

IF YOU BELIEVE IN POSITIVE FACTS, YOU SHOULD BELIEVE IN NEGATIVE FACTS*

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ABSTRACT: Substantial metaphysical theory has long struggled with the question of *negative facts*, facts capable of making it true that Valerie *isn't* vigorous. This paper argues that there is an elegant solution to these problems available to anyone who thinks that there are positive facts. Bradley's regress and considerations of ontological parsimony show that an object's having a property is an affair internal to the object and the property, just as numerical identity and distinctness are internal to the entities that are numerically identical or distinct. For the same reasons, an object's lacking a property must be an affair internal to the object and the property. Negative facts will thus be part of any ontology of positive facts.

1. Introduction

Many of us think that the world consists of facts, structured entities constituted by objects and properties. We think that such entities are needed to account for the existence of various *structures* – causal, physical, mathematical, semantic say – by accounting for the similarities, differences, identities and distinctnesses that seem to be necessary for the existence of such structures. And we think that if it is true that Valerie is

vigorous, then it is true in virtue of a fact constituted by Valerie and vigor. But what if it is true that Valerie *isn't* vigorous? Is it made true by a fact consisting of Valerie, vigor, and ... nothingness? Or of Valerie and the absence of vigor? Or of Valerie and a negative property – non-vigor? Quite a few philosophers have precluded nothingness or absences or negativity from their ontology, and have tried instead to find other, positive, aspects of reality to make true negative statements true. Others have abandoned the idea that there must be something in virtue of which a negative statement is true or a positive statement false, thinking that we do best without a correspondence theory of truth in any case.

In this paper I will argue that anyone who thinks that there are positive facts involving objects or ordered n -tuples of objects (henceforth “objects”) and properties or n -placed relations (henceforth “properties”) should think that there are similarly structured negative facts. They are, in fact, an ontologically free lunch. Or rather, they are complimentary once the positive facts have earned their place on the menu.

The exact nature of the properties and objects that make up positive facts does not matter for my argument. You might think of objects in terms of simple substances, particulars, or bundles of universals or compresent tropes, and you might think of properties in terms of universals, or bundles or similarity classes of tropes, to mention some possibilities. Nor does it matter whether you take the categories of object and property to be mutually exclusive or take the distinction to be absolute (MacBride 2005), nor whether there are properties without objects and objects without properties. Nor in general does it matter what objects and properties you take to be real (feel free to substitute entities of your preferred kinds in the ensuing discussion). What matters is that we take both positive facts and their object-property structure seriously, as items doing substantial work in

ontology and not just as a projection of syntax or logical form. If positive facts were just projections of the syntax of true subject-predicate statements, then negative facts would presumably be equally good projections of the syntax of true negative statements. No arguments would be needed. But within the scope of substantial realism about positive facts meant to account for structure, they are.

One might have various reasons to deny the existence of facts across the board, but I am not going to defend realism here. The conclusion of my argument is conditional: *if* there are positive facts, then there are negative facts.

2. The Truthmaker Problem of Negative Facts

Although my primary concern is with ontology rather than semantics, the standard problem of negative facts is the problem of explaining what the *truthmakers* of negative claims are: to explain in virtue of what aspects of the world true negative (contingent) claims are true or correct (Molnar 2000, Cheyne and Pigden 2006). The assumption, of course, is that there must be some aspect of the world in virtue of which those claims are true. This assumption seems to be eminently plausible but might be rejected on various grounds. Such grounds take us beyond the scope of this paper, however. To the extent that I will be concerned with truthmakers, I will assume that at least paradigmatic true positive descriptive contingent claims are true in virtue of aspects of the world.

To understand the task of finding truthmakers for negative claims, consider some suggestions about how to understand true negative claims

that take truthmaking or correspondence seriously, and some of the problems that they bring.

Absences: One might want to say that negative claims are true in virtue of *the absence* of the positive fact that would have made the positive claim true. The problem of truthmakers for negative truths thus becomes the problem of explaining what absences of facts are, and how they fit into the ontology of the world. Intuitively, they would seem to be ghost-like entities without causal powers nowhere to be encountered in experience, and our recognition of such facts would seem to be entirely dependent on our capacity to represent the corresponding positive facts (Molnar 2000) or to recognize positive facts contrary to the fact negated. This might suggest that negative facts are semantic projections, even though positive facts are real.

