B613).[41] Kant also holds that any such unconditioned object would violate the conditions of the possibility of natural phenomena, or

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objects of empirical cognition; anything in space, for example, is merely conditioned by its parts.[42] We seem compelled, then, to deny the possibility of the unconditioned which we nonetheless implicitly seek insofar as we try to explain anything. The only way to avoid self-contradiction is to distinguish the objects of our knowledge from unknowable things-in-themselves, and thus make room for 'a condition of appearances which is outside the series of appearances', (A531/B559) and in particular a necessary being 'entirely outside the series of the world of sense' (A561/B589).[43]

But this is a conclusion which Hegel aims to challenge, and not by assumption but by argument. Hegel asks: if our explanatory thinking seeks the unconditioned, and the unconditioned cannot be cognized, then how do we grasp this goal in order to seek it? If the goal is not merely to be a subjective illusion of ours, then we would have to have some special non-cognitive access to it via some form of immediate knowledge. This would have to be something akin to a 'reminiscence of the divine' or some insight 'that God implanted in the human soul'—precisely the '*deus ex machina*' (Ak 10:131/C 134) Kant himself seeks to avoid. This criticism does not assume that we can know or explain everything, only that we do seek to explain and so must somehow grasp what it is we are thus seeking. Thus we can see how Hegel aims, at least, to criticize Kant from within, arguing that Kant's own critical insight does not require but rather rules out Kant's limitation of our knowledge to appearances.[44]

The moral Hegel draws is that, if we really want to see where the critical refusal of immediacy leads us, then we must allow the contradictions Kant uncovers to push us toward a different and better understanding of cognition or explanatory thinking itself.[45] In particular, we must reject the idea that mechanism alone is legitimate, and with it the insistence that everything in space must be merely an aggregate of independent parts. And we must proceed in this manner to seek to show how the distinction between explanation and description can be grasped, derived, or justified within explanatory thinking itself. This *does not* mean that we must have knowledge or cognition of precisely what Kant suggests might lie beyond the reach of cognition: something 'entirely outside the series of the world of sense,' (A561/B589) and something 'the concept of which contains within itself the ''Because'' to every ''Why?''' (A585/B613). As we have seen, the mechanism argument does not criticize mechanism on the grounds that it fails to account for absolutely everything in a perfectly complete manner. The idea that such an unreachable standard or goal distinguishes explanation belongs with the conclusion Hegel resists, namely, the limitation of our knowledge to appearances. To avoid Kant's conclusions Hegel must justify a new and different conception of what distinguishes explanation and description. And that means showing that the sort of thinking which seeks to derive or to justify can ultimately arrive at an understanding of that in virtue of which explanations truly explain, the ground, foundation or standard for all answers to all why-questions—or, in short, of what Hegel calls 'the absolute'.

This is a tall order, to be sure. And, again, the proof is in the pudding: the only way Hegel's procedure can be justified is by producing results.[46] There can be no

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question of arguing here that Hegel really succeeds. But it is crucial that we cannot understand even what the project aims to be and to do if we see it as limited in the ways suggested by traditional approaches. In particular, the project is not limited in that it rests on mere assumptions drawn from pre-critical metaphysics. It is rooted instead in a critical commitment to avoid a foundational appeal to faith, intuition, or any supposedly immediate knowledge beyond the limits of thought, or a court of appeal higher than pure reason itself. But precisely in order to make good on the resulting internal criticism of Kant's critical philosophy, Hegel's project cannot be limited to merely non-metaphysical ambitions. This can be no Kantian examination of the conceptual conditions of our experience or empirical knowledge. Nor can this be a series of negative or deflationary arguments that the traditional metaphysical worries about what lies beyond our conceptual scheme (or form of life, normative practices, etc.) are unintelligible and so idle. To succeed and to justify his starting point, Hegel needs an ambitious and positive attempt to justify or derive an account of that which most fundamentally exists, specifically in the sense of that which truly grounds all explanation in the objective sense—an account of 'the absolute'.

8. Questions and Options Concerning the Grounds of the Objective Notion of Explanation and the Conclusions of the *Logic*

What can the evidence of the mechanism argument teach us about how this ambitious attempt plays itself out in the *Logic*? To begin with, consider Hegel's other crucial premise—namely, that there really is an objective distinction between explanation and description. Why think so? Why not hold instead that there is no explanation in the objective sense, only innumerably many descriptions which address to different degrees the various subjective interests we might have? This premise is, I think, one of the few cases where common-sense might actually be on Hegel's side. For it does not seem that the truth about what really explains what should vary with changes in our arbitrary subjective or pragmatic interests.

But an appeal to common-sense (which would be another appeal to supposedly immediate knowledge) is not good enough for Hegel.[47] Nor should it be, for there might well be good philosophical reasons to think that the price involved in rejecting the objective notion of explanation must be paid, or even that it is not so costly as it first appears. This presents problems, for without that notion Hegel's mechanism argument can do nothing to bolster his broader case against the idea that all possible individuating concepts could be equally arbitrary, or merely a matter of subjective preference. So the *Logic* should have more, aside from the contents of the 'Mechanism' section, by way of argument that denying the objective notion of explanation in order to insist on the subjectivity of all concepts involves unacceptable philosophical costs. The question is, how does Hegel so argue? One possibility looks like this: if all concepts are arbitrary or subjective then the world is, in itself, independent of all

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concepts or universals; but without the latter there is nothing to provide the persistence conditions for individual objects; and (Hegel would like to argue) we simply cannot get a real grasp on the idea of such a world without determinate persisting objects, where there is no change but only 'passing-over into another' (*Übergehen in Anderes*), no 'essence' but only 'being'.[48] But I do not mean to defend this argument here, or to argue that my reading of Hegel's mechanism argument resolves at once all questions about the *Logic*. The point is rather to use the evidence of the 'Mechanism' section to frame the specific questions which can narrow the interpretive options concerning the *Logic*'s extended argument.

