7

THE RELATION OF LOGIC TO ONTOLOGY IN HEGEL

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Even among those philosophers who hold particular aspects of Hegel's philosophy in high regard, there have been few since the nineteenth century who have found Hegel's metaphysics plausible, and just as few who are not skeptical about the coherency of the logical project on which it is meant to be based. Indeed, against the type of work characteristic of the late nineteenth-century logical revolution that issued in modern analytic philosophy, it is often difficult to see exactly how Hegel's logical writings can be read as a contribution to logic at all. Furthermore, any tendency toward skepticism here can only have been reinforced by the well-known views of Bertrand Russell about the logical inadequacy of the Hegelian approach of his predecessors.

Russell had regarded his own embrace of the emerging modern logic around the turn of the twentieth century as part of a reversal of his own youthful Hegelian views, and in various places he provided synoptic accounts of how he had come to see that Hegelian metaphysics was irretrievably damaged by its naive logical assumptions.[1] As he tells it, it was his work on Leibniz that had led him to the topic of relations, and there he had discovered a thesis—the "axiom of internal relations"—at the heart not only of Leibniz's metaphysics but also of the "systems of Spinoza, Hegel and Bradley." This thesis held that "every relation is grounded in the natures of the related terms,"[2] and it was an ontological thesis that was ultimately based in Leibniz's assumption that "every proposition attributes a predicate to a subject and (what seemed to him almost the same thing) that every fact consists of a substance having a property."[3] Elsewhere he expanded:

> Now the traditional logic holds that every proposition ascribes a predicate to a subject, and from this it easily follows that there can be only one subject, the Absolute,

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[1] See, for example, Russell 1959a, 42.

[2] Ibid., 43.

[3] Ibid., 48.

for if there were two, the proposition that there were two would not ascribe a predicate to either. Thus Hegel's doctrine, that philosophical propositions must be of the form, "the Absolute is such-and-such," depends upon the traditional belief in the universality of the subject-predicate form. This belief, being traditional, scarcely self-conscious, and not supposed to be important, operates underground, and is assumed in arguments which, like the refutation of relations, appear at first such as to establish its truth. This is the most important respect in which Hegel uncritically assumes the traditional logic.[4]

On this reading, Hegel's philosophical system was just a late remnant of premodern thought, the elimination of which had been under way in the sciences since the sixteenth century.

Not all logically astute readers have been so dismissive. Graham Priest, for example, sees Hegel as an innovatory "dialethic" logician, who, "above all philosophers, understood the dialethic limits of thought,"[5] while Robert Brandom claims Hegel as the initiator of his own "inferentialist" approach to semantics based on analytic thinkers such as Wittgenstein and Wilfrid Sellars, who helped free modern philosophy from "the myth of the given."[6] And while, among logicians, Priest and Brandom are unusual in this regard, their unconventional assessments of Hegel find lateral support with a number of more general recent reassessments of the idealist tradition—reassessments that suggest that it is perhaps time to reexamine the issue of Hegel's logic. Among analytic philosophers Kant has always been held in higher regard than Hegel, and among the stream of positive readings of Kant's work, a number of studies have stressed Kant's positive relevance for the development of modern logic.[7] Meanwhile, innovative recent interpretations of Hegel have stressed the continuity of his thought with just those aspects of Kant's taken as responsible for its generally modern character.[8]

In the claim that Hegel's metaphysical inadequacies are consequent upon problems in the logic from which he starts, Russell's view at least concurs on one issue with Hegel's sympathetic post-Kantian interpreters: it acknowledges the degree to which Hegel's metaphysics is meant to be somehow grounded in logic, and as such suggests a distinctly Kantian dimension to Hegel's approach. Kant, it might be said, had effectively

[4] Russell 1914, 48.

[5] Priest 2001, 7. A dialethic logician works with a paraconsistent logical system in which certain contradictory statements of the form "p and ~p" can be true.

[6] Brandom 1994, 92.

[7] See, for example, Tiles 2004, Longuenesse 1999, Hanna 2001, and a seminal early paper by Thompson (1972–73).

[8] In particular, in the work of Robert B. Pippin (1989, 1997) and Terry Pinkard (1994, 2002).

reversed the relation of logic to ontology found in Aristotle's account of the categories. While Aristotle attempts to explain the categories used in talking and thinking about the world in terms of the basic structures of being, Kant's Copernican strategy gives explanatory priority to the structures of our judgments about the world, and then derives the corresponding "categorical" structures from the way we talk and think about it.[9] But Kant's reversal was carried out on the assumption that what was explained in terms of the judgment-derived categories was a subject-relative appearance, behind which stood the unknowable thing-in-itself.[10] However, is not the idea of a conceivable world-in-itself just as problematic from the Kantian orientation as the conception of it as knowable? Such a combination seems to take away our capacity for an aperspectival God's-eye view with one hand only to give it back with the other. Much of Hegel's work can be read as an attempt to show how while we are each fundamentally limited and conditioned in our cognitive capacities, we are nevertheless capable of somehow going beyond those limits in virtue of a socially based capacity for conceptual reason, an idea he thought was expressed in theological imagistic form in the Christian myth of an incarnated God, who after his death continued to live in the spirit of a certain kind of human community.

In the spirit of the post-Kantian interpretation, one can see Hegel as having attempted to extend the scope of Kant's reversal of explanatory direction to the metaphysical assumption that limited Kant's own attempt to go beyond Aristotle's category theory. This gives to Hegel's approach the seemingly paradoxical result that features of Aristotle's logic and ontology are reintroduced, it being a characteristic of Hegel's approach to negation (*Aufhebung*) that what is so negated is in some way retained within the superseding account. For Hegel, then, the categories do not simply reveal the form of thought that is able to be conceived apart from and opposed to the world; they reveal the structure of the world itself, and so in this way the extension of Kant's critical approach is meant to restore substantive content to philosophy by undermining the residual dogmatically metaphysical assumptions responsible for Kant's denial of it. But of course the type of ontology restored could not be that original type susceptible to Kant's critique—it must be a new, post-critical form.