Truth by default: One reaction to such difficulties would be to restrict truthmaking to positive facts and say that negative claims are true *by default* if the truthmaker for the corresponding positive doesn't exist. If negative claims are true by default and false when contradicted by true positive counterparts, there seems to be little need for truthmakers for negative truths. (Simons (2005) suggests something similar for negative existential claims.) Similarly, we could say that positive claims are false by default. This intriguing suggestion avoids the need for truthmakers for negative claims, but it does give up on core aspects of the correspondence theory of truth, and appears to fly in the face of the intuition that if it is true that Valerie isn't vigorous, then it is true because of how it is with Valerie. Moreover, one would need some good motivation for introducing default semantic values, and some good account as to what semantic values are such that claims can have them by default. Of course, one motivation to introduce and give an account of default semantic values would be that no

account of truthmakers of negative facts is particularly promising. But I will suggest that there is such an account, and one that we need to accept if we accept that there are positive facts.

Totality facts: David Armstrong has suggested that *totality facts* provide truthmakers for negative truths (Armstrong 1997, ch. 13 and 2004b, ch. 5). On this account, if it is true that Valerie isn't vigorous, the truthmaker of that truth consists of all the positive facts about Valerie, the fact that there are no more facts about her, and the distinctness of vigor from all the properties that constitute the positive facts about her. Since the totality of facts about Valerie does not include the fact that she is vigorous, it *must* be true that she isn't vigorous. And the same complex of facts and meta-fact is (part of) the truthmaker of every negative truth about Valerie: every negative truth about her is made true by the totality of positive facts involving her, plus the distinctness of the property that she does not have from the properties that she has.

The suggestion is ingenious, and it might seem that something like totalities are (i) part and parcel of the world, (ii) much more "respectable" than absences, and (iii) needed in any case as truthmakers for general claims (Armstrong 2006a). But it does not, it seems, pick out the *minimal* truthmaker for a negative claim, or a truthmaker *specific* to that particular negative claim. Compare the positive claim that Valerie is vigorous. Suppose that it is true. Then its truth is clearly necessitated by the way the world is – by the mereological sum of all facts – as well as by the way Valerie is – by the mereological sum of all facts involving her – but taking seriously an object-property ontology we want to say that this *specific* claim is made true by the fact that Valerie is vigorous. In the same way, it seems that the truth of the specific negative claim that Valerie isn't vigorous should be guaranteed by something more specific than a list of all

facts or all facts involving Valerie and a totality fact. Most facts, and most facts involving Valerie seem to be utterly irrelevant to the truth of the claim that Valerie isn't vigorous. This is true even if we restricted the set of facts over which the totality fact operates to those involving both Valerie and vigor. We would still be left with irrelevant relational facts involving Valerie and any other vigorous object. Perhaps, then, the relevant totality of positive facts is the totality of facts that involve Valerie and vigor and *nothing else*. But it is not clear that such a totality would be less ontologically extravagant or even distinct from the absence of the fact that Valerie is vigorous. (Molnar (2000, pp 80-2) complains that *any* totality fact is suspect for being a kind of negative fact.)

Incompatibilism: If it is true that Valerie isn't vigorous, she is presumably in a state incompatible with being vigorous, such as a state of lethargy. And if she is lethargic, then it cannot be true that she is vigorous, so we seem to have a truthmaker for the claim that Valerie isn't vigorous. Similarly, that something is heavy might be a truthmaker for the claim that it isn't light, that it is green a truthmaker for the claim that it isn't red, and so forth (Demos 1917, Simons 2005, Cheyne and Pigden 2006, Parsons 2006). Unfortunately, it seems that (contingent) *incompatibility* itself is a relation that involves negative facts. The fact that being lethargic is incompatible with being vigorous just is the fact that, necessarily, if someone is lethargic, she isn't vigorous, and *vice versa*. So it still seems that we need an account of negative facts (Hochberg 1969, p. 330, Molnar 2000, pp. 73-5). Of course, we might say that contrariety or incompatibility is primitive relative to negation (Demos 1917, p. 191), but that still leaves the problem of wherein such incompatibility consists, and how it fits into ontology. A possible reply is that the relevant kind of incompatibility is *metaphysically* necessary, and that metaphysically necessary truths are true

without truthmakers. But this is a highly contentious claim among realists about positive facts, and it is unclear why incompatibility facts are ontologically less extravagant than negative facts (Molnar 2000, pp. 74-5, Russell 1956, pp. 213-5). Moreover, although the incompatibility view is intuitively plausible for some negative claims, it is not obvious how it should deal with the true claim that Valerie isn't a schoolteacher. Perhaps there are positive facts about Valerie that are incompatible with her being a schoolteacher, but it is hard to find a *minimal* truthmaker among those facts that is intuitively incompatible with Valerie's being a schoolteacher in the way that Valerie's being lethargic is intuitively incompatible with her being vigorous. There are just too many diverse facts about Valerie that, taken together in various ways, might be incompatible with her being a schoolteacher. Perhaps one will have to accept that there is no *one* minimal positive fact about Valerie that makes it true that she isn't a schoolteacher, and so no one minimal truthmaker for that claim. But it is tempting to return to the initial suggestion and say that the minimal truthmaker for this negative claim just is the actual *absence* of the merely possible fact that she is a schoolteacher.