Similarly, Hegel's mechanism argument suggests a series of questions concerning the conclusions of the *Logic* as a whole. Q1: What form(s) of teleological explanation will Hegel defend? Q2: How can he make sense of the explanatory legitimacy of teleological explanation, alongside mechanism, if these both claim to explain (in the objective sense) and not merely to describe or classify? Q3: How can such teleology provide an alternative to the idea that all individuating concepts are equally arbitrary or subjective? Q4: And how can it account for or ground the distinction between explanation and description?

I will limit myself here to sketching two very different interpretive approaches to these questions. The first, though I do not advocate it, is more straightforward. The basic idea is that removing the restriction to mechanism brings into view naturally and intrinsically unified wholes, paradigmatically living beings. The presence of the parts of such living beings could be explained specifically in terms of their roles or functions in the survival and reproduction of individual organisms of a specific biological species (Q1). Such explanation could be argued to be compatible with mechanism in virtue accounting for something different, namely, the *organization* of individual organisms within the larger whole species (Q2). And the concepts of these biological species-kinds would not be arbitrary, subjective or externally imposed; they would be privileged as true or intrinsic 'notions' and of explanatory relevance. Not because they accord with some formal standard, or because they capture the truth about something else which is independent of or beyond the natural phenomena. True notions would rather be present in the natural phenomena, specifically in the form of the active organizing principles which form nature into the repeating patterns of different biological species (Q4). A notion in this sense would not be merely one predicate among many which could be attributed to a logical subject; it would be the very foundation of there being a persisting and determinate logical subject which might bear such predicates (Q3). In sum, we might thus read Hegel as arguing for a realist theory of immanent universals or substantial forms, reminiscent of Aristotle.[49]

I myself favor an interpretive approach according to which Hegel's discussions of biology are meant not as a solution but as an initial step toward a very different sort of view.[50] For I think Hegel ultimately argues that there is only one kind whose notion is truly intrinsic or internal. This is the kind to which we ourselves belong: *Geist* ('mind' or 'spirit'). *Geist* is supposed to be distinguished in being uniquely self-forming: we are fundamentally shaped by self-conscious conflict, debate and dispute about who or what we are, who or

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what we should be, and how we should understand the world around us. (This involves counter-intuitive claims which will be difficult to justify or even to reconcile: in particular, our development generally is supposed to be guided by objective and intrinsic goals—and yet also, somehow, a self-formation, even free.[51]) To see the impact of this proposal on questions Q1-4, consider again the teleological or goal-directed account of scientific inquiry sketched above (section 3); ultimately this process too is simply part of the overall development of *Geist*. On such an account, individual activities such as conducting experiments and proposing new theories can be best explained in terms of the objective goal or goals of scientific inquiry itself (Q1). This form of teleological explanation too might be argued to be compatible with mechanism in virtue of explaining something else, in this case the *organization* of our activities within the larger whole of theoretical inquiry (Q2). Certain natural kind concepts would then be privileged as internal 'notions' (Q3) and as explanatory (Q4). But in contrast with the first interpretive option above, this would not be because of any supposed correspondence with an independent, underlying and pre-determined organizing structure inherent in nature. It would rather be because of the place of such notions in the total theoretical system which best meets the objective goals of the process of scientific inquiry, or (more generally) of the development of *Geist*.[52]

It is worth briefly noting some interpretive advantages of this last proposal. First, it can make sense of Hegel's claims that that teleology is 'the truth of mechanism' (WL 6:437–8/735), and also that *Geist* in particular is 'the truth of nature' (§389) as a whole. For example, *gravity* would be privileged as the truly explanatory 'notion' of matter (§269) because of the teleological goals of *Geist*, and biological species concepts would be privileged for the same reason. We might also approach in these terms Hegel's *denials* that natural beings generally (and living beings in particular) are or can be perfectly organized into rational systems, and his insistence on the 'boundless and unchecked contingency' of nature (§248A).[53]

Second, this proposal amounts to a robust but unusual form of philosophical idealism. It is unusual in that it would not require that everything is (or is constructed from) mind, consciousness, perceptions, or the like; the existence of matter and the blackness of my cat, for example, needn't be dependent on *Geist*.[54] But it is nonetheless a substantial philosophical idealism with plenty of counter-intuitive implications. In particular, the concepts which pick out genuine natural kinds and the generalizations which count as explanatory natural laws would depend on *Geist* or 'mind'—not on merely arbitrary or subjective preferences, of course, but on the objective goals of the development of *Geist*. It is in terms of this latter claim that we might approach Hegel's idea that knowledge of the absolute—knowledge of that which most fundamentally exists, specifically in the sense of that in virtue of which true explanations truly explain—is actually a form of self-knowledge (WL 6:469/760).

Third, this proposal would amount to a significant departure from traditional forms of monism. Granted, *Geist* is supposed to be 'the truth of nature,' and there can be only one *Geist*, including any and all who might relate to others in a

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self-conscious manner, or a manner which raises fundamental questions about themselves and the world around them. But this is not a unity that is assumed from the beginning; it is supposed to be derived or justified by Hegel's argument concerning explanation.[55] And this is most definitely not a *seamless* unity: *Geist* is what it is only insofar as it is driven by self-conscious conflict, debate, and disagreement. Thus we might approach Hegel's insistence that his idealism—with its emphasis on 'negation', 'activity', and 'self-consciousness'—is not a different way of coming to traditional conclusions, or of rearranging some details in a traditional *Weltvorstellung* or representation of the world. It rather marks a significant philosophical departure from and critique of traditional metaphysical systems, including not only Aristotle's but Spinoza's as well.[56]

There can of course be no question of interpretive or philosophical defense here of these final suggestions or proposals. But the philosophical argument in the 'Mechanism' does, at least, highlight the central commitment of the *Logic*, point out the way to overcome the inadequacy of non-metaphysical and metaphysical approaches to that work, and raise specific questions which narrow the options concerning its overall argument and conclusions. Thus attention to Hegel's focus on problems concerning explanation, especially as these drive his argument against total mechanism, allows us to see how the *Logic* might really be precisely what Hegel means it to be: it begins with non-question-begging premises which do not require any special appeal to immediacy; it proceeds by means of ambitious and constructive philosophical arguments; and it aims (at least) to reach thereby substantial and controversial philosophical conclusions about 'the absolute'.[57]

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NOTES

[1] My main focus is the (1812–16) *Wissenschaft der Logik* (WL), though I will draw heavily upon the first part of Hegel's *Encyclopedia*, which also bears that name (EL). Both contain a 'Mechanism' section, and the complaint about mechanism is similar in both. I will also sometimes draw from other texts, mostly limiting myself to Hegel's mature writings after the (1807) *Phenomenology of Spirit*. I will very occasionally bring in evidence from the *Phenomenology*, but only to help with the interpretation of arguments clearly present in later writings.

