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Understanding the Object/Property Structure in Terms of Negation: An Introduction to Hegelian Logic and Metaphysics

In this essay, I look in some detail at the fine structure of Hegelian *negation*--and at its metaphysical consequences--when Hegel first introduces it, in the second chapter of the *Phenomenology* (presenting ideas corresponding to the transition from Sache to Dinge in the *Science of Logic*). These are only the first baby steps--soon to be aufgehoben--in his intricate story. But the structure revealed is both interesting in its own right, and a cautionary tale for any readers tempted by univocal readings of such central Hegelian formulae as "the negation of the negation," and "identity through difference." I will be particularly concerned to contrast Hegel's order of explanation with the extensional semantics that defines the modern logistical tradition, which would not really begin for another 60 years, and which did not achieve equivalent expressive power until 160 years after Hegel wrote the passages I'll be discussing. The considerations that drive this narrative of explicitation (transforming what is *an sich* into what is *gesetzte*) are, I think, individually all familiar. But the argumentative narrative that they, when suitably recruited and deployed, jointly articulate, is a paradigm of Hegelian conceptual emergence.

I

The thought with which *Perception* begins is that the determinateness of the content even of an immediately given sensory knowing, an act of sensory awareness, as conceived according to the metaconception Hegel calls “sense certainty”, must be understood in terms of what it excludes or rules out, what is exclusively different from it, not just what is merely or indifferently different from it. A metadifference between two kinds of difference shows up already in the contents of acts of sensory awareness conceived according to the categories of sense certainty. The observable contents expressible in a feature-placing vocabulary that were

introduced in *Sense Certainty* offer a couple of alternatives. The day of "It is day," and the raining of "It is raining," are different. So are the day of "It is day," and the night of "It is night." But they are different in different senses of "different." In the language Hegel uses in *Perception*, day and raining are *merely* or *compatibly,* or *indifferently* [gleichgültig] different, while day and night are *exclusively* [ausschlieend] different. For, though different, day and raining are *compatible* features (it can be both day and raining), while day and night are *incompatible* (it cannot be both day and night).

The *determinateness* of sense contents cannot be made intelligible solely in terms of their mere difference. Exclusive difference must also be appealed to. If the contents of minimal sensory knowings stood to one another only in relations of compatible difference, none excluding or ruling out any other, then their occurrence would have no significance, would convey no information. They would be mere events, 'that's without 'such'es, gears unconnected to any mechanism, their occurrence as devoid of cognitive significance as any other unrepeatable events. Their differences would be less (determinate) than "merely numerical" differences. For numbers are exclusively different from one another. Their differences would be less (determinate) than those of featureless Euclidean points, even apart from consideration of all the lines, circles, triangles, and so on whose relations to those points might relate them to one another. For again, being one point precludes being another, whereas merely compatibly different contents can be instantiated together.

In fact contents that are merely or compatibly different are elements of different families of exclusively or incompatibly different contents. Shapes such as circular, triangular, and rectangular are exclusively different from one another. Exhibiting one rules out exhibiting any other (so long as we restrict ourselves to shapes exhibiting the same number of dimensions as the space they inhabit, since a three-dimensional pyramid with a rectangular base might be thought to exhibit both triangular and rectangular shapes). Colors also form a family of exclusively different contents (so long as we restrict ourselves to monochromatic regions). What can be compatibly different is pairs of contents drawn from different families of incompatibles: red and square, green and triangular, and so on. These merely or compatibly different contents are *determinate* only insofar as they *also* stand in relations of *incompatibility* or *exclusion* from contents drawn from the *same* family. It is as such that their occurrence conveys information, by *excluding* the occurrence of other

members of the *same* family or incompatibles. Mere difference is intelligible in the context of such a structure exhibiting also exclusive differences. But by itself it is too weak to underwrite any notion of determinate content.

There are, then, fundamental conceptual reasons to understand the notion of determinate difference as implicitly involving the metadistinction between two kinds of difference: exclusive difference and compatible difference. I think Hegel also thinks that this metadifference is *observable*, that it is part of the phenomenology (in a more contemporary, vaguely Husserlian sense) of sense experience. That is, I think he thinks the compatibility of day with raining, and its incompatibility with night is part of what we are given when we have a sensory experience of the sort that might be expressed in a feature-placing language by "It is day." In grasping that content, part of what we grasp is its place in a space of compatibilities and incompatibilities with other experienceable contents.

On this account, Hegel thinks that more is given in sense experience than empiricists such as Locke and Hume do. The experiences we label 'red' and 'green', and those we label 'rectangular' and 'triangular' for him are experienced *as* incompatible, as ruling each other out (as simultaneously located), while those labeled 'red' and 'triangular' and 'green' and 'rectangular' are experienced as different, but compatible. The different possibilities of combination, and so the arraying of features into compatible families of incompatibles is a ground-level structure of sensory awareness for Hegel, but not for traditional empiricists. They are obliged to treat the fact that one has never experienced a wholly red and wholly green triangle as on a par with the contingent fact that one has never experienced, say, a wholly blue pentagon. Hegel sees the modal difference between the difference between red and triangular and the difference between red and green as something one knows simply by experiencing them.

Is this difference of opinion about what is given in sensory experience an empirical disagreement? Can it in principle be settled by introspection? Has traditional empiricism suffered from restricting itself to too narrow a conception of the basic knowledge delivered by sense experience? Hegel's analysis of what is implicit in the idea that basic sensory knowledge has a content that is *determinate* provides an argument for the claim that knowledge of which experiential features are exclusively different from which, and which merely different, *must* be

part of what one knows in having experiences with those features. (This is not to say that a subject need be incorrigible on such matters.)