Such a post-Kantian reading at least has the advantage of fitting with Hegel's claim that logic is the basis of philosophy and the starting point of his system, but what of Russell's diagnosis of the fundamental inadequacy of Hegel's logical starting point?

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[9] In this reversal of the direction of explanation, Kant's position might be likened to that expressed in Wittgenstein's claim that "grammar tells us what kind of an object anything is" (1953, §373).

[10] Or at least that was how Kant was understood by Hegel, as he has been by many others. Such a two-worlds interpretation of Kant is, however, now commonly disputed. See, for example, Allison 2004.

In the following section I sketch some of the progressive features of Kant's approach to logic against which any assessment of Hegel's logical thought needs to be situated. While Hegel's criticisms of Kant have often been taken as symptomatic of a slide back into the type of pre-scientific and dogmatic metaphysics that Kant attempted to overturn, I will suggest a different reading in which Hegel attempts to make explicit Kant's seemingly ambiguous attitude to the way thought achieves a representational content.

KANTIAN PROGRESSION AND HEGELIAN REGRESSION IN LOGIC?

Kant is usually compared unfavorably to Leibniz, who is commonly regarded as having anticipated the development of symbolic logic in the nineteenth century.[11] Recently, however, this view has started to change. The emerging revisionist view stresses the continuity between Kant and Frege and is summed up in Mary Tiles's description of Kant as "the architect who provides conceptual design sketches for the new edifice that was to be built on the site once occupied by Aristotelian, syllogistic logic, but which in the eighteenth century was covered by rubble left by Ramist and Cartesian demolition gangs."[12] According to Tiles, Kant had laid "the groundwork for three important structural features of modern logic: the distinction between concept and object, the primacy of the proposition (or sentence) as the unity of logical analysis, and the conception of logic as investigating the structure of logical systems, and not merely the validity of individual inferences."[13] With the first two of these "structural features of modern logic" Tiles is clearly alluding to features or consequences of Frege's so-called context principle, expressed in claims such as that "the meaning of a word must be asked for in the context of a proposition, not in isolation."[14]

With the context principle, Frege had reversed the conception of predication as found in Aristotelian and scholastic term logic. For Aristotle, a judgment was formed by the copulation of independent subject and predicate terms, but the context principle denied that such terms could be understood as independently meaningful. Rather, they must be understood in terms of their contribution to the proposition, which was now regarded as the basic meaningful unit, the traditional analysis of predication now being replaced by one based on the mathematical distinction between

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[11] In particular, the algebraic logic developed by Boole.

[12] Tiles 2004, 85.

[13] Ibid.

[14] This is the second of three fundamental principles that Frege lays down in "The Foundations of Arithmetic" (1997, 90; see also p. 108). Wittgenstein (1922, 3.3) was to effectively repeat this claim: "Only the proposition has sense; only in the nexus of a proposition has a name meaning."

"function" and "argument."[15] On the standard interpretation, this logical distinction is now seen as correlated with a metaphysical one between objects and the concepts applied to them.[16]

The case for Kant's progressivism is bound up with the distinction that he himself regarded as his seminal discovery, that between "intuitions" and "concepts" understood as different species of "representation" (*Vorstellung*). While concepts are "general" and "mediated," intuitions, he claimed, are "singular" and "immediate." To be meaningful, judgments require the contribution of both, as is summed up in his well-known dictum that without intuitions thoughts are "empty," but without concepts, intuitions are "blind."[17] This interdependence of intuitions and concepts in turn looks like Frege's "context principle," since, as Kant puts it, "the understanding can make no other use of . . . concepts than that of judging by means of them."[18] Furthermore, the distinction between concept and intuition was itself bound up with Kant's novel concern over the semantics of our representational capacities, as expressed in the oft-quoted letter to his student Herz. The "key to the whole secret" of metaphysics, he wrote, is to be found in the answer to the question concerning "the ground of the relation of that in us which we call 'representation' to the object."[19]

One can appreciate the forward-looking nature of Kant's distinction between concepts and intuitions by contrasting him to Leibniz. Despite the modern look of Leibniz's attempts at formalization, the logic he favored was the term-logical system of syllogisms.[20] Most important, in contrast to Kant's proto-Fregean grasp of the primacy of the proposition, Leibniz firmly held to an interpretation of the subject-predicate structure of the sentence in terms of the idea of conceptual inclusion, asserting that "in all true affirmative propositions, necessary or contingent, universal or singular, the notion of the predicate is always in some way included in that of the subject—the predicate is present in the subject—or I do not know what truth is."[21] This conception of conceptual relations in terms of the spatial metaphor of containment was just the conception that was responsible for what Russell was later to identify as the "axiom of

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[15] Arguments are singular terms regarded as standing for individual objects within some domain, and functions are incomplete expressions that take arguments and assign values as outputs for those arguments. For example, in the case of arithmetic, the relation ". . . + . . ." will be considered as a function that yields numerical outputs for numerical arguments: the output "7" for the arguments "5" and "2," for instance.

[16] Furthermore, in association with modern set theory, this seemed to square logic with a modern natural-scientific conception of the world.

[17] *Critique of Pure Reason*, A51/B75.

[18] Ibid., A68/B93.

[19] Kant 1999.

[20] Lenzen 1990.

[21] Leibniz 1998b.

internal relations." Aristotle's syllogistic structures appear to be based upon Plato's method of "collection and division," the series of major, middle, and minor terms of a syllogism representing a series of universals from the most general to the most specific, related intensionally because generated from successive divisions by the application of specifying features, commencing with the major term. In this sense, they map relations between intensional contents of concepts, with the more general "contained" in the more specific. But from this perspective, how could logical structure be thought of as bearing on our investigations of the empirical world?