[2] Kant himself often connects parts and matter (KU 5:373) and later refers to the 'mechanism of matter' (KU 5:410–1). And 'their forces and their capacity to combine by

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themselves' might include, for example, gravity acting between parts of a whole. Kant's notion of mechanism does not exclude this; it excludes explanatory reference to a unifying organization or pattern among those parts. I am indebted to discussions of Kant's sense of 'mechanism' in McLaughlin (1990, 152f.), Allison (1991), and especially Ginsborg (2001).

[3] Or, this gives us no reason to doubt we can explain the movements of sea and soil 'without our regarding the sea as having acted on purpose' (KU 5:368). As Kant says, 'even if all of this natural usefulness did not exist, we would find nothing lacking in the adequacy of natural causes for this state of things' (KU 5:369).

[4] More specifically, if I regard something as 'a product of the mere mechanism of matter' then 'I cannot derive the very same matter as a causality acting according to ends. Conversely, if I assume that the same product is a *Naturzweck*, I cannot count on a mechanical mode of generation…For one kind of explanation excludes the other' (KU 5:412). Later, specifically in terms of design: 'Now if one asks why a thing exists, the answer is either that its existence and its generation have no relation at all to a cause acting according to intentions, and in that case one always understands its origin to be in the mechanism of nature; or there is some intentional ground of its existence' (KU 5:425–6). I've defended in Kreines (unpublished manuscript) a reading on which Kant has good reason to worry about the problem presented by this conflict, does not simply dissolve or dismiss the problem in later sections of the KU, and continues throughout to deny the possibility of mechanistic and teleological *Erklärung* of 'one and the same thing in nature' (KU 5:411–2).

[5] For example, the concept of natural purposiveness itself can be only 'a regulative concept for the reflecting power of judgment' (KU 5:375). Regarding the unsuitability of this for explanation, see: 'teleological judging is rightly drawn into our research into nature, at least problematically, but only in order to bring it under principles of observation and research in *analogy* with causality according to ends, without presuming thereby to *explain* it (*ohne sich anzumaßen sie darnach zu erklären*). It thus belongs to the reflecting, not to the determining power of judgment' (KU 5:360; Kant's emphasis). 'Positing ends of nature in its products…belongs only to the description of nature (*Naturbeschreibung*)' but 'provides no information at all about the origination and the inner possibility of these forms, although it is that with which theoretical natural science is properly concerned' (KU 5:417). And: 'the principle of ends in the products of nature…does not make the way in which these products have originated more comprehensible' but is a 'heuristic principle' (KU 5:411).

[6] I will not, then, explain Hegel's argument in the *Logic* in terms of his early *Glauben und Wissen* (1802) criticisms of Kant's limited employment of the notions of 'intellectual intuition' (*intellektuelle Anschauung*) and 'intuitive intellect' (*intuitive Verstand*). I think it is a mistake to assume that Hegel's mature philosophy is best understood in these terms, given that Hegel's stress on these particular Kantian terms declines and changes very early in his career. From the *Phenomenology* on, for example, Hegel clearly *criticizes* the idea (common to Fichte and Schelling in particular) of rehabilitating any notion of 'intellectual intuition' (PG 23, §17; WL 5:65/67; 1:78–9/77–8). Whether this is more a radical change of view, or more a radically new way of explaining fundamentally continuous views—this depends on how we interpret Hegel's early writings, and I do not wish to take a stand on that issue here. Instead, my aim is motivate a rethinking of Hegel's mature philosophical project by focusing specifically on the terms Hegel *himself* uses in his mature writings to explain his criticism of mechanism. Concerning Hegel's changing stance on the 'intuitive intellect' in particular, see Westphal (2000).

[7] Bole and Stevens (1985) cite §85 in favor of a similar reading of the general procedure of the *Logic*: 'as each category arises within the account of explanation offered by the *Logic*,

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it carries with it, relative to that account, an implicit claim to be the thoroughgoing explanation, or ultimate category, of explanation' (119).

[8] All objects would 'remain external [*äußerlich*] to one another in every combination. This is what constitutes the character of mechanism, namely, that whatever relation obtains between the things combined, this relation is one foreign to them that does not concern their nature' (WL 6:409/711). Similarly, all relations would be 'indifferent to what is so related' (WL 6:412/713). Compare similar uses of the term 'external' in Kant: '…wenn aber die Ursache bloß in der Materie, als einem Aggregat vieler Substanzen außer einander, gesucht wird…' (KU 5:421). And compare the first *Critique* on matter and 'outer relations' (B333/A277). For a discussion of the way in which problems similar to those which Hegel develops arise in Kant, see Kolb (1988).

[9] See §205Z and also, in the *Philosophy of Nature*, Hegel's joking about the idea that 'God's wisdom is admired in that He has provided cork-trees for bottle-stoppers, or herbs for curing disordered stomachs, and cinnabar for cosmetics' (§245Z). The joke about corks is borrowed from the *Xenia*, written by Schiller and Goethe. Hegel blames this type of thought on 'external purposiveness' (§205Z).