One important way in which the enriched empiricism Hegel is considering differs from traditional empiricism (including its twentieth-century variants) lies in its rejection of the latter's *atomism* about the contents of immediate sensory experience. If their exclusive differences from one another are an essential part of what is given in experience, then each has the content it does only as a member of and in virtue of the role it plays in a constellation of interrelated contents. An experienced red triangle must locate the experiencing of it in the mere (compatible) difference of members of two different families of incompatibles: colors and shapes. (It is interesting to note in this connection that the intrinsic incompatibilities of color properties were a principal consideration leading Wittgenstein away from the logical atomism of the Tractarian idea of elementary states of affairs as independent of one another.) The result is a kind of holism about what is immediately given in sensory experience. The atomism characteristic of the conception of sensory consciousness understood according to the categories of sense certainty is seen to be incompatible with understanding such consciousness as *determinately* contentful.

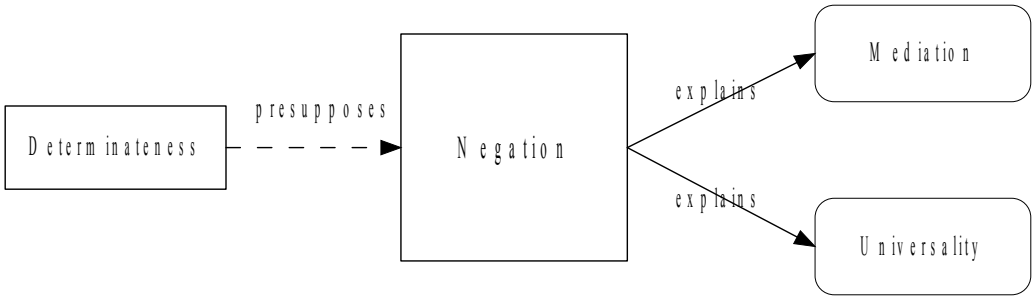
Equally important, and equally radical, is the fact that Hegel's principal metaphysical primitive, determinate negation, is intrinsically and essentially a *modal* notion. The material incompatibility of red with green and circular with triangular is a matter of what *can* and *cannot* be combined, what is and is not *possible*. Modality is built into the metaphysical bedrock of his system. Possibility is conceptually more basic than actuality, in the sense that an immediately given actual experience is intelligible as having the determinate content it does only insofar as it is situated in a space of possibilities structured by relations of compatible and incompatible difference. The empiricism Hegel is considering is a specifically *modally* enriched empiricism. And we shall see that, by contrast to Kant, for Hegel the essentially modal articulation of what is determinate is not restricted to subjective thoughts or experiencings. It also characterizes objective determinate states of affairs, whether possible objects of sensory experience or not.

II

If the contents that *can* be given in sensory experience, some of which actually *are*, (contents that might be expressed linguistically in a feature-placing vocabulary) are determinate in the sense of standing to one another in relations of determinate negation in the sense of modally exclusive difference or material incompatibility, then they also stand to one another in relations of material inferential consequence. In Hegel's idiom, this is to say that although they may be given immediately, the contents of sensory experience are themselves "thoroughly mediated." For some feature A (such as "It is raining,") has another feature B (such as "It is precipitating,") as a material inferential consequence just in case everything materially incompatible with B (such as "It is fine,") is also materially incompatible with A. In this sense scarlet entails red and square entails rectangular.

In much the same way, even if the features in virtue of which sensory experiences are determinately contentful were construed as unrepeatable, their relations of exclusive difference from one another would ensure that they also fall under repeatables, i.e. that they exhibit a kind of universality. For many colors are alike in that they are exclusively different from red, and all shapes are alike in that they are not exclusively different, but merely compatibly different from red. These repeatable commonalities ramify into arbitrary Boolean complexity. For instance, two otherwise dissimilar features might share not being exclusively different from A or B, but being exclusively different from both C and D. More natural sense universals are constructable using entailments defined by exclusions. Thus all the features that entail red—for instance, shades of red such as scarlet and crimson—can be grouped together, or features entailed by rectangular. As Wilfrid Sellars observes, the primitives appealed to by classical empiricists are determinate sense repeatables. They were concerned with how merely determinable sense repeatables might be understood in terms of these, not with how unrepeatables might give rise to determinate repeatables.

It is in virtue of these facts that I take determinate negation to be a more metaphysically fundamental concept than mediation and universality:

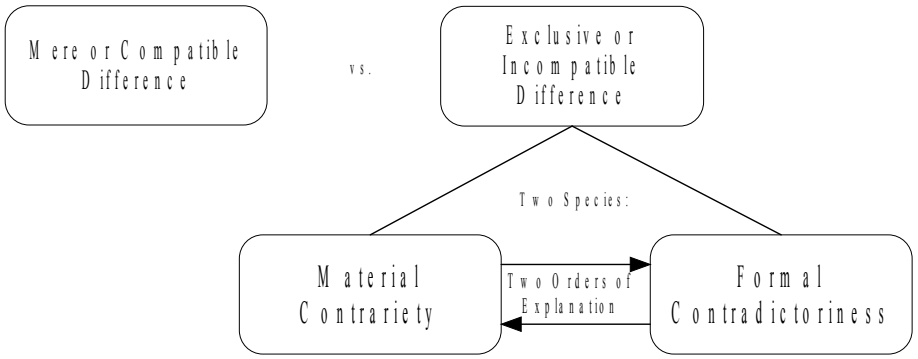


as pictured above. The concept of negation that plays the axial role in the metaphysics Hegel introduces in *Perception* is a rich and complex one. As I have indicated, it is introduced as one element of a dyad. This is the metadifference between two kinds of difference: mere or compatible difference and exclusive or incompatible difference. We have seen that these two kinds of difference articulate determinate repeatable features into compatible families of incompatible features, as in the paradigm of colors and shapes. The next step in understanding exclusive difference is to consider it in relation to another kind of negation. Determinate negation also contrasts with formal or abstract negation. The latter is *logical* negation, in a non-Hegelian sense of "logical." Two features stand in the relation of determinate negation if they are *materially* incompatible. I am helping myself here to Sellars's terminology, itself not wholly uninfluenced by Hegel. The idea is that items determinately negate one another in virtue of their nonlogical *content*. Such items stand in the relation of formal or abstract negation if they are logically incompatible: incompatible in virtue of their abstract logical form.