Leibniz had believed that if the definition (effectively Plato's division by specific differences) of a universal term were to be taken far enough, one would arrive at a complete individual concept, theoretically capable of determining an individual substance (monad).[22] Against this, Kant insisted that conceptual specification alone could never be sufficient to render a thought capable of referring to an individual thing. By itself, conceptual specification could not achieve adequate representation of the sort of existing single spatiotemporal unity that could be presented immediately as *this* thing presented here and now in perception.[23] Hence the distinction between concepts and intuitions, and the linked distinction between a general (formal) logic, which abstracts concepts from their application to any objects at all, and treats them in terms of their intensional interrelations alone, and transcendental logic, which considers concepts in relation to possible objects of experience for finite rational subjects. Hence, while in some way regarded as based upon formal logic, Kant's transcendental logic was one that, in contrast to formal logic, already had content—transcendental content.

With this focus on the semantic relevance of Kant's concept-intuition distinction, the lines for his logical rehabilitation seem reasonably clear.[24] However, it is just this focus that seems to strengthen the case against Hegel, since the concept-intuition distinction was a doctrine of which he, along with other post-Kantian idealists, was most critical. Indeed, Hegel typically opposes the whole way of framing the type of semantic question that Kant poses in his letter to Herz, and characteristically rejects the idea that we can independently consider something mindly, some representation, and something worldly, an object, and then ask after the nature of the relation of the former to the latter. How then could Hegel deny the concept-intuition distinction and yet not regress back into the framework from which Kant was breaking free?

[22] "Discourse on Metaphysics."

[23] Any further division of concepts will always yield more specific but still general and further specifiable concepts. In Kant's equivalent of the "Tree of Porphyry" there is no lowest level, no *species infima* (*Critique of Pure Reason*, A658/B686; cf. A331–32/B388–89).

[24] Even Russell, for example, had seen his own early account of the distinction between those sense-data known by acquaintance and the conceptually articulated knowledge by description as lining up with Kant's own distinction between empirical intuitions and concepts (Russell 1959b, 85).

In fact, the relations between Aristotle, Leibniz, Kant, and Hegel here are more complex than the story suggests when told in this way. Furthermore, the resources of Aristotelian term logic, on which Hegel (and Kant) drew, cannot be simply equated with the predicate-in-subject principle (the logical doctrine expressed in the metaphysically holist doctrine of internal relations), nor can Hegel's rejection of the intuition-concept distinction, despite his idealism, be simply equated with a blanket rejection of the idea that determinate thought involves a relation of concepts to something non-conceptual or worldly. As in other contexts, on issues of logic Hegel seems to have had an acute, albeit general, idea of what distinguished modern reflective thought from ancient thought, and he was far from being some simple nostalgic critic of all things modern. What he was typically critical of was what he perceived as a one-sided affirmation of modern as against ancient thought, and he sought to effect some type of mediation between them.

KANT, HEGEL, AND THE DETERMINATION OF THOUGHT CONTENT BY NEGATION

Kant, as we have noted, had linked his discovery of intuition as a separate, non-conceptual species of representation to the semantic need to establish a relation of thought to the world. Hegel rejected the idea of such a starting point, but he too was concerned with the general issue of the conditions under which thought can gain determinate content. But here it must be remembered that Kant's transcendental logic was itself a logic with content—transcendental content. Such would be Hegel's starting point, and the task of getting an ontology out of logic would proceed by a process of making such initially indeterminate content determinate. The means of this determination—determination by negation—is usually associated with the figure of Spinoza. However, it is also found in Kant himself and is derived from features of Aristotle's term logic.

The procedure of determination by negation is effectively found in Kant's approach to the way in which spatial and temporal representations (which for him are forms of non-empirical or pure intuition) can be determinate. Thus, in the "Transcendental Aesthetic" of the *Critique of Pure Reason*, he argues that a determinate region of space, for example, must be conceived as generated by a type of division within an encompassing larger (and, if the procedure is reiterated, ultimately single) space. Such a global representation of space itself is thus presupposed by any capacity to regard finite spaces as determinate, and so cannot be achieved by any type of compounding of representations of smaller, finite regions.[25] But in a number of essays in his late pre-critical

[25] This is one of the basic considerations behind his idea that space and time must be considered transcendentally ideal, and hence his conception of his own position as transcendental idealism.

period, and hence prior to his making of the concept-intuition distinction, Kant employed conceptual oppositions to make similar points concerning the determination of spatial representations. Specifically, in an essay from 1763, *Attempt to Introduce the Concept of Negative Magnitudes into Philosophy*,[26] he employs a distinction between what he calls "real" and "logical" negation to describe the structure of spatial relations that he later deals with in terms of the idea of pure intuition.[27]

Logical negation, he says, is just that which holds between contradictory statements, the simultaneous affirmation and denial of some property of a thing: one statement thus affirms that A is F and the other says that it is *not* the case that A is F, or to put it otherwise, it predicates of A the contradictory predicate "not F." In contrast, real negation occurs "where two predicates of a thing are opposed to each other [*entgegengesetzt*], but not through the law of contradiction."[28] Such oppositions hold between opposed and reciprocally cancelling determinations, Kant's favored example being that between mechanically opposed forces. As with this example, a number of others given also involve opposed spatial directions,[29] but Kant also identifies as real oppositions those holding between credits and debits of money, and between amounts of pleasure and displeasure, good and evil, love and hate, and desire and aversion.

In fact, Kant's distinction between real and logical negations repeats a distinction within Aristotle's term logic. Unlike modern propositional logics, in which negation is an operation applying externally to a proposition (p) to give its contradictory (~p), traditional term logics have two forms of negation: one can negate either of the two terms (subject or predicate terms) making up the sentence, or one can deny rather than affirm the predicate of the subject of the sentence.[30] Term negation produces the contrary of the term negated—for example, negating the predicate term "beautiful" would produce a term having the meaning "non-beautiful," effectively the term "ugly."

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[26] Translated in Kant 1992.