In no way do I pretend to have shown that extant views on truthmakers for negative claims are incorrect. The purpose of this section has merely been to sketch some of the ideas about truthmakers for negative facts that have been proposed, and indicate (mostly well-known) problems and costs of these proposals. What I will do in the rest of this paper is to argue that if you have an acceptable account of what positive facts are, then you already have an acceptable account of what negative facts are, and what it is for an object to lack a property. Moreover, if you think that there are positive facts, you *should* also think that there are negative facts: they incur no further ontological costs. These negative facts will be just as specific in

their role as truthmakers as are positive facts – and no more mysterious and ghostlike. Even if there are totality facts of various kinds, and even if incompatibility facts are not themselves in need of truthmakers involving negative facts, there are more straightforward truthmakers for ordinary negative predicative statements.

3. The argument

Anyone who thinks that there are positive facts constituted by objects and properties and who takes objects and properties seriously will allow that not all objects have all properties. Objects differ with respect to what properties they have, and properties differ with respect to the objects that have them. That is the very reason to take fact-object-property ontology seriously: to account for differences and similarities in nature.

Since not every object has every property, there are objects that lack some property. Now, take a property and an object that lacks that property. What I will argue is that the object and the property constitute a minimal truthmaker for the negative claim that the object lacks the property. Nothing more is needed for the claim to be true, and nothing less will do. The beauty of this proposal, if correct, is that it makes negative facts – truthmakers for negative truths – simple and cheap. If you have already accepted that there are objects and properties such that the objects lack the properties, you have already accepted that there are negative facts. Negative facts incur no extra ontological cost.

Admittedly, beauty only seems to be skin deep, as the proposal seems to rob us of any explanation of the *difference* between positive and negative facts. More specifically: if positive facts involve an object and a property

and something *further* (property, relation, “tie”) that makes it the case that the object has the property, then the truth of the claim that the object lacks the property isn’t necessitated by just the object and the property. We also need the *absence* of the “tie” between them, and then we would have to motivate the addition of such an absence to our ontology.

This would be a fatal for the proposal, although there might be good reasons to admit such an extra element: perhaps that is the least mysterious and *ad hoc* way to accommodate truthmakers for negative truths (Hochberg 1969, Brownstein 1973, Beall 2000). But there is good reason to reject the premise that an object’s having a property involves something other than the object and the property. Consider a version of Bradley’s regress, which threatens when we want to explain the distinction between an object’s having a property and an object’s not having that property. It cannot be that the distinction *needs* a further entity added to the object and the property when the object has the property, and the absence of such an entity in the cases where the object does not have the property. If it did, we would equally need to invoke some fourth entity to explain how this third entity is connected to some object-property pairs but not to others, and we would have a regress. What we must say to stop the Bradley regress before it starts and save the object-property ontology is that an object’s having a property consists of nothing in addition to the object (or ordered *n*-tuple) and the property (or *n*-place relation). The having must lie entirely within the object and the property in question.

Conversely, and of equal importance, if an external tie *would* do the explanatory work without provoking a regress, then it is hard to see why the object and the property couldn’t do the work themselves. If the tie can itself be tied to some object-property pairs rather than others without recourse to any further tie, there is no reason to think that properties cannot

be tied to some objects rather than others without recourse to any further entities. Since we should not postulate extra entities to do work that is done equally well without those extras, and since our only reason to postulate a further tie is to account for how objects and properties are related in facts, we should not think that an object's having a property involves some entity apart from the object and the property.

For symmetric reasons, we should stay clear of the opposite suggestion that an object's *lacking* a property must involve some further entity, a "repellant" keeping the object and the property from jointly constituting a positive fact. In order to explain how that further entity is *not* involved in positive facts we would then need to invoke some entity explaining that non-involvement, and so forth. Conversely, if higher-order repellants are not needed, then no repellant should be postulated in the first place, for none would be needed.