This distinction is as old as logic. It is the distinction between Aristotelian *contraries* and Aristotelian *contradictories*. Red and green, circular and triangular, are contraries, while red and not-red, and circular and not-circular are contradictories. Both of these are kinds of *exclusive* difference. So this is a further metadifference, between two species of exclusive difference. The first metadifference, between compatible and incompatible differences, is a structure of co-ordination. Neither sort of difference is definable in terms of the other; both are required for determinateness. Together they yield compatible families of incompatible feature-kinds. By contrast, contrariety and contradictoriness are interdefinable There are accordingly two orders of explanation one might pursue in relating them, depending on which one takes as primitive. One can define contraries in terms of contradictories, so determinate negation in terms of formal negation: for *Q* to be a contrary of *P* is for *Q* to imply *P*'s contradictory, *not-P*. Green is a

contrary of red and triangular of circular just insofar as green implies not-red and triangular implies not-circular. Or, one can define contradictories in terms of contraries, so formal negation in terms of determinate negation: for something to be the contradictory of *P*, *not-P*, is just for it to be the minimal contrary of *P*, in the sense of being implied by every contrary *Q* of *P*. Not-red is implied by *all* of red's contraries: green, blue, yellow, and so on, and not-circular is implied by *all* of circular's contraries: triangular, square, pentagonal, and so on.

Negation:



Hegel takes determinate negation to be prior in the order of explanation to formal or abstract negation. He accordingly has the second picture in mind, understanding contradictories in terms of contraries. The tradition of extensional logic and semantics, extending from Boole through Russell to Tarski and Quine, adopts the other order of explanation, understanding material incompatibility as contrariety in terms of formal incompatibility as contradictoriness or inconsistency. Each approach has its characteristic advantages. It is worth noting at this point that the interdefinability of contraries and contradictories (hence of determinate and abstract formal negation) depends on the availability of a notion of implication or consequence. The Hegelian order of explanation has a native candidate. For, as already pointed out, material incompatibility underwrites a notion of entailment: *Q* is a consequence of *P* just in case everything materially incompatible with *Q* is materially incompatible with *P*. What I'll call the Tarskian extensionalist tradition also has available a notion of implication. But it is not directly definable in terms of formal logical negation. It only becomes available if one widens the focus of the Tarskian explanatory strategy. Doing so will illuminate the metaphysical project Hegel

pursues in the *Perception* chapter. In particular, it makes manifest the difference between building modality in at the metaphysical ground-floor, as Hegel does, and adding it as a late-coming, perhaps optional afterthought (think of Quine), as the extensionalist tradition does.

The widening of focus I have in mind is to the structure of singular terms and predicates presenting objects and properties that Hegel argues is implicit already in the idea of determinate features presented by a feature-placing vocabulary. I am going to call a conception of the objective world as consisting of particular objects that exhibit repeatable properties (universals) as having an "aristotelian" structure (with a lowercase 'a'). I do so because I take it that it is such a commonsense conception, suggested by the way our languages work, that Aristotle aims to explain using his proprietary metaphysical apparatus of individual substances and their essences. I am after the Aristotelian *explanandum* rather than the *explanans*. I take it that it is also the common explanatory target of the *Perception* chapter and of the extensionalist semantic tradition that culminates in Tarskian model theory. (Russell pitched the shift from traditional logics of properties to modern logics of relations as transformative, and along one important dimension, it was. But that difference is not of the first significance for the contrast I am concerned to draw here.) Unlike Aristotle himself, neither Hegel in this chapter (though he does in the *Logic*), nor the extensionalist tradition in general, makes anything of the distinction between sortal predicates expressing kinds such as 'fox' (which come with criteria of identity and individuation), and mere characterizing predicates expressing properties such as 'red' (which do not individuate),—which is part of what Aristotle's essentialism is a theory of.

There are two broad explanatory strategies available to explicate the aristotelian structure of objects-and-properties. Hegel wants to explain it in terms of <u>determinate negation</u>, relating property-like features. I want to illuminate that metaphysical approach by contrasting it with the extensionalist Tarskian tradition, which starts with objects understood as *merely* different. The two orders of explanation exploiting the relations between contraries and contradictories (hence determinate and formal, abstract negation) are embedded in more encompassing converse explanatory strategies for articulating the aristotelian object/property categorial structure, rooted in the metadifference between incompatible and compatible differences.

The notion of <u>compatible difference</u> that applies to the objects with which metaphysical extensionalism begins does not appeal to modal notions of <u>possibility</u> or <u>necessity</u>. The mere

difference that characterizes elements of the domain of objects of the Tarskian scheme is a primitive *material* relation, in that it—like the contrariety with which Hegel's converse explanatory strategy begins—is not defined in terms of formal logical concepts. Properties are represented in Tarskian structures as sets of objects: the extensions of the properties. The indiscernibility of identicals—that is, that if objects *a* and *b* are identical, they have the same properties—will follow set-theoretically from this definition. The other direction of Leibniz's Law, the identity of indiscernibles, will not, unless one insists that *every* different set of objects determines or constitutes a property.