[27] Michael Wolff is one of the few interpreters of Hegel to point to the importance of Kant's early essay. The introduction of the concept of real negation in this essay, he points out, "was of great (though little understood) significance for Kant's later philosophy, and also for post-Kantian, Hegelian, and materialist dialectic" (Wolff 1999). While Wolff illuminatingly brings out the mathematical and mechanical dimensions of Kant's account of real negation, he fails to do justice to its Aristotelian logical dimensions.

[28] Kant 1992, 211.

[29] For example, a ship sails from Portugal to Brazil, and the miles traveled under conditions of an east wind can be designated by +, while those traversed when the ship is blown back by a west wind can be designated by –. The miles traversed westward by the ship are themselves just as real as those traversed eastward, but one might count them as "negative" in opposition to the "positive" eastward miles in the context of the ship's journey.

[30] For a helpful discussion of Aristotle's "two negations," see Horn 1989, ch. 1.1; for an extended treatment of a contemporary form of logic using term negation, see Sommers 1982 and Sommers and Englebretsen 2000.

In contrast, denying rather than affirming a predicate of a subject produces a sentence that is contradictory to the affirmation. Thus, affirming a contrary predicate of a subject (affirming that Socrates is ugly rather than beautiful, for example) is different from denying the original predicate (asserting that Socrates is not beautiful). Kant's idea of bipolar real negation would in fact continue to play an important if somewhat ignored role within the transcendental logic of the *Critique of Pure Reason* itself, being expressed, for example, by the third of the three categories of quality (limitation) as well as of relation (community).

Thus it would seem there are two dimensions of the determination of concepts in Kant's transcendental logic—one that is dependent on some non-conceptual empirical content being given via the singular representations of intuition, and another in which determination is dependent on contrastive relations between contents that are already conceived as conceptual in some way.[31] This contrast, I suggest, is crucial to Hegel's way of generating an ontology (a content) from the structures of logic itself. A key to understanding this is found in his distinction between the categories of singularity and particularity, a distinction based in Aristotelian logic but largely invisible from the perspective of modern reflective (propositional) logics.

SINGULAR, PARTICULAR, UNIVERSAL

Hegel seems to be at his most reactionary when he appeals to the dialectical logic of reason to grasp such things as religious truths that escape the logic of the modern scientific point of view, the logic of what he calls "the understanding." One such example is his linking of his three basic logical categories, universality, particularity, and singularity, after the Christian doctrine of the Trinity.[32] Hegel's notorious use of this triadic structure has a more genuinely logical provenance, however, and can be seen as a consequence of his attempts to integrate ancient term logic and modern proposition-based logic, as suggested above.

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[31] See, for example, Kant's distinction (in the discussion of the transcendental ideal) between the merely logical principle of determinability and what he calls the "principle of *thoroughgoing determination* [*Grundsatze der durchgängigen Bestimmung*], according to which, among *all possible* predicates of *things* [*Dinge*], insofar as they are compared with their opposites [*Gegenteilen*], one must apply to it" (*Critique of Pure Reason*, A571–72/B599–600). See also the discussion of this in Tiles 2004, 111–14.

[32] The "concept as such" Hegel describes in the *Encyclopaedia Logic* (§161) as containing the moments of universality, particularity, and singularity, which in the *Lectures on the Philosophy of Religion* (362) are identified with the "kingdoms" of the Father, Son, and Spirit, respectively. Even in discussing these conceptual determinations logically, Hegel's vocabulary is redolent with theological terminology. See, for example, his description of the universal as "free power" which "takes its other within its embrace, but without *doing violence* to it" or as "*free love*, and *boundless blessedness*, for it bears itself towards its other as towards *its own self*" (*Science of Logic*, 603).

For Aristotle, the singular and particular judgment forms are importantly different. Thus, in his threefold distinction of judgment forms in chapter 7 of *De Interpretatione*, the first group is described as containing judgments about individuals (singular judgments) while the second and third groups contain judgments about universals.[33] Judgments of the second group, he says, are about universals—say, about the species man, rather than about individual men such as Socrates—and they express truths about those universals by being made universally about its members. In contrast, those of the third group, while also judgments about universals, are made non-universally—as in "man (as such) is mortal." While Aristotle does not explicitly refer to particular judgments here, it has been convincingly shown that they, along with judgments about universals made universally, properly belong to the second group.[34] Particular judgments, it would seem, rather than being judgment about individuals per se, are judgments about universals, but made in a non-universal way. Particular judgments are made partially about a universal or species, by way of reference to some rather than all of its members (literally, individuals are referred to as part of the universal).[35]

Strictly speaking, there is no role in syllogisms for the singular judgments of group one: the syllogism provides no way of reasoning about individuals as such. Rather, syllogistic reasoning maps relations among universals. The particular judgment form can appear in syllogisms precisely because it is a form of judgment about universals. Traditional logicians had, of course, been aware of the problem posed by singular judgments for syllogisms, and the standard solution had been to treat singular terms as universals on the grounds of certain common logical properties shared between their respective (universal and singular) judgment forms.[36] In recent times, this move has effectively been revived by Quine.[37] Leibniz too had followed this practice, but he had also used the Aristotelian particular judgment form as way of referring to individuals alongside the standard scholastic treatment of singular

[33] Aristotle, *On Interpretation*.

[34] Whitaker 1996, 84–89.

[35] Judgments "partially made" is Whitaker's apt term (1996, 86). Preserving the etymological link between "particular" and "part," for Aristotle a particular affirmative judgment affirms the predicate of part only of that totality of members of the universal for which the predicate is affirmed when it is affirmed universally, and so, like the concept "part," it depends for its sense on the idea of the judgment's being made universally.

[36] For example, both universally affirmative judgments and affirmative singular judgments can be considered alike inasmuch as they are both exceptionless. Kant alludes to this treatment of singular judgments in the *Critique of Pure Reason*, A71/B96.