[10] For example, compare: 'Hegel believes that mechanical and chemical explanations are condemned always to remain incomplete, for they cannot be applied to the *totality* of things to which they apply' (deVries 1991, 66). Hegel does say that the mechanical object has 'the determinateness of its totality outside it in other objects,' and that 'these in turn have theirs outside them, and so on to infinity' (WL 6:412/713). But his point is that while mechanistic accounts can keep expanding in breadth and narrowing in focus, this produces only a great variety of new ways to describe what is going on; it can generate neither reason to stop at any particular point, nor reason to think progress is being made, nor indication of the direction in which progress lies. Our procedure might as well stop at any arbitrary point, or even before beginning; 'it can halt and be satisfied at any point at will' (WL 6:412/713). Aside from the fact that Hegel's argument does not appeal to any supposed need for perfectly complete explanation in the 'Mechanism' section of the *Logic*, he also cuts the rug out from such complaints by elsewhere denying that an account must be perfectly complete to be explanatory. On the contrary, Hegel insists that 'the dignity of science must not be held to consist in the comprehension and explanation of all the multiplicity of forms in nature… There is plenty that cannot be comprehended yet….' (§268Z). And this is fortunate, because such a complaint about incompleteness would itself be, at best, incomplete. For explaining could well be said to be to take a small but helpful step toward an ideally complete explanation—even if we can never reach that ideal. Compare for example Railton on the 'ideal explanatory text' (1981, 247).

[11] It is interesting to note that this concern with explanation we've found behind Hegel's complaint about merely 'external' notions is a straightforward extension of Kant's use of 'external' (*äußerlich*) in the KU. Kant complains that relations of benefit ground only 'external' or 'contingent' teleological characterizations of objects, in the sense that there is no reason to think such characterizations really *explain*. Hegel's point is that the total mechanism hypothesis would render all characterizations 'external' *in just this sense*—it would leave us without any reason to regard any of them as explanatory.

[12] Explanation, then, would involve describing in general terms that collect together the '*identical* determinateness of different substances' (WL 6:415/715). Compare also the similar way of putting things in the *Phenomenology:* 'The single occurrence of lightning, e.g., is apprehended as a universal, and this universal is enunciated as the *law* of electricity; the explanation then condenses the *law* into *force* as the essence of the law' (PG 3:124/94).

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[13] Kant sometimes draws a comparable contrast between *Regel* and *Gesetz*; see e.g. A113, A272/B328 and P 59/Ak. 4:312. Concerning this line of argument, compare Quine's effective elaboration: 'What does it mean to say that the kicking over of a lamp in Mrs. Leary's barn caused the Chicago fire? It cannot mean merely that the event at Mrs. Leary's belongs to a set, and the Chicago fire belongs to a set, such that there is invariable succession between the two sets….This paraphrase is trivially true and too weak…We can rig the sets arbitrarily….Because of this way of trivialization, a singular causal statement says no more than that the one event was followed by the other. That is, it says no more if we use the definition just now contemplated; which, therefore, we must not' (1969, 132).

[14] Or, the supposed laws—under which we might unify causes of that sort and effects of this sort—would themselves remain merely 'external' or non-explanatory: 'the objects are indifferent to this unity and maintain themselves in the face of it' (WL 6:415/715).

[15] Also, even truly explanatory generalizations can also fail to explain events which they would have predicted perfectly well. For example, the fact that Pat regularly took birth control pills, conjoined with the relevant statistical regularities concerning the effectiveness of the pills, gives us good grounds to say that it is very unlikely Pat will become pregnant. But we will not be inclined to say that any of this *explains* Pat's failure to become pregnant if Pat is male. The example is drawn from Salmon; see his presentation of the relevance problem in (1984, 30ff). Also van Fraassen (1980, 105) and Kitcher (1986).

[16] Of course, Hegel cannot anticipate the entire series of 20th Century attempts to distinguish explanation in terms of different formal models—for example, Hempel's claim that the explanation of a phenomenon must offer factual information and general laws which together take the form of an argument that the phenomenon occurs (1965, 367–8). But Hegel's general worry nonetheless applies, and he offers perfectly good reasons to suspect that such proposals will not turn out to be any more convincing than they have, in fact, turned out to be. This is, of course, no reason to doubt the use of such formal models in classifying or considering different sorts of explanations; the point is that explanation itself cannot be distinguished by some such general model. In response to these sorts of problems, contemporary philosophers tend either to advocate a stronger realism than the positivist accounts would allow (e.g. Salmon 1984) or to retreat from the objective notion of explanation toward a pragmatic or interest-relative account (e.g. van Fraassen 1980, especially ch. 5).

[17] For contemporary discussion of the connection between proposals of this sort and the *goal* of theoretical inquiry, see e.g. Earman 1978, 180; Kitcher 1986, 213; Loewer 1996, 112; Ward 2001.

[18] The general debates concerning Hegel's answer to this second sort of question tend to focus less on the *Logic* and more on the *Philosophy of Nature*. One popular view is that Hegel is there trying to organize and systematize the empirical results of the sciences of his day, presumably including mechanism. See e.g. Petry's argument in his 'Introduction' to his edition of the *Philosophy of Subjective Spirit* (1978). A traditional alternative is that Hegel advocates on *a priori* grounds the sort of scientific claims which properly require empirical grounds, and in particular denies on such illegitimate *a priori* grounds that mechanism can truly or fundamentally explain. See e.g. van Lunteren (1986) for a recent defense of this view with respect to Hegel on Newton in particular. Both approaches seem to me to miss Hegel's central concern, at least in the *Logic*. There Hegel focuses on the philosophical issues concerning the notion of explanation itself. Hegel's complaints about Newton there, for example, are neither *a priori* arguments that Newton's laws cannot explain, nor claims that Newton's results conflict with or are superseded by other contemporary scientific discoveries. Hegel's central point is that it is not possible to give, in terms drawn from

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Newton's theory, an account of why that theory should have explanatory relevance—and that Newton does not have a satisfactory response to this difficulty.