On this basis, contradictoriness, and so formal negation, can be introduced. Contradictory properties are definable as properties with complementary extensions within the domain of objects. *Not-P*, the contradictory of *P*, is the property whose extension consists of all and only the objects in the domain that are not in the extension of *P*. The relation of contrariety is not really represented in such extensional structures. What are intuitively contraries, such as **square** and **circular**, will have disjoint extensions. But not every pair of disjoint extensions corresponds to proper contraries. If the domain does not happen to include a mountain made of gold, **being made of gold** and **being a mountain** will be disjoint properties, without being contraries. The failure of Tarskian structures to represent contrariety is the result of the modal character of that notion. Contradictoriness of properties *is* represented, because negation is given the same reading in all models: contradictory properties are those pairs whose extensions exhaustively and exclusively partition the domain of objects. In order to represent contrariety of properties, we could in this object-based framework impose a non-logical, material constraint on the Tarskian interpretation function, to ensure that the extensions of contrary properties *P* and *Q* are disjoint in *every* model.

That, in effect, is what the *possible worlds* development of Tarskian model theory does. The modal element can be thought of as added by in effect treating contrariety of properties the way logical negation is treated: as a constraint on *all* interpretations. The account moves up to *intensions* of properties by looking at *functions* from *indices* to extensions. The indices can be models, that is, relational structures. Or they can be possible worlds. We have come to see that the differences between these are great. One important one is that models have *domains* of objects. Possible worlds do not. Another is that some *logically* possible worlds (i.e.

combinatorially possible constellations of objects and properties) don't count as really (metaphysically, or physically) possible. Whereas any relational structure with the right adicities can be a model. This is the point where modality gets incorporated—that is, at the end, and it then trickles down, via the intensions of properties, to the properties. But it should be emphasized that this constraint is, from the point of view of the underlying raw materials, *arbitrary* and *extraneous*. One simply *stipulates* that the disjointness of domains of certain predicates square and circular, *is de jure*, while that of others, gold, and mountain, is not. Such stipulations come in at the very end of the process of semantic construction, not at the beginning. So possible worlds semantics in the end *also* takes the distinction between incompatible and compatible difference (exclusive and mere difference) for granted. It just builds it in at a different level, as something latecoming.

A particularly extreme version of the extensionalist order of explanation is that of the *Tractatus*. Not only does it not build modality into its primitives, it offers only the most attenuated version of modality, constructed at the very end as something to be understood in terms of logical contradictoriness and (so) formal negation. The Tractarian scheme starts with mere difference of objects, and mere difference of relations among them. Properties are understood as just relations to different objects. All elementary objects can stand in all relations to all other objects. At the ground level, there are no combinatory restrictions at all, except those that follow from the adicity of the relations. What is syntactically-combinatorially categorically possible ("logically possible") is possible *tout court*. Elementary objects put *no* constraints on the Sachverhalte they can enter into, so no restrictions on the properties they can simultaneously exhibit. At this level, properties do not stand to one another in relations of exclusive difference —e.g. where being A's mother meaning one cannot be B's father. More complex facts can be incompatible, but this is intelligible only where one truth-functionally includes the logical negation of an elementary fact included in the other. As I mentioned above, dissatisfaction with this treatment of contrariety of colors seems to have played an important role in moving Wittgenstein away from the Tractarian way of thinking about things.

III

Grafting on at the end substantive modal constraints on admissible models in the way of possible worlds semantics does not alter the basic Tarskian extensionalist order of explanation. The order of explanation Hegel pursues in *Perception* is the converse of it. It is of the essence of extensional approaches to appeal only to mere or compatible difference of objects. Besides *compatible* differences of features, Hegel also acknowledges *in*compatible or *exclusive* differences. We have seen that these come in two Aristotelian species: formal contradictories and material contraries. Hegel focuses on the material (nonlogical) incompatibility of such contraries. On the basis of this nonlogical modal primitive, he then elaborates the full aristotelian structure of objects-with-properties (particulars characterized by universals).

The process by which the metaphysical structure of objects-with-properties is found to be implicit already in what would be expressed by a purely feature-placing vocabulary, once the features deployed in that vocabulary are understood to stand to one another in relations both of compatible and of incompatible difference involves three distinct moves. Each one involves adding to the picture a further kind of difference, so a further articulation of the complex notion of <u>determinate negation</u>. The first move puts in place the intercategorial difference between properties and objects, or universals and particulars. The second move puts in place an intracategorial difference between two roles that particular objects must play with respect to properties, reflecting the intracategorial difference between merely different and exclusively different properties. The third move registers a fundamental intercategorial metaphysical difference between objects and properties with respect to mere and exclusive differences.

The first move in this argument finds the aristotelian structure of objects-and-properties, or particulars-and-universals to be implicit already in the observation that the features articulating the contents of sense experience stand to one another in relations of material incompatibility or exclusive difference. This argument can be thought of as beginning with the role that what in *Sense Certainty* Hegel calls "the Now" plays in the distinction between the two basic kinds of difference, compatible and incompatible. What would be expressed by "Now_1 is night," is *not* incompatible with what would be expressed by "Now_2 is day." It *is* incompatible with "Now_1 is

day." The incompatibility applies only to the *same* 'Now'. We could say that the 'Now' is playing the role of a *unit of account* for incompatibilities.

At this point we can see that the notion of incompatible difference, determinate negation, or material incompatibility (which I have been claiming are three ways of talking about the same thing) among *features* implicitly involves a contrast with a different kind of thing, something that is *not* in the same sense a feature, that is an essential part of the same structure. For incompatibilities among features require units of account. What is impossible is not that two incompatible features should be exhibited at all. After all, sometimes it is raining, and sometimes it is fine. What is impossible is that they should be exhibited by the same unit of account—what we get our first grip on as what would be expressed by a tokening of 'now', or 'here-and-now', or 'this', and the repeatability structures they initiate.