[37] Quine (1960, 181) links his construing names as general terms with "the attitude of logicians in past centuries" who "commonly treated a name such as 'Socrates' rather on a par logically with 'mortal' and 'man,' and as differing from these latter just in being true of fewer objects, viz. one."

terms simply as universals. Moreover, he regarded singular and particular judgment forms as equivalent.[38]

Leibniz's practice thus draws attention to an alternative way of securing an empirical referent for the subject term besides the use of a proper name, since a particular judgment form will be able to be used to pick out an individual as an instance of (or part of) a species, as when the individual Socrates is picked out by a noun phrase such as "this man" or "a certain man." In contrast to Leibniz, however, Kant insisted on preserving the distinction between strict singular reference through intuitions and the type of reference that is mediated conceptually—that is, he distinguished between the referent's being picked out qua singular and qua particular. While a concept is necessarily part of the judgment's subject term at the surface level, the judgment can be understood as having an underlying logical structure such that reference is secured through intuitions, the only properly singular form or representation.[39] But if the alternative idea of securing reference to individual objects through the particular judgment form was open to Kant, why, we might ask, did he then insists on the further separation of concepts and intuitions? Could not a referent picked out by a demonstrative phrase establish the necessary relation of judgment to the world without any further appeal to intuitions as radically non-conceptual representations?

The clue here has to do with Kant's claim about the systematic nature of all knowledge—the idea that all true judgments must be conceivable as logically united within a "transcendental unity of apperception" in virtue of which they are judgments about the one world.[40] Were some ineliminable judgments to gain their reference to the world via a demonstrative concept term, a "this such," the necessary indexicality of such judgments would then seem to compromise the very unity of the world as presented in the

[38] This is remarked upon by Sommers (1982, 15): "Leibniz has an interesting variant of the traditional doctrine that singular terms are syntactically general. According to Leibniz, 'Socrates is mortal' is a particular proposition whose proper form is 'Some Socrates is mortal.' But 'Some Socrates is mortal' entails 'Every Socrates is mortal' so we are free to choose either way of representing the sentence. Leibniz thus views the singular proposition as equivalent to the particular proposition that entails a universal one."

[39] For Kant the subject term of a properly cognitive judgment contains a (necessarily general) concept. (The only properly singular judgment in Kant is an aesthetic judgment, which is not genuinely cognitive.) When one takes into account the role of intuitions, this gives to the judgment a different underlying logical structure. See the perspicuous discussion of this in Longuenesse 1999, 90, 90 n. 20.

[40] Thus Kant describes a concept as resting on a function, by which is understood "the unity of the action of ordering different representations under a common one" and as hence "grounded on the spontaneity of thinking" (*Critique of Pure Reason*, A68/B93). Judgments are described as "functions of unity among our representations, since instead of an immediate representation a higher one, which comprehends this and other representations under itself, is used for the cognition of the object, and many possible cognitions are thereby drawn together into one" (ibid., A69/B94).

totality of true judgments about it. The "transcendental unity of apperception" is by necessity universal, and hence cannot be identified with a particular point of view within the world that it is concerned with making known. But while these two approaches to the determination of judgments are present in Kant, the relation between them is very obscure. Hegel's more explicit use of the idea of singularity, particularity, and universality as the three moments of the concept is meant, I suggest, as a way of making these relations explicit.

Hegel's thought here is complex and far from lucid, but it is nevertheless suggestive. On one hand, he wants to give a place within thought to a form of judgment that has this Aristotelian particular judgment structure, that is, the structure of an egocentric or perspectival judgment predicating one from among a group of contrary properties of an object *qua* instance of some species. The object of predication so conceived is essentially the structure of what Hegel describes in the *Phenomenology of Spirit* as the object of "Perception." Such immediate judgments about such objects do not have a straightforwardly propositional content but are articulated by the features of term logic. On the other hand, he wants to keep a place for judgment forms more like those Kant needs to conceive of how judgments can be integrated within a coherent "transcendental unity of apperception." This will be the structure of those reflective judgments belonging more to what he calls "Understanding": here the content of such a judgment form is more propositional than objectual, and such judgments will be correlated more with abstracts feature of the world—facts or state of affairs—rather than any individual object in the everyday sense of the word.

A LOGIC FOR OBJECTS, A LOGIC FOR FACTS, AND LOGICAL LIFE

In the first three chapters of the *Phenomenology of Spirit*, Hegel charts the progress of a conscious subject though a series of what we might think of as separate epistemic-ontological attitudes that he labels "Sense-certainty" (*die sinnliche Gewissheit*), "Perception" (*die Wahrnehmung*), and "Understanding" (*der Verstand*).[41] Each of these

[41] Consciousness had started out taking the immediate qualitatively determined "this" of Sense-certainty as the truth of its object and had come to learn that such immediately perceivable quality is just an aspect of the more complex object of Perception. In contrast to the simplicity of the "this" of Sense-certainty, the perceived object has an internal structure such that an underlying substance has changeable phenomenal properties. But in turn Perception learns that that its object is in truth more complicated again, the distinction between it and Understanding roughly enacting the distinction between the everyday commonsensical and scientific or nomological views of the world. While from the point of view of Perception we might think of the world as simply an assemblage of propertied objects, from the point of view of Understanding, such objects will be integrated as interacting components of a single, unified, law-governed world.

attitudes is a version of a generally realistic orientation within which that which is known within experience is taken to be an independent "in-itself" (*das Ansich*). That is, the attitude of consciousness is to take things as experienced as being just as they would be "anyway," were they not being experienced.[42] Each shape, therefore, represents an attitude that is properly ontological or metaphysical.

The attitude of Sense-certainty takes as true a type of singular content purportedly given immediately in experience and hence presented as a "pure 'This.'"[43] But Hegel attempts to show the incoherence of the idea of anything being so given and yet "determinate" or cognitively relevant. To be determinate, one needs contrast or negation, and this content is meant to be grasped independently of such relations. It is the very immediacy of these supposed phenomenal contents that precludes any relations of identity or difference from being established among them, but without any specifiable grounds of relations of identity or difference they cannot be distinguished, and hence they pass over into each other. Effectively, this constitutes Hegel's anticipation of more recent critiques of the "Myth of the Given."