[19] 'The ground of the movement of the planets round the sun is said to be the attractive force of the earth and the sun on one another'; but this cannot be explanatory if it really 'expresses nothing other than what is contained in the phenomenon' (WL 6:98/458). This point is well explained in Inwood (1983, 60–3) and Forster (1998, 66). Compare also a contemporary worry about broadly Humean approaches to natural laws, for example in Dretske: 'you cannot *make* a generalization, not even a purely universal generalization, explain its instances. The fact that *every F* is *G* fails to explain why *any F* is *G*, and it fails to explain it, not because its explanatory effects are too feeble to have attracted our attention, but because the explanatory attempt is never even made' (1977, 262).

[20] In the *Logic* Hegel worries that 'many who come to these sciences with an honest belief may well imagine' that corresponding to the primary scientific concepts are actual entities—e.g. forces—which have an 'immediate existence…actually present *in perception*' (WL 6:101/460). This relates to another complaint Hegel has about Newton. Hegel takes Newton's claim that he has shown how gravity explains the observed phenomena, though without explaining gravity itself (WL 6:102/461) to suggest that gravity may be just another physical phenomenon to be explained like any other. And Hegel takes this as a convenient way of suggesting, without having to argue, that the distinction between explanation and description could be grounded or accounted for without going beyond essentially mechanical accounts of different objects bumping up against one another in space.

[21] My reading in this section is much influenced by Inwood (1983) and especially Forster (1998), but I disagree with both over this specific point. Compare Inwood: 'If they [purported real grounds such as God or electricity –JK] have explanatory force, then there is a logical gap between them and the phenomena which cannot ultimately be closed' (1983, 63). Inwood sees the hole in this argument clearly: 'the best response is to concede that we cannot explain everything, that Hegel's ideal of what an explanation should be is not one that can be met' (1983, 63–4). That is precisely why it is crucial that Hegel does not—contra Inwood—argue in this manner at all. Forster similarly, in his account of the 'empty word' passage (PG 3:122/93), says: 'since, on the realist model, a causal connection or force is supposed to be something *independent* of the sensible occurrences which it explains, the further question can always be asked why it …produces sensible occurrences of the relevant kind, and *this* question remains unanswered' (1998, 65–6). I take it that *some* why-question would *always* remain unanswered unless there were some way to account for the totality of everything that is—and it would be question-begging to merely assume the possibility of such a total explanation, and to criticize mechanism in light of such an assumption.

[22] Compare Hegel's charge that 'necessity' becomes an empty word to Lewis' well-known response to Armstrong's account of natural laws in terms of a special relation 'N' between two 'universals': 'Whatever N may be, I cannot see how it could be absolutely impossible to have N(F, G) and Fa without Ga….The mystery is somewhat hidden by Armstrong's terminology. He uses ''necessitates'' as a name for the lawmaking universal N; and who would be surprised to hear that if F ''necessitates'' G and a has F, then a must have G? But I say that N deserves the name of ''necessitation'' only if, somehow, it really can enter into the requisite necessary connections. It can't enter into them by being a name, any more than one can have mighty biceps just by being called ''Armstrong''' (1999, 40).

[23] That is, the problem in the *Logic* is not that 'real ground' proposals would generate skepticism about explanatory knowledge; the problem is that such proposals cannot account for the distinction between description and explanation itself. The epistemological

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worries may play a role elsewhere Hegel, however. See especially Forster (1998, 65–7) on the *Phenomenology*.

[24] Again, I am indebted to Forster's account of Hegel's argument in the *Phenomenology* as a realism/anti-realism dilemma concerning explanation (1998, 67), despite the differences noted above.

[25] See discussion and examples of the former type of reading in section 7 and the notes below. Horstmann (1984 and 1990)—though not specifically focused on the 'Mechanism' section—sometimes gives a version of the second type of reading, according to which Hegel argues as follows: Hegel's anti-dualism commits him to oppose Kant's treatment of teleology and mechanism as two fundamentally different forms of explanation with two different statuses; but Hegel agrees with Kant that mechanism cannot for everything, because it cannot account for *organisms*; so Hegel concludes that anti-dualism requires the idea that everything can be considered as an organism, so that mechanisms are just a special case of organisms (1984, 74–79; 1990, 50–54). (Horstmann does also say, however, that there are other reasons why Hegel finds attractive the idea of a superiority of teleology to mechanism.) Pinkard suggests Hegel aims for a general criticism of mechanism itself, but would have done better to limit himself to a defense of a distinct form of teleological explanation in the specific case of purposive action: Hegel 'has shown at best that a complete teleological explanation is logically different from a mechanistic one, not that we fail to move on to teleological explanations only on pain of self-contradiction or incoherence' (1988, 91).

[26] I thank Michael Della Rocca for a forceful formulation of this counter-argument, and for pushing me to articulate Hegel's answer. Also, a contemporary approach along these lines is suggested by Lewis: 'A Nominalist could take it as a primitive fact that some classes of things are perfectly natural properties; others are less-then-perfectly natural to various degrees; and most are not at all natural' (1999, 14).

[27] I'm borrowing this manner of speaking from Strawson, e.g. '…these necessary distinctions of temporal relation must be drawn *within* experience…' (1966, 27). Concerning this argument in Kant: 'Only in this way does there arise from this relation *a judgment*, i.e. a relation that is *objectively valid*, and that is sufficiently distinguished from the relation of these same representations in which there would be only subjective validity, e.g., in accordance with laws of association' (B142).

[28] Ak 4:320/P 66. There is much dispute about the nature of the specific problem Kant is worried about in the letter to Herz and its role in the development of the critical philosophy; see Carl (1989), Beck (1989), and Watkins (2001). I mean to remain neutral on this topic. I mean only to insist that here, as in the *Prolegomena* citation, Kant is concerned with some problem about the 'agreement' between subject and object, and that he rules out '*deus ex machina*' solutions to such problems.

[29] In terms drawn from the PG, it would mean that 'the true exists only in what, or better *as* what, is sometimes called intuition, sometimes immediate knowledge of the absolute, religion, or being' (PG 15/4).

[30] See *Encyclopedia* 8:23/11; 8:13/3; §5Z; §7A; §11A; §24Z3; WL 5:65/67; 1:78–9/77–8. PG 4/15; 23/10.