So from the fact that what would be expressed by different 'now's can exhibit incompatible features it follows that the structure of sense contents that includes features that can differ either incompatibly or compatibly also essentially includes items that are not features, but that play a different role. These units of account are of a different ontological category from the features for which they are units of account. Besides the *intra*categorial difference (concerning relations of features) between two kinds of difference (incompatible and compatible) of features in sensory experience that would be expressed by sentences in a feature-placing language, sensory experience also implicitly involves the *inter*categorial difference between features and units of account for incompatibilities of features.

That is to say that that what I have called the 'aristotelian' structure of objects-and-properties, or particulars-and-universals, is now seen to have been all along implicit in sense experience, even as originally conceived according to the categories of sense certainty. Making this implicit structure explicit yields the form of sensory self-consciousness Hegel calls "perception."

A decisive line has been crossed. The content-repeatables exhibited by unrepeatable sense experiencings are no longer to be construed as *features*, but as *properties*. What enforces the transition is the association of those sense repeatables not with what is expressed by the indiscriminate "it" of "It is raining," or the undifferentiated merely existential "there is" of

"There is red," but with different, competing units of account. Looking over the shoulder of the phenomenal self-consciousness that is developing from the categories of sense certainty to those of perception, we see that this differentiation of what exhibits the sense repeatables was implicit already in the different 'now's acknowledged by sense certainty from the beginning. No longer are the contents of basic sensory knowings construed as what would be expressed in feature-placing vocabularies. Now they are articulated as what requires expression in vocabularies exhibiting the further structure of subjects and predicates. What is experienced is now understood not just as features, but as objects with properties, particulars exhibiting universals.

IV

Understanding functional units of accounts for incompatible sense repeatables more specifically as *objects* or *particulars* involves further unfolding of what is implicit in distinguishing compatible or merely different sense repeatables from incompatible or exclusively different ones. Hegel says of the features that "these determinatenesses…are really only properties by virtue of the addition of a determination yet to come," namely thinghood.[1] He elaborates that notion of thinghood along two dimensions: the thing as *exclusive* and the thing as *inclusive*. In talking about these two different roles essential to being a "*thing* of many properties", he describes it as on the one hand "a 'one', an excluding unity," and on the other hand as an " 'also', an indifferent unity." The unity of the units of account essentially involves this distinction and the relation between being a 'one' and being an 'also'.[2] These correspond to the roles played by objects with respect to *incompatible* properties, which they *ex*clude, and their role with respect to *compatible* properties, which they *in*clude. So the intracategorial metadifference between two kinds of difference between what now show up as *properties* is reflected by the intracategorial difference between two complementary roles *objects* play with respect to those properties, as repelling incompatible properties and as a medium unifying a set of compatible properties.

As to the first, he says:

1 [113].

2 [114].

> [I]f the many determinate properties were strictly indifferent [gleichgültig] to one another, if they were simply and solely self-related, they would not be determinate; for they are only determinate in so far as they differentiate themselves from one another [sie sich unterscheiden], and relate themselves to others as to their opposites [als entgegengesetzte].

This is the by now familiar point that determinateness requires exclusive, incompatible difference, not just mere or indifferent, compatible difference.

> Yet; as thus opposed [Entgegengesetzung] to one another they cannot be together in the simple unity of their medium, which is just as essential to them as negation; the differentiation [Unterscheidung] of the properties, insofar as it is...exclusive [ausschließende], each property negating the others, thus falls outside of this simple medium.

The 'medium' here is thinghood, the objects that exhibit the properties:

> The One is the *moment of negation*… it excludes another; and it is that by which 'thinghood' is determined as a Thing.[3]

If A and B are *different* things, then one *can* be circular and the other triangular, one red and one green. But one and the same thing *cannot* have those incompatible properties. A's being circular and red *excludes* its being triangular or green. Objects are individuated by such exclusions.

On the other hand,

> This abstract universal medium, which can be called simply thinghood…is nothing else than what Here and Now have proved themselves to be, viz. a *simple togetherness* of a plurality; but the many are, *in their determinateness*, simple universals themselves. This salt is a simple Here, and at the same time manifold: it is white and *also* tart, *also* cubical…. All these many properties are in a single simple 'Here', in which, therefore, they interpenetrate…And at the same time, without being separated by different Heres, they do not affect each other in this interpenetration. The whiteness does not affect the cubical shape…each…leaves the others alone, and is connected with them only by the indifferent Also. This

3 All of this long passage is from [114].

> Also is thus the pure universal itself, or the medium, the 'thinghood', which holds them together in this way.[4]

The thing as the medium in which *compatible* properties can coexist is the thing as 'also'. It is the thing of many (compatible) properties, rather than the thing as excluding incompatible ones. The tokenings of 'here' that sensory consciousness understanding itself as sense certainty already saw as expressing a feature of its experiencings already plays this role, as well as the exclusionary one. Already in that primitive case we can see

> the medium in which these determinations permeate each other in that universality as a simple unity but without making contact with each other, for it is precisely through participation in this universality that each is on its own, indifferent to the others—As it has turned out, this abstract universal medium, which can be called thinghood itself…is none other than the here and now, namely, as a simple ensemble of the many.[5]

Along this dimension, too, thinghood, the idea of objects as an essential structural element of the structure that contains properties, shows up first in indexical form of here-and-now's, and is generalized first by the idea of anaphoric chains "recollecting" what is expressed by such unrepeatable indexical and demonstrative tokenings, on its way to the full-blown logical conception of particulars exhibiting universals.