The collapse of Sense-certainty as a cognitive attitude will result in its being replaced by a new shape of consciousness, Perception. What Sense-certainty had taken as a singular, simple "this" has now become a property inhering in an abstract universal medium or substrate. The perceptual object is an instance of a kind—a "this such"— and so instantiates particularity. In the first instance, says Hegel, the properties will be taken as simply inhering in the medium in a way that makes them indifferent to each other, but if all such properties were in fact indifferent to each other in this way, they could not be determinate, "for they are only determinate in so far as they differentiate themselves from one another, and *relate* themselves *to others* as opposed [*als entgegengesetzte*]."[44] This is where the principle of term negation manifests itself: in Hegel's example, "white is white only in opposition to [*in Entgegensetzung gegen*] black, and so on."[45] The very existence of things determinately colored F must then presuppose the existence of things determinately colored non-F: "the point of singularity [*Einzelheit*] in the medium of subsistence" therefore must "radiat[e] forth into plurality."[46] But the object so conceived in turn shows itself to be incoherent and (like Aristotle's own thoughts about primary substances) develops into more complex conceptions of the

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[42] These various shapes of consciousness had been differentiated by their respective assumptions regarding the fundamental characteristics of that independent in-itself.

[43] *Phenomenology of Spirit*, §91.

[44] Ibid., §114.

[45] Ibid., §120.

[46] Ibid., §115. The idea is that if, say, the world were monochromatically colored red, then from the point of view of perception, it could not even be thought to be red. Being (determinately) red requires the existence of other, non-red things.

structure of such perceivable objects, and is ultimately, with the transition to the Understanding, replaced by something like nomologically interacting forces—the distinction between Perception and the Understanding roughly enacting the distinction between the everyday commonsensical and modern scientific views of the world.[47]

The logic of the purely conceptual relations existing among these thought determinations, but now abstracted from the concrete form in which they are presented to a consciousness in the *Phenomenology* and thus free of any empirical determination, is charted in Hegel's *Science of Logic*. Of course, the lack of empirical determination does not exclude such logic from having a content, and the apparent ontology in which *The Science of Logic* appears to terminate in Book 3 represents Hegel's equivalent to the transcendental content of Kant's logic. The first two books of this work can be considered as Hegel's category theory, which, like Kant's, is meant to be objective in the sense that its thought determinations are considered to be equally determinations constituting the transcendental structure of the things that thought is about, but unlike Kant's in that no longer are they to be considered the mere appearances behind which unknowable things-in-themselves stand.[48] Moreover, while Kant's synthesis of ancient and modern positions in logic might be described as in some sense ad hoc and unconscious, Hegel's is clearly very conscious. Here as elsewhere, Hegel's position was that of the self-conscious mediation of what he understood as the "immediate" characteristics of ancient thought (in this case, the mediation of the term logic reflected in the opposed categories of Book 1, the logic of being) with the "mediation" characteristic of modern thought (here the modern propositionally based approaches to logic reflected in the structures of Book 2, the logic of essence).

It must be remembered that Hegel refuses the modern reflective starting point in which all things mindly (concepts, knowledge, etc.) and all things worldly (objects, facts, etc.) are conceived as radically separate and yet determinate, and their relations then inquired into. Nevertheless, the content generated from logic itself will need to be such that we can understand how the world can be known, conceived, reflected upon, and so forth from somewhere within it. It is not surprising, then, that Hegel's logical categories will fit a more or less organic worldview within which we might think of mind as somehow immanent. More particularly, however, Hegel's way forward here will be essentially to ground cognitive processes in something like the pragmatics of socially based and rule-governed language games that is central to his notion of "objective spirit."[49] In this

[47] Or alternatively, the understanding could be thought of as parallel to the specifically scientific type of knowing that Aristotle refers to as *episteme*.

[48] Again, Hegel's is unlike Kant's given Hegel's own understanding of Kant. On the more Fregean reading of Kant, it is misleading to regard Kant in this way.

[49] This aspect of Hegel's position is brought out strongly in Terry Pinkard's (1994) thesis of the "sociality of reason."

regard, the role of what Hegel describes as the "recognition" holding between finite embodied and socially located subjects is crucial for understanding his approach to the human capacity for reflection and thought. There will thus be a sense in which a life of the mind is immanent within or emergent from his somewhat organic conception of the world. This has led some interpreters to think of Hegel's starting point as a type of metaphysical philosophy of nature, and to consider his approach to thought itself, and hence to logic, as somehow derived from this organic metaphysics.[50] On the opposed post-Kantian approach, however, this is to reverse the relation between Hegel's logic and his metaphysics. Hegel's task is to, in some sense, derive what is taken to be his organic metaphysics from the immanent development of a content for logic. While it is clear that the feature central to this logical derivation, Hegel's notorious use of contradiction, is clearly thought of as a type of organic feature of thought, for the post-Kantian reading this must not rely on any independently conceived organicist metaphysics, but rather must have a properly logical origin. Again, it would seem, his attempt to combine determinations of term and proposition logics and their differing accounts of negation is crucial here.

THE ROLE OF CONTRADICTION IN HEGEL'S LOGIC

One of Hegel's constant complaints about the type of cognition characteristic of the Understanding is its static, mechanical, and lifeless nature, which he contrasts to a much more organic and animated dialectical form of thinking.[51] Notoriously, he here appeals to contradiction to capture the vitality of thought.[52] In the history of logic, what is appropriately called the "law of non-contradiction" is commonly called the "law of contradiction," but when Hegel appeals to his law of contradiction, the title is appropriate. The law that Hegel calls the law of contradiction states that everything is contradictory. It is a law, Hegel says, that expresses the "truth and essential nature of things."[53]

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[50] Something like this position is represented in current debates by Frederick Beiser. See, for example, Beiser 2005.