If this is correct, whether an object has or lacks a property involves nothing external to the object or the property. And if it doesn't, then nothing more than the object and the property is needed to make it true, when true, that an object lacks a certain property. The difference between an object's having a property and an object's not having a property is a difference in being without a difference in beings.

Admittedly, differences in being without differences in beings might seem mysterious. But not only is it something you should accept if you accept that there are objects and properties and that not all objects have all properties, it is something you need to accept if you think that there is a multitude of objects. Suppose that there are two distinct entities, A and B. A is identical to A, B is identical to B, but A is distinct from B. In virtue of what are A and B distinct? Suppose that the distinctness of A and B must be understood in terms of a further entity, distinct from both A and B. Then

either the distinctness between A and B and this further thing is a further thing still, or it isn't. If it is still a further thing, then the same regressive question arises again. If it is not still a further thing, then no entity apart from A and B should be needed to explain their distinctness. Just as A is identical to itself in itself rather than in virtue of some further entity, A and B are distinct in themselves, not in virtue of some further entity. The distinction between identity and distinctness, I suggest, is on a par with that between positive and negative facts, so it should be equally hard to swallow. Or equally easy: accepting facts, including negative facts, is considerably more appetizing than giving up the multiplicity of objects. (Apologies to Parmenides.)

Many live options about the nature of substantial properties and facts stay clear of Bradley's regress in rather obvious ways. For those who take objects to be bundles of universals, an object's having a certain property obviously consists in something inherent in the object and the universal: it consists in the universal's being (numerically identical to) a member of the object-bundle. Similarly for those who take both objects and properties to be bundles of tropes: an object's having a property consists in the intersecting to the two bundles (or the numerical identity of some member of the one bundle to some member of the other). And for those, like David Armstrong (2004a), who follow Don Baxter's (2001) suggestion and take an object's having a property to be a matter of a particular's being partially identical to a universal, or of having an aspect which is identical to an aspect of the universal, the object's having the property clearly involves nothing apart from the object and the property.

Of course, independently of what account we choose, there will be unanswered questions. We might want to understand *how* objects are constituted by bundles of universals or tropes and how properties are

constituted by classes of tropes: in virtue of what these particular universals or tropes constitute an object, and in virtue of what certain tropes form a similarity-class, say. Similarly, we might want to know in virtue of what an object and a property are partially identical, or in virtue of what different aspects of a thing or a property are aspects of the same thing, or the same property. Presumably, at some point, further attempts at explanation will just invoke the very stuff that we are trying to explain. If my appeal to the Bradley regress and considerations of ontological parsimony has been correct, explaining the difference between an object that has a property and an object that lacks that property in terms of some further entity distinct from the object and the property leads us into such an explanatory cul-de-sac.

Now, consider what happens with truthmakers for negative truths, given these options. If properties are universals and objects are bundles of universals, then we might take the negative fact to consist in the bundle's separateness from the property (or the numerical distinctness of each member from the property). Nothing apart from the object and the property seems to be involved. Alternatively, if objects and properties are bundles of tropes, we might take the negative fact to consist in the non-intersecting of the two bundles (or the numerical distinctness of every member of the one bundle from every member of the other). Again, nothing external to the object and the property seems to be involved. Finally, suppose that objects are understood as particulars and properties as universals and that the instantiation of the universal by the particular is understood as the partial identity of the two. Then the negative fact – what I will call the “extantiation” of an object and a property – would seem to consist in their full distinctness (or the numerical distinctness of every aspect of the one

from every aspect of the other), which again seems to involve nothing apart from the object and property.

I suggested that the fact that an object lacks a property is constituted by the object and the property in question, nothing more. The problem with this suggestion seemed to be that the object and the property do not by themselves rule out that the object has the property, and thus do not by themselves guarantee the truth of the negative claim. However, reflection on Bradley's regress and ontological parsimony shows that they do – *if* there are such things as positive facts: whether an object has a property is an affair *internal* to the object and the property. The exact nature of this internal affair is beyond the scope of this paper, depending as it does on the exact nature of objects and properties, but I have provided some schematic examples of how it might be understood.

The view on instantiation and extantiation advocated here needs a name. I will call it “internalism about instantiation and extantiation”, or just “internalism”, for the reason that it takes the “negativity” of negative facts to be internal to the objects (or ordered n -tuples of objects) and the properties (or an n -placed relations) that these objects lack. The difference between a positive fact and its negative counterpart does not lie in the exclusive involvement of further ties or repellants in the one case, but in a “polarity” internal to the constituents of both. (I take the term “polarity” from (Beall 2000)).