The idea of sense experiencings that are determinately contentful in the sense of being not only distinguishable but standing in relations of material incompatibility turned out implicitly to involve a structural-categorial contrast between repeatable sense universals and something else. The something else is "thinghood" or particularity. The notion of <u>particularity</u> then turns out itself to involve a contrast:

> This simple medium is not merely an "also," an indifferent unity; it is also a "one," an excluding unity.[6]

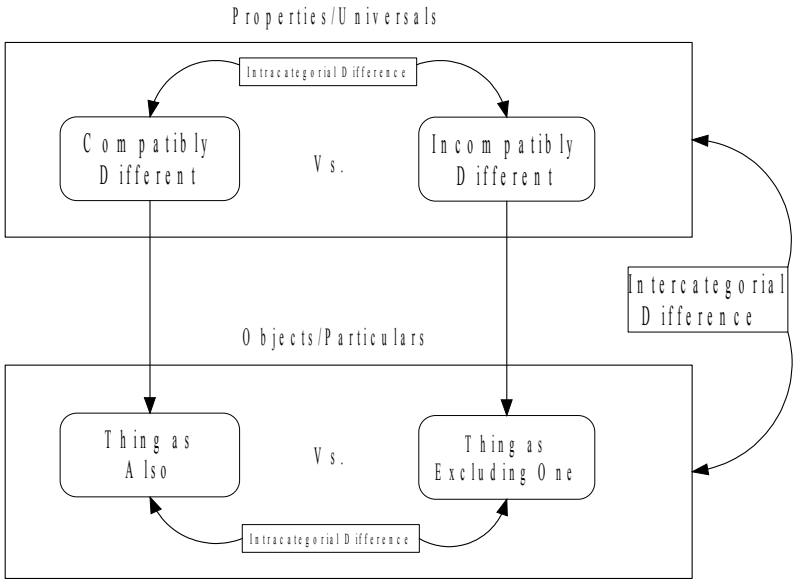
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4 [113].

5 [113].

6 [114]. Also: "I now further perceive the property as determinate, as contrasted with an other, and as excluding it…I must in fact break up the continuity into pieces and posit the objective essence as an excluding "one." In the broken-up 'one,' I find many such properties, which do not affect each other but which are instead indifferent to each other." [117]

These different but complementary roles reflect, within this ontological category, the distinction between compatible and incompatible differences, within the ontological category of properties.



We have seen that determinateness demands that the identity and individuation of properties acknowledge not only compatible differences between them, but also incompatible differences. Does the identity and individuation of objects also depend on both the role of things as unifying compatible properties and their role as excluding incompatible ones? Hegel says:

> ...these *diverse aspects*...are *specifically determined*. White is white only in opposition to black, and so on, and the Thing is a One precisely by being opposed to others. But it is not as a One that it excludes others from itself...it is through its *determinateness* that the thing excludes others. Things are therefore in and for themselves determinate; they have properties by which they distinguish themselves from others.[7]

The first claim here is that the thing as a one is in some sense opposed to other things, or "excludes them from itself." Talk of the thing as an excluding one invokes the role of objects as units of account for incompatibilities of properties.

7 [120].

But the sense in which objects exclude or are opposed to other objects cannot be the same as the sense in which properties exclude or oppose one another. What would the units of account for *those* exclusions be? More deeply, we have seen that the material contrariety of properties admits of the definition of opposites in the sense of contradictories. Property *Q* is the opposite of property *P* in this sense just in case it is exhibited by all and only the objects that do not exhibit *P*. This is how not-red is related to red. An argument due to Aristotle shows that objects do not have opposites in this sense of contradictories.[8] The corresponding notion of an opposite in the ontological category of objects would have object *b* being the contradictory of object *a* just in case *b* exhibits all and only the properties not exhibited by *a*. But the properties *not* exhibited by any object always include properties that are incompatible with one another, and hence not all exhibitable by any one object. The red circular object does not exhibit the properties of being green, yellow, triangular, or rectangular. So its opposite would have to exhibit all of these properties (as well as all the other colors and shapes besides red and circular). That is impossible. The chart above has the properties of not being identical to my left little finger, and of not being identical to Bach's Second Brandenburg Concerto. Its opposite would have to have the property of being identical to both. Since they are not identical to each other, this cannot be.

So although objects both differ from and in some sense exclude one another, there is a huge structural difference between how they do and how properties differ from and exclude one another—the distinction between two kinds of difference that kicks off the whole process of explicitation and elaboration we have been rehearsing. The Aristotelian argument unfolds what turns out to have been implicit all along in the distinction between the two ontological categories of properties and objects. The key to the difference, the distinction between them, lies in their relation to exclusive difference: the difference between their relations to this kind of difference.

How are we to think of objects as being identified and individuated, by contrast to the ways properties are? The answer Hegel offers in the passage above is surely right as far as it goes: they are identified and individuated by their properties. This response reinforces the order of explanation being identified here as Hegels: from (ur)properties to objects—reversing the extensionalist Tarskian order of explanation. In virtue of their role as hosting co-compatible

8 Book V of the *Categories*. [ref.]

properties, objects as 'also's merely differ from one another insofar as they host different sets of co-compatible properties. In virtue of their role as excluding properties incompatible with those they host, objects as "excluding ones" exclude one another insofar as some of the co-compatible properties exhibited by one are incompatible with some of the co-compatible properties exhibited by another.

Here we see another aspect of the contrast in orders of explanation between the Tarskian extensionalist tradition and Hegel's metaphysics of universals and particulars. The extensionalist tradition offers an answer to the question about how the identity and individuation of objects relates to that of properties: Leibniz's Law. It comprises two parts, a weaker and a stronger claim:

LL1: The Indiscernibility of Identicals.

LL2: The Identity of Indiscernibles.

(LL1) says that identical objects must have all the same properties. (LL2) says that objects with all the same properties are identical. The identity of indiscernibles is stronger than the indiscernibility of identicals in that it seems to depend on there being "enough" properties: enough to distinguish all the objects that are really distinct. As it arises in the extensionalist framework, Leibniz's Law appeals only to the mere difference of properties and the mere difference of objects. It becomes controversial how to apply it when modally robust properties are in the picture.[9] How do these principle look in an environment where exclusive difference of properties is also in play, as well as mere difference?