[51] For example, Hegel accounts for the "lifeless," "dull," and "spiritless" content of the modern reflective version of logic, in that "its determinations are accepted in their unmoved fixity and are brought only into an external relation with each other. In judgments and syllogisms the operations are in the main reduced to and founded on the quantitative aspect of the determinations; consequently everything rests on an external difference, on mere comparison and becomes a completely analytical procedure and mechanical [*begriffloses*] calculation" (*Science of Logic*, 52).

[52] "Contradiction is the root of all movement and vitality it is only in so far as something has a contradiction within it that it moves, has an urge and activity" (ibid., 439).

[53] Ibid.

While most defenders of Hegel claim that he does not deny the law of non-contradiction,[54] for Priest it is his dialethist denial of this law that marks the advanced nature of his logical thought.[55] However, it is far from clear that Hegel means by "contradiction" what modern logicians typically mean (the conjunction of contradictory propositions), as Hegel does not assume propositional logic as fundamental. Rather, he attempts to integrate structures of term and propositional logics, each with their differing senses of negation.

Aristotle sometimes seems to invoke the modern idea of contradiction, but this is misleading, as he did not have the modern notion of negation as an external operation applied to a propositional content and so could not consider sentences of the type "p and ~p." Where he apparently refers to a contradictory pair of propositions,[56] he typically means statements that result from simultaneously affirming a predicate of a subject and denying that predicate of that subject.[57] As Laurence Horn points out, "We should be aware that any translation of the term logic operation of predicate denial into the one-place truth-functional connective of propositional (or sentence) negation cannot faithfully render Aristotle's vision."[58] Since, as I have argued, Hegel's fundamental logical idea, the idea of determinate negation, is derived from Aristotle's alternative to modern propositional negation, it would seem unlikely that Hegel too could mean by contradiction exactly what modern logicians typically mean by the term. But what then does he mean by it?

Hegel expresses the law of contradiction in terms that seem primarily ontological rather than logical, concerning as it does the contradictoriness of all things rather than of judgments or propositions. However, as has been stressed, here we can read Hegel's ontology as expressing his logic: the things that are contradictory are things as articulated within the evolving set of "thought determinations" traced throughout *The Science of Logic*. We might understand this by considering the fate of an object that is first grasped as a perceptual object and then thought and reasoned about. If what we have seen of the term-logical determinations of perceptual objects and the more propositional determinations of objects reasoned about is correct, then there is a very real sense in which such objects must change despite being the same—must be, in Hegel's sense, contradictory.

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[54] According to Brandom, for example, rather than deny the law of not-contradiction, Hegel "places it at the very center of his thought" (Brandom 2002, 179).

[55] Of course paraconsistent logics do not accept "p and ~p" for *all* sentences p. Specifically, paraconsistent logics are posited as ways of dealing with such logical paradoxes of the form "This sentence is false" (a version of the liar paradox).

[56] As, for example, in Aristotle, *On Interpretation*, 17a30.

[57] "We mean by affirmation a statement affirming one thing of another; we mean by negation a statement denying one thing of another" (ibid., 17a27).

[58] Horn 1989, 21. It is commonly argued that the Stoics invented propositional logic.

Hegel clearly conceives of dialectical interactions between normative claims to the truth of beliefs or the rightness of actions as central to his pragmatics of language use. Consider, then, a situation in which a particular immediate claim on the part of one subject, such as "This A is F," is met with opposition from the point of view of another perspectively located subject for whom this A is experienced as having some other contrary quality and for whom it is thus some non-F.[59] (For example, my immediate perceptual response is to describe this tie as blue, while yours is to describe it as green.) But when the opposing opinion is expressed in relation to the first claim, this counter-claim typically will be put as a denial: "This A is not F." ("This is blue" will now be met with "This is not blue.") But this in turn must affect the interpretation of the original claim, as while it was initially immediate, it too is now a mediated claim. It is now maintained in the face of its denial ("It's not the case that this is not blue").

The original judgment, which was understood as being some immediate reflection or representation within thought of the nature of its object such that its subject-predicate structure corresponded to the substance-attribute structure of the perceptual object, must now be reconceived as being contrastively determined by its contradictory within the logical space of reasons. Effectively this new conception of the content of the judgment is conceived by Hegel in essentially propositional terms such that negation is regarded as an external operation. We can appreciate the reasons for this by looking to Frege, who claimed that we must consider negation to be an operation that applies to complete propositions if we are to understand propositions in non-assertive contexts such as interrogatives and hypotheticals. That is, in reflecting on a claim, we must understand its content independently of the question of its actual truth or falsity.[60] If we think of the proposition p as the content of a question "p?" whose possible answers are "p" and "~p," then the proposition p, without the sign of assertion or negation, must be taken to be the understandable sense of the question.

It is significant that in his comments on the law of the excluded middle, which in Aristotle is expressed as "of one thing we must either assert or deny one thing,"[61] Hegel argues for the existence of a "third" that is indifferent to the opposition he describes as A and not-A. This third is A itself without the + or − that marks the affirmation or denial of A.[62] When Hegel describes it as "the unity of reflection into which the opposition withdraws as into ground," this suggests something like the unity Frege gives to a propositional content that must be able to be understood in abstraction from its

[59] This is brought out most clearly in Hegel's discussion of the evaluative "judgment of the concept" in *Science of Logic*. See note 64 below.
[60] See, for example, Frege's discussion of the question "Is the Sun bigger than the Moon?" in his classic paper "Negation" (1997, 347–48).
[61] Aristotle, *Metaphysics*, 1011b24–25.
[62] "This *A* is neither +*A* nor −*A*, and is equally well +*A* as −*A*" (*Science of Logic*, 438–39).

being judged true or false. It is this conception of the content of a judgment that is the heir to Kant's contextualization of judgments within the transcendental unity of apperception.