[31] Hegel often connects the appeal to immediate knowledge with the abandonment of the project of philosophy. For example, Jacobi's insistence that 'we can know only the finite and conditioned' leads to 'unmingled joy among men, because the sloth of reason (thank God!) considered itself liberated from every call to reflect'. In particular, Jacobi's insistence that any attempt to comprehend the truth simply degrades the infinite into something conditioned leads to Hegel's lament: 'Truth is in a bad way, when all metaphysic is done

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away with, and the only philosophy acknowledged is no philosophy at all!' (VGP 20:384/3:476–7; see also 20:323). In Hegel's discussion of Schelling he says that, if we are supposed have a basic grasp of what we seek in explanatory thinking by some means outside of thought, some form of immediate knowing such as faith—if the 'absolute cannot be cognized' in this sense—then philosophy will be 'superfluous' (VGP 20:248). In the PG Hegel's complaint looks like this: 'If, namely, the true exists only in what, or better *as* what, is sometimes called intuition, sometimes immediate knowledge of the absolute, religion, or being…then what is required in the exposition of philosophy is, from this viewpoint, rather the opposite of the form of the notion. For the absolute is not supposed to be comprehended, it is to be felt and intuited; not the notion of the absolute but the feeling and intuition of it, must govern what is said, and must be expressed by it' (PG 15/4).

[32] Fichte (1845–6, I:463/1982, 38). See Pippin's account of Fichte's concern with the problem of the explanation of such activity (2000, 156).

[33] On the illegitimacy of attacking total mechanism by this means, see especially Hegel's complaint that one cannot refute Spinoza by merely assuming the 'freedom and self-subsistence of the self-conscious subject' (WL 6:250/581). See also Hegel's claim in the VGP that Fichte's beginning is, like previous metaphysics and Descartes in particular, another way of appealing to something 'immediate, not derived' and so beyond any doubts; Hegel proceeds to complain that this divides subject from object: 'With this reflection a false point of view was at once introduced, namely that contained in the old conception of knowledge, of commencing with principles in this form and proceeding from them; so that the reality which is derived from such a principle is brought into opposition with it' (VGP 20:392/485–6) More specifically, this beginning will undermine our ability to address these three questions about the relation between subject and object: (i) Why should the results derived from such a principle be true of objects, rather than just the way a self-conscious subject must think? (ii) How does the subject originally grasp that there is an independent object to be known? Hegel's §60Z claims Fichte makes this inexplicable, and Fichte seems to cede that something like this must be 'incomprehensible' (*unbegreiflich*) at (1945–6, I:177/1982, 164); see also Pippin's discussion (1989, 57). (iii) How can the thoughts of a spontaneous subject have any explanatory relevance to its actions in the objective world? (This problem is the topic of the 'Teleology' section of the *Logic* at WL 6:436–461/734–40; §204–12). I thank Steven Crowell for pushing me to clarify the relationship between Hegel's argument and the 'easier route' sketched in this paragraph.

[34] Some examples: Not mechanism but rather 'teleology is thus the category in which we can account for the kind of totality Hegel envisages' (Taylor 1975, 322). 'We should bear in mind when considering any given thought the possibility of applying it to God or to the universe as a whole. The universe, as we have seen, cannot be adequately understood only as a collection of causally interacting substances…' (Inwood 1983, 346; see also 59–64). 'Hegel believes that mechanical and chemical explanations are condemned always to remain incomplete, for they cannot be applied to the *totality* of things to which they apply…' (deVries 1991, 66). Finally, Horstmann's (1991) account: Hegel conceives all of reality as based on a primary structure which is itself an organic (or teleological) process (p. 180). The grounds of this preference for teleology are: (i) the need for a 'unified and complete *Weltbild*' which (ii) accounts for the 'undifferentiated unity of thinking and being' (p. 178).

[35] Some examples of Hegel's worries about earlier forms of monism: Spinoza's monism drags 'what is finite into that same negative movement of the understanding which makes everything vanish in the abstract unity of substance' (WL 5:121/214). Hegel also connects this point with the problem of immediate knowledge: 'Substance, as it is

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apprehended immediately by Spinoza without preceding dialectical mediation—being the universal might of negation—is only the dark, shapeless abyss, so to speak, in which all determinate content is swallowed up as radically null and void, and which produces nothing out of itself that has a positive subsistence of its own' (§151Z). Famously, Hegel complains that beginning with an insistence that, 'in the Absolute' 'all is one' is to commit to the 'undoing of all distinct, determinate entities (or rather the hurling of them all into the abyss of vacuity without further development or any justification)', or to 'the night in which, as the saying goes, all cows are black' (PG 3:22/9). Finally, Plotinus and those modern philosophers attempting to revive the tradition of neo-Platonism would like to explain all particulars in terms of 'severance, emanation, effluence' out of pure being; 'but in fact nothing is expressed' by these words (VGP 19:463/429)—just as the total mechanism hypothesis makes 'explanation' into an empty word.

[36] This is *not* a straw-man; it in fact is common to read Hegel has making such fundamental assumptions. Two recent examples are Horstmann and Siep. Horstmann says that Hegel is convinced of the necessity of assuming a fundamental 'zugrundeliegenden Primärstruktur' behind everything that is. In this respect he fits 'seamlessly' into the post-Kantian tradition of Fichte and Schelling—all have a 'monistic orientation' which is defined by this assumption. Finally, 'diese Überzeugung ist für Hegel daher auch nichts, was einer elaborierten philosophischen Rechtfertigung bedarf'. It must be the foundation for philosophy because it is simply the only way to avoid all previous failures to conceive a unified and complete *Weltbild* (1991, 177–8). (The question is, why *assume* the need for such a *Weltbild*?) Siep (2000) claims that Hegel's *Phenomenology* project in particular is dependent on decisive but questionable presuppositions drawn from pre-Kantian metaphysics, such as the idea that nature is a complete and totally interconnected whole (p. 19) and the possibility of a complete synthesis of religious and scientific knowledge (p. 18). This involves a sort of 'Einheitsspekulation' which assumes just those claims rendered questionable by Kant's critical philosophy (p. 21).