The Indiscernibility of Identicals says that mere difference of properties is sufficient for mere difference of objects. The Identity of Indiscernibles says that merely different objects have at least merely different properties. I think Hegel endorses these principles. But his talk of objects as excluding one another suggests that he also endorses a further, stronger principle: different objects not only have *different* properties, they have *incompatible* properties. We might call this principle the "Exclusivity of Objects." Such a view would satisfy three criteria of adequacy, the first two of which are set by the passage most recently quoted above.

9 I discuss this issue in Chapter Six and the second half of Chapter One of *From Empiricism to Expressivism: Brandom Reads Sellars* [Harvard University Press, 2014].

- It would underwrite talk of objects as excluding one another.
- It would do so by appealing to the more primitive notion of properties excluding one another.
- And it would respect the differences between property-exclusion and object-exclusion that are enforced by the Aristotelian argument showing that objects cannot have contradictories definable from their exclusions (in the case of properties, their contrarieties) in the way that properties do.

In effect, the Exclusivity of Objects says that it never happens that two objects are distinguished by their role as things-as-alsos combining different compatible properties, according to the discernibility of non-identicals version of (LL2) unless they are *also* distinguished by their role as things-as-excluding-ones. There is no mere difference of properties distinguishing objects without exclusive difference of properties (having incompatible properties) distinguishing them. This is a topic on which Leibniz's Law is silent.

The principle of the Exclusivity of Objects holds even within the extensionalist context, provided logical vocabulary is available. For even there it is denied that two objects could differ (merely differ) just by having different merely or compatibly different properties. Taking our cue from the appeal to identity-properties used to illustrate the Aristotelian argument that objects cannot have contradictories, we can notice that if *a* and *b* are indeed not identical, then *a* will have the property of <u>being identical to *a*</u> and *b* will have the property of <u>being identical to *b*</u>. If *a* and *b* are not identical, then nothing can have both properties; they are not merely different properties, they are exclusively different. It is impossible for any object that has the one property to have the other.

So thinking about things from the extensionalist direction, beginning with mere differences of objects and identifying merely different properties in effect with sets of them, does yield a version of the principle of Exclusivity of Objects. If object *a* is red and object *b* differs from it by not having that property, then appeal to the notion of formal or abstract negation yields the result that *b* has the property that is the contradictory of red. It has the property <u>not-red</u>. That property is exclusively different from <u>red</u>, in that it is a property of formal negation that it is *logically* impossible for any object to have both properties simultaneously. Provided that logical

vocabulary such as identity or negation is available, merely different objects will be exclusively different. The fact that the principle of the Exclusivity of Objects, that merely different objects will have not only compatibly different properties but also incompatibly different ones, arises early in the Hegelian order of explanation and late in the extensionalist one is a consequence and reflection of the two orders of explanation regarding the relations between material contrariety and formal contradictoriness that they adopt.

For distinguishing at the outset compatibly from incompatibly different properties, as Hegel does, commits one to a picture of properties as coming in compatible families of incompatible properties, as in the paradigmatic case of shapes and colors of monochromatic Euclidean plane figures. If objects *a* and *b* differ merely in compatible properties, they differ in properties drawn from different families of incompatibles. For example, *a* is red and *b* is square. But for them to be distinguished from each other thereby, *a* must not also be square and *b* must not also be red. But if *a* is not square, it will exhibit some other shape, incompatible with being square, and if *b* is not red it will exhibit some other color, incompatible with being red. But then *a* and *b* will have properties that are not merely different from one another, but incompatible with one another. That is just what the Exclusivity of Objects claims. According to this picture, kinds of things are characterized by which compatible families of incompatible properties they must exhibit. Sounds can be shapeless and colorless—though they must have some pitch and volume. But any monochromatic Euclidean plane figure must have both shape and color on pain of not qualifying as a determinate particular of that kind.

In a sense, then, for the identity and individuation of objects, the exclusiveness of objects, which appeals to exclusive difference of properties, is more basic in the Hegelian order of explanation than Leibniz's Law, which appeals to mere difference of properties.

V

This observation completes the rehearsal of the argument that elaborates what is implicit in the idea of the contents of sensory consciousness as what would be expressed in a feature-placing vocabulary, through the consideration of what is implicit in the requirement that the features articulating those contents must be *determinate*, through the consideration of the relation of negation and universality, to the much more finely structured idea of those contents as presenting a world consisting of empirical objects with many observable properties. We are now in a position to understand what Hegel is after when, in the opening introductory paragraphs of the *Perception* chapter, he says such things as:

> Perception…takes what is present to it as universal.[10]
>
> As it has turned out…it is merely the character of positive universality which is at first observed and developed.[11]
>
> Only perception contains negation.[12]
>
> Being…is a universal in virtue of its having mediation or the negative within it; when it *expresses* this in its immediacy, it is a *differentiated*, *determinate* property.[13]
>
> Since the principle of the object, the universal, is in its simplicity a *mediated* universal, the object must express this its nature in its own self. This it does by showing itself to be *the thing with many properties*.[14]

In these passages Hegel describes a path from *universality*, through unpacking the requirement of the *determinateness* of universals, to *negation* (and mediation), fetching up with the universal/particular structure of the thing with many properties. I have told the story somewhat differently, but not, I think, irreconcilably so. The official result inherited from the *Sense Certainty* chapter is the realization by sensory self-consciousness that it must understand its immediate sense knowledge as having contents that are repeatable in the sense of being universal. (Not only in this sense, as we have seen.) So that is where Hegel picks up the story in *Perception*. I understand the subsequent invocation of determinateness and negation to be a reminder that what drove empirical consciousness understanding itself according to the categories of sense certainty to the realization that repeatability as universality must be involved was precisely considerations of the determinateness of sense knowledge as involving negation. So I have told

10 [111].