Such a signless content of a belief fits with the content in relation to which the rational asserter must come to stand under conditions of dialectical contestation. Faced with a counterasserted denial, the asserter is thereby confronted with the two opposed beliefs that stand as contradictories, p and ~p, and must deal with the dilemma that both cannot be believed at the same time. The subject is forced into reflection to judge which of the two propositions, p or ~p, is correct, and this change of stance requires a complete modification of its conception of the nature of that original object of knowledge. Originally it had been conceived as unproblematic and as immediately available to the subject: one simply had to observe how the thing was in order to know its properties. It was simply F and not non-F. Now, however, the object is grasped as that which is possibly F *or* possibly not F. If it is F, it will have to be understood as that which was responsible for its appearing to the other to be not F; if it is not F, it must be understood as that which was responsible for its originally appearing to be F.[63] The known object will develop through many further categorial transformations beyond these, but at least this transition allows us to understand the contradictory nature of such objects for Hegel. From the modern model-theoretic perspective, for example, thinking of the object first in terms of its particularity and then in terms of its singularity will appear to conflate a class that has a single member with that member.

CONCEPT AND OBJECT, MIND AND WORLD

Regardless of Hegel's attempts to specify how thought will gain a determinate content by being self-determining under dialectical conditions in which individual claims are developed in the face of counterclaims, is it not still the case that in his refusal of the concept-intuition distinction Hegel shows his commitment to an implausible metaphysical view of the totality of things as a self-referential super-mind whose thoughts need not and cannot go beyond itself? This was just the distinction that Kant had attempted in order to connect concepts to a world beyond them, and without it Hegel can seem to lose just the distinction that Frege insisted upon between objects themselves and the concepts we have about them.

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[63] Clearly, the object is now being treated as the subject of a reflective judgment whose inner non-apparent properties are manifested in terms of the effects the thing has on other things, namely, human perceivers.

That this criticism rests on a mistake, however, can be appreciated by again invoking the singular-particular distinction. If we pose this question from the reflective point of view that we moderns seem to adopt instinctively, then Hegel is surely in agreement with the idea that in judgments, concepts are ultimately applied to something external to thought, for here "concept" and "thought" are meant in the subjective sense. The concepts applied to objects or the thoughts entertained about them are the concepts and thoughts of particular, finite subjects, and the correctability of these testifies to the independence of that which they are about.

In his account of the forms of judgment in Book III of *The Science of Logic*, the final, most developed form of judgment is the explicitly evaluative judgment in which predicates such as "good," "bad," "true," "beautiful," "correct," and so on are applied to objects.[64] What distinguishes this form of judgment from the immediately preceding judgment is the moment of singularity in the subject term. The preceding judgment form, the disjunctive judgment, specifies the array of mutually limiting particulars into which a kind or species is differentiated: "colour is either violet, indigo, blue, green, yellow, orange or red."[65] Such a necessary judgment is neither empirical nor analytic, but rather something like a Kantian synthetic a priori judgment.[66] Hegel says of this judgment form that its moments "do not confront one another in determinate self-subsistence" and that "although objective *universality* has completed itself *in its particularization*," the unity of the judgment "has not yet determined itself to the third moment, that of *singularity* [*Einzelheit*]."[67] In contrast, in the assertoric judgment form, which is the immediate form of the judgment of the concept, the content is posited as a determinate relation between the moments of a subject "as an immediate singularity [*ein unmittelbar Einzelnes*]" and a predicate.[68]

Hegel portrays the initial manifestations of these judgments of the concept *as subjective and problematic because* each will be based only on some bare assurance (*Versicherung*) that is able to be "confronted with equal right by its opposite [*die entgegengesetzte*]. When one is assured that 'this action is good,' then the opposite assurance, 'this action is bad,' has equal justification [*hat . . . gleiche Berechtigung*]."[69] Such judgments will be initially based on some contestable, immediately felt assurance

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[64] *Science of Logic*, 657–58. Such judgments "express that the thing is *measured* against its universal concept . . . and is or is not, in *agreement* with it." Ibid.

[65] Ibid., 656.

[66] The disjunctive judgment is a subtype of the judgment of necessity, of which the initial, more analytic form is the categorical judgment ("The rose is a plant").

[67] *Science of Logic*, 658.

[68] Ibid., 659.

[69] Ibid., 660. Miller has here "contradictory" for *entgegengesetzte* despite the fact that "good [*gut*]" and "bad [*schlect*]" are a typical pair of polar contraries, not contradictories.

as to their rightness, and as such, they can be met by their contraries offered in judgments by others who can have opposed assurances that they feel to be equally justified. Here it is the singularity of the object judged in its abstraction from any concept that is associated with the "merely subjective element in the assertion," some "external third factor" that makes the connection between the object and the universal applied to it "externally posited."[70]

The clear suggestion here is that the concrete thing in its singular determination has an effect on the judgment, but it is not efficacious in the sense of playing the role of an intuitive given that secures a truth about the object that is known with certainty. It produces certainty merely in the sense of a subjective assurance that will bring the judge into conflict with other similarly assured judges with different certainties. But this is just the dialectical situation that, as we have seen, forces reflection and the search for justifications that can initiate self-correction. Hence it is essential that a concept applied by any particular finite judge is brought into contact with the world considered as external to his or her concept. But in another sense, of course, the singular object judged and the world to which it belongs are not beyond the sphere of conceptuality, precisely because in predicating the concept of the concrete thing in its singularity, the judge becomes aware of (posits) that thing in the determination of singularity, and therefore as external. As Hegel puts it in the discussion of Sense-certainty in the *Phenomenology of Spirit*: "An actual Sense-certainty is not merely this pure immediacy, but an *instance* (or example [*Beispiel*]) of it."[71] Anything present to us as bare "this" is nevertheless present as an instance of the determination of singularity, an exemplification of "thisness" in general. But is there any reason to demand some further, stronger sense of the externality \of the world? A Hegelian answer here would be that anything stronger indicates the metaphysically skeptical picture of an unbridgeable gap between concept and a world-in -itself. But if we have formed the concept of a gap here, then it is clearly not unbridgeable.

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[70] Ibid., 659.

[71] *Phenomenology of Spirit*, §92.

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