[37] E.g. Guyer: 'Hegel does not examine Kant's own reasons for his subjectivism, and thus neither shows why Kant's subjectivist scruples are invalid nor how his own view can transcend them' (1993, 171–2). Instead, Hegel 'criticized Kant's conclusions from the point of view of his own suppositions about the bond between knowledge and reality' (1993, 204). With respect specifically to the issues concerning mechanism and teleology, Düsing argues as follows: Hegel's objections to Kant's treatment in the KU do not apply to Kant, because Hegel ignores Kant's arguments for the regulative status of the maxims of mechanism and teleology, which would render teleology and mechanism compatible. Hegel is guided instead by his own incompatible assumptions: 'Hegel hat jedoch bei seiner Kritik eine ganz andere, nämlich seine eigne spekulativ-dialektische Konzeption, vor Augen. Danach gilt es, die Dinge der Welt selbst, d.h. die Dinge an sich, nicht nur die raum-zeitlichen Erscheinungen, zu Erkennen, und zwar auch in einander widersprechenden Bestimmungen' (1990, 152).

[38] See especially Hartmann's formulation: Hegel advocates a 'non-metaphysical philosophy devoid of existence claims and innocent of a reductionism opting for certain existences to the detriment of others' (Hartmann 1976b, 110). This is to give an essentially Kantian reading even of Hegel's claim for the '*unity of the notion and objectivity*' (§213). As Hartmann puts it, 'Begriffe, deren ''Fassung'' als Einheit von Sein und Begriff gelingt, wären *Kategorien*' (Hartmann 1976a, 2). For another non-metaphysical interpretation, with a very different reading of the way in which Hegel's objectivity claim is essentially Kantian, see Pippin (1989, especially p. 6), and Siep's (1991) response that this approach captures many insights but fails to grasp the whole of Hegel's truly metaphysical project.

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[39] I am not of course the first to propose an alternative to these readings, but I find that most proposed alternatives turn out to be versions of the metaphysical reading, along with all its disadvantages. For example, Beiser complains about a 'false dilemma' here (1995, 3). His alternative looks like this: Hegel 'accepted the concept of the infinite in the broad Spinozian sense as that of which nothing greater can be conceived' and then reasoned that 'the absolute cannot be some supersensible reality behind appearances' but must be 'the whole of all that exists', and that philosophy 'has to be systematic: only a system of all essential concepts can be adequate to its object, the universe as a whole' (1995, 4). But it follows that philosophy must be such as to be adequate to this object only if we *assume* that Spinoza's concept of the infinite is necessarily instantiated, and this is a paradigmatic example of the pre-critical metaphysical claims that Kant attacks (most explicitly in his critique of the ontological argument). To see Hegel as simply assuming something like this is—*paradigmatically*—to advocate a metaphysical reading of Hegel which renders his response to Kant question-begging. Beiser offers Hegel's claim from the VGP that 'Spinoza's substance is the starting point of philosophy' (p. 13) as interpretive evidence for his reading. But Hegel clearly does not advocate this as an *assumption*. Hegel *criticizes* Spinoza and the traditional versions of the ontological argument on precisely this score: 'The defect in Anselm's argumentation, however, which is also shared by Descartes and Spinoza, as well as by the principle of immediate knowing, is that this *unity*, which is proclaimed as most perfect (or subjective as the true knowing) is *presupposed*' (§193A; also VGP 19:557).

[40] Concerning this Hegel's contrast between critical philosophy and appeals to immediacy, he also also says that Jacobi's philosophy, in which 'immediacy is grasped as absolute', 'zeigt den Mangel aller Kritik, aller Logik' (VGP 20:327/3:421).

[41] 'The proper principle of reason in general (in its logical use) is to find the unconditioned for conditioned cognitions' (A307/B364).

[42] 'Reality in space, i.e. *matter*, is likewise something conditioned, whose inner conditions are its parts' (A413/B440).

[43] 'Either reason, in demanding the unconditioned, must remain in conflict with itself, or else this unconditioned must be posited outside the series in the intelligible realm' (A564/B592). Hegel follows this reasoning closely in the VGP, noting Kant's insistence that 'no psychologically sensuous intuition or perception corresponds with the infinite,' and that the categories (thought objectively valid) must remain 'subjective' specifically because 'the infinite, so far as it is defined by means of categories, loses itself in contradictions' (VGP 20:353/3:444–5).

[44] In other words: Hegel interprets the critical insight to be that there can be no authority beyond thought or pure reason, because any appeal to immediate knowledge allows merely subjective criteria for knowledge, which makes philosophy superfluous; Kant's limitation of our knowledge (Hegel argues) requires him to make such an appeal; so the critical insight cuts against the limitation of our knowledge. Hegel tends to make this case by asserting a fundamental similarity between Kant and Jacobi. For example: 'With Kant…the result is: ''We know only phenomena;'' with Jacobi, on the other hand, it is: ''We know only the finite and conditioned''. Over these two results there has been unmingled joy among men, because the sloth of Reason (thank God!) considered itself liberated from every call to reflect…The further result attending this is the autocracy of the subjective reason, which, seeing that it is abstract and without knowledge, has only subjective certainty and not objective truth' (VGP 20:384/3:476–7). Hegel actually connects Kant and Jacobi throughout his discussion of both in the VGP, even before turning his attention to each, see 20:315/3:410; also VGP 20:383/3:475. It is fascinating in this context that Kant appears to engage with the sort of worries Hegel would later raise, specifically in

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a letter to Jacobi (Ak 11:76/C 319); Jacobi himself highlights this passage in his response (Ak 11:103/C 323). Concerning Hegel's connection between Kant and Jacobi, he does also note differences in their accounts of '*Glaube*' (VGP 20:323) and Jacobi's critique of Kant (WL 5:99/95). And Hegel connects the two in praise as well: e.g. he says that Kant and Jacobi succeed in rendering obsolete the style and method of previous metaphysics, exemplified in particular by Spinoza and Wolff; Kant does so by means of the antinomies (WL 6:539/816).