11 [114].

12 [111].

13 [113].

14 [111].

the story of sensory consciousness understanding itself as perceiving starting with the distinction between two ways in which sense contents came to be seen to differ already in the experience of sense certainty.

The passage I want to focus on at this point is one in which Hegel summarizes what we will learn, by talking about

> …sensuous universality, that is, the *immediate* unity of being and the negative…[15]

For here he is announcing that in this chapter we get our introduction to one of his master-ideas, that *determinateness* should be understood as a kind of *identity* constituted by *difference*, unity articulated by disparity. Though he has other big ideas, this is the central structural innovation of his thought about what he calls "logic", which only later in the story is differentiated into a semantics addressing the structure of the subjective realm of thought and an ontology or metaphysics addressing the structure of the objective realm of being. One of my main interpretive claims is that determinate negation or material incompatibility on the side of the thinking subjects is *deontic* incompatibility (a matter of commitment and entitlement) and on the side of the objects thought about is *alethic* incompatibility (a matter of necessity and possibility), and that Hegel's idealism is a story about the unity constituted by *these* different kinds of differences. But that is a story for another occasion.

What we have been exploring is the metaphysical fine structure of what Hegel invokes in this passage as "the negative." One of Hegel's own summaries is this:

> …the thing as the truth of perception reaches its culmination to the extent that it is necessary to develop that here. It is
>
> β) the indifferent passive universality, the also of the many properties, or, rather, matters.
>
> ß) the negation generally as simple, that is, the one, the excluding of contrasted properties, and
>
> α) the many properties themselves, the relation of the two first moments: The negation, as it relates itself to the indifferent element and extends itself within it as

15 [115].

> a range of differences; the point of individuality in the medium of enduring existence radiating out into multiplicity.[16]

In fact, I have argued that Hegel's metaphysical analysis of the fine structure of the aristotelian object-with-many-properties, and his derivation of it from the concept of determinate universality, is substantially more intricate than this summary indicates. As on offer in the *Perception* chapter, it is a constellation of no less than ten interrelated kinds of difference. We began by distinguishing

1. mere or "indifferent" [gleichgültig] difference of compatible universals

from

2. exclusive difference of incompatible universals.

This brought into view the

3. metadifference between mere and exclusive difference.

This is the first intracategorial metadifference, between differences relating universals to universals. It is a kind of exclusive difference, since the universals must be either compatible or incompatible. (One could use the terminology differently, so that exclusively different universals were also merely different. But this does not seem to be how Hegel uses the terms.)
Within exclusive difference, two species that can be related by two opposing orders of explanation:

4. material contrariety, corresponding to determinate negation,

and

5. formal contradictoriness, corresponding to abstract logical negation.

There is then also the

6. metadifference between determinate and abstract negation logical negation.

This is the second intracategorial metadifference, between differences relating universals to universals. These are not exclusively, but only compatibly different. Contradictories are a kind of contrary: minimal contraries.
Implicit in the concept of repeatables as universals is the

7. difference between universals and particulars.

This is the the first intercategorial difference. It, too, is a kind of exclusive difference.
Implicit in the concept of particulars in relation to universals is the

16 [115].

8. difference between two roles they play:
    - particulars as 'also's, that is as medium hosting a community of compatible universals, and
    - particulars as "exclusive ones," that is as units of account repelling incompatible properties.

This is the first intracategorial difference between roles played by particulars. These are what we might call *strongly* compatibly different roles, since *every* particular not only *can* but *must* play both.

Corresponding to this difference on the side of particulars is the

9. difference between two roles universals play with respect to particulars:
    - universals as related to an inclusive 'One' in community with other compatible universals, and
    - universals as excluding incompatible universals associated with different exclusive 'One's.

Finally, there is the

10. Difference between universals and particulars that consists in the fact that universals *do* and particulars do *not* have contradictories or opposites.

Unless the distinctions and intricate interrelations between these different ways in which things can be said to differ from or negate others are kept firmly in mind, nothing but confusion can result in thinking about Hegel's metaphysics of negation. As an illustration, both determinate properties and objects can be understood as, to use a favorite Hegelian phrase, "negations of the negation." But in very different ways, accordingly as both what is negated and the negating of it must have senses drawn from different elements of the list above. For instance the first negating of a negation is intracategorial, among universals, and the second is intercategorial, distinguishing particulars from universals. In the first case, the identity of a determinate property consists in how it negates or differs from all of its material contraries. Each is in sense (2) the negation of the property in question. And it is by being the contrary of, negating, all of its exclusive contraries that it is the determinate property that it is. This is one sense in which universals as such "contain negation within themselves," which is why

perception, which "takes what is present to it as universal," thereby itself "contains negation." In the second case, according to the order of explanation I have attributed to Hegel, particulars are understood in terms of their exclusive difference, of types (7) and (9), from universals. Since the universals are the determinate universals they are because of their negations of one another, particulars can be understood as negations of the negations that articulate those universals. They are of the category that does *not* negate others of its category in the way universals do negate others of their category. These two examples of kinds of identity that are intelligible as constituted by negating a negation are obviously quite different, due to the difference in the kinds of negation.

VI

We have seen Hegel argue that the idea that sense experience has a determinate content implicitly involves the idea that such contents can differ from one another in two different ways. And we have seen how he argues that the aristotelian structure of objects-with-properties is implicit in the relations between these two sorts of difference, these two senses in which contents can negate one another. The result is a case-study concerning how Hegel thinks a more complex structure can be implicit in a simpler one, in terms of the process by which one goes about making it explicit.

END