[45] This point is central to Hegel's revision of Kant's notion of 'dialectic'. See e.g. §11A: 'When thinking despairs of being able to bring about, from its own resources (*aus sich*), the resolution of the contradiction in which it has put itself' it must not 'degenerate into *misology*…which is what happens when a so-called *immediate knowing* is asserted to be the *exclusive* form of the consciousness of truth'.

[46] Hegel emphasizes in the PG that his promise that the project can succeed in winning cognition of the absolute must be provisional. For the purposes of explanation of the project, he makes the promise, 'even though it must for the present be no more than a bare assertion, like the view it contradicts'. That competing view is that 'the true exists only in what, or better *as* what, is sometimes called intuition, sometimes immediate knowledge of the absolute' (PG 15/4).

[47] From the critique of Jacobi: 'inspiration, revelation of the heart, a content implanted in man by nature, and in particular, sane human understanding (or ''common sense'') as well. All of these forms similarly make immediacy—i.e., the way that a content is found within consciousness, and is a fact in it—into their principle' (§63A). On the connection between appeals to common sense and immediacy see also VGP 20:291 and PG 63/41.

[48] Hegel summarizes this extended argument that objective or intrinsic 'notions' are required for persisting individual objects of thought as follows: 'The onward movement of the notion [*Begriff*] is no longer transition [*Übergehen*] into, or a reflection on something else, but development [*Entwicklung*]. For in the notion [*Begriff*], the elements distinguished are without more ado at the same time declared to be identical with one another and with the whole…' (§161). My sketch of this line of thought draws from Pinkard (1988, 55–6) and Pippin (1989, 192–3 and 206).

[49] Stern (1990) is an excellent and comprehensive argument for a version of the type of reading sketched here. For some evidence in favor of the distinction between notions and ordinary predicates, see e.g. the 'Preface' to the second edition of the WL: '…each human individual [*menschliche Individuum*], though infinitely unique, is so primarily because he is *human*…if this is true, then it would be impossible to say what such an individual could still be if this foundation were removed' (WL 5:25/36; also §24Z). And see Wolff's reading on organic objects and determinate individuality: 'anorganischen Objekten…diejenige Individualität fehlt, die erforderlich ist, um sie also bestimmte reale Einzeldinge identifizieren zu können' (Wolff 1991, 203).

[50] In this respect I follow a path mapped out by Horstmann, though to a somewhat different destination. The path looks like this: Hegel appears to connect the conditions of true objecthood to organicism. But he does *not* mean to require that all objects must be organisms. He means that the conditions of objecthood can be specified only with reference to the structure characteristic of 'subjectivity', or conscious living beings in particular (1984, 85; 1990, 62).

[51] That is to say that Hegel would like to argue: (i) no natural kind has a perfectly internal or intrinsic notion, (ii) but *Geist* does, because it is self-forming or 'free'. In Hegel's terms: 'In nature, not only is the play of forms a prey to the boundless and unchecked contingency, but each shape is without the Notion of itself. The highest level to which

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Nature attains is life; but this, as only a natural mode of the idea, is at the mercy of the unreason of externality, and the living creature is throughout its whole life entangled with other alien existences, whereas in every expression of *Geist* there is contained the moment of free, universal self-relation' (§248A). See also the transition in the WL from 'Life' to 'Cognition,' where Hegel contrasts merely biological life with '*freie Gattung für sich selbst in die Existenz*' (§222). On the contrast between the development of self-conscious *Geist* and the changes in biological species, see the WL on freedom and fate (WL 6:421/720–1), and also EL §234Z, the *Philosophy of Nature* §370A and §392A, PG 224-5/178-9, and the *Philosophy of Geist* §381Z.

[52] This account specifically of explanation and laws is clearest at the beginning of the *Philosophy of Nature*. There Hegel formulates the issue of explanatory status as a problem about 'the *necessity*' of nature's formations (§250)—that is, the problem of why some ways of grouping natural phenomena can capture necessary and so explanatory laws, and some cannot. The problem with this is the potential conflict with the 'indifferent *contingency* and indeterminable irregularity' (§250) of those natural forms. For we find no 'fixed distinctions for classes and orders from an empirical consideration of Nature', nor can we 'deduce' such concepts (§250). Hegel's proposal is that the necessity of nature's forms is 'generated by the notion' insofar as these are subject to 'rationally determination' in an 'organic totality' (§250). That is, the explanatory status of certain laws and concepts is not given but *forged* in the process of rational inquiry into the best overall organized ('organic') theoretical system for understanding nature. Also on necessity in particular see also (§232).

[53] My stress on this point is controversial, so it is worth considering some additional evidence. This cited passage continues: 'The highest level to which Nature attains is life; but this, as only a natural mode of the idea, is at the mercy of the unreason of externality, and the living creature is throughout its whole life entangled with other alien existences' (§248A). Also on biology in particular: 'Almost less even than the other spheres of nature, can the animal world exhibit within itself an independent, rational system of organization' (§370). And life 'in its differentiating process does not actually posses any rational ordering and arrangement of parts, and is not an immanently grounded system of shapes' (PG 224–5/178–9).

[54] Matter is the 'universal basis of every existent form in nature' and 'offers resistance to us, exists apart from our mind' (§381Z). See also Pippin's (1997) similar use of this passage.

[55] Hegel criticizes assumptions about unity which play a role in the traditional ontological argument and also in Spinoza's monism, connecting such assumptions specifically with claims for immediate knowledge: 'The defect in Anselm's argumentation, however, which is also shared by Descartes and Spinoza, as well as by the principle of immediate knowing, is that this *unity*, which is proclaimed as most perfect (or subjective as the true knowing) is *presupposed*' (§193A).

[56] With the emphasis on the self-forming of *Geist*, Hegel insists that philosophy 'steps out of Spinozism (*aus dem Spinozismus heraustritt*)' (§415A). See also VGP 3:459/449–550. With respect to Spinoza see also WL 5:98–9/94–5; 5:178–9/160–1.

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