4. Minimal truthmakers, internalism, totality facts and incompatibilism

According to internalism about negative facts, objects and the properties they lack constitute *truthmakers* for true negative predicative claims. Nothing more is needed to necessitate the truth of a claim to the effect that an object lacks a property than the object and the property. If Valerie isn't vigorous, then Valerie and vigor are enough to make this claim true. Moreover, I have assumed that objects and the properties they lack are *minimal* truthmakers for true negative claims. Nothing *less* than Valerie and vigor will necessitate the truth of the claim that Valerie isn't vigorous. (The last claim has just been taken for granted, although it seems eminently plausible.) Similarly, if Valerie *is* vigorous, Valerie and vigor constitute a minimal truthmaker for a claim to that effect: nothing more is needed to guarantee its truth, and nothing less will do. These two possible facts are different, to be sure, but that is an *internal* difference in polarity, involving no entities above Valerie and vigor. (If one agrees with Armstrong's recent (2006b) view that objects have their properties by necessity, then a Valerie that is vigorous and a Valerie that isn't cannot be the same individual, but merely counterparts.)

To clarify by contrast, recall the totality fact account of truthmakers for negative truths. One problem with this account was that it apparently failed to pick out minimal truthmakers for negative truths. If internalism is correct, this failure is real. On the totality view, Valerie and vigor are both parts of the truthmaker of the claim that Valerie isn't vigorous, and internalism implies that Valerie and vigor are *enough* to guarantee the truth of that claim, for her lacking vigor lies entirely within her and that property. No totality fact is needed to guarantee that truth.

The last claim has to be qualified, however: no totality facts are needed to guarantee the truth of negative predicative claims *unless* these totality facts are themselves constitutive of the objects in question. Perhaps that is something that one might want to argue. If one takes objects to be constituted by the properties they have, one might also want to say that they are constituted by the fact that those are the only properties of the object; the same goes, *mutatis mutandis* if one understands properties as sets of tropes or, with Baxter, as aspects of particulars “counted” as one. And if they are so constituted, Armstrong’s suggestion would be an account of the internal structure of objects in virtue of which these objects have or lack their properties, and thus complementary to internalism.

Similarly, it might seem that incompatibilist accounts of truthmakers for negative claims fail to provide minimal truthmakers. On such accounts, the claim that Valerie isn’t vigorous would be made true by her having some property incompatible with vigor. Like the totality view account, then, incompatibilism makes Valerie and vigor parts of the truthmaker, but they are *all* we need if internalism about negative facts is correct: Valerie’s having some property incompatible with vigor is an unnecessary extra. Or rather: the incompatibility fact isn’t needed unless it is constitutive of the property or the object in question. For example, if vigor were *essentially* incompatible with certain other properties – such as lethargy – then these other properties and their incompatibility with vigor would not be unnecessary extras. (Similarly, the truthmaker for the claim that Valerie *is* vigorous would involve her, vigor and all properties with which vigor is essentially incompatible.) Regarding properties for which this assumption holds, then, the incompatibilist account would be complementary to the internalist thesis. But since this is the wrong place to delve further into the

nature of objects or properties, the extent of this compatibility must be left an open question.

5. Minimal truthmakers for negative existential claims

Internalism has nothing explicit to say about truthmakers for negative *existential* truths. Of course, if existence (or *actual* existence) is a property that objects may or may not have, then the argument applies straightforwardly. If existence isn't a property, on the other hand, one might try to extend the treatment offered here by understanding truthmakers for negative existential claims as negative "predicative" facts about some real spatiotemporal region. Perhaps the fact that there are no mammoths at this time is the negative predicative fact that the-world-at-this-time isn't mammoth-inhabited, and the fact that there are neither centaurs nor square circles is the fact that the world lacks centaur-hood and square-circle-hood. But whether these are plausible moves will depend very much on how substantial properties and objects are understood more exactly: are the world and the-world-at-this-time respectable objects that can themselves be understood without appeal to negative existentials, and are centaur-hood and square-circle-hood respectable (complex) properties? Such issues take us far beyond the argument of this paper, which concerns the existence and constituents of negative predicative facts, not their exact domain.

6. Too many?

Sometimes I encounter the objection that if there were negative facts, there would be *too many* of them. And according to internalism about negative facts, there are indeed many negative facts; and intuitively, they are many more than the positive facts. Any given object seems to lack more properties than it has, and together with each of the properties that the object lacks, it constitutes a negative fact. Of course, it is not clear how to count properties or facts, but the point is that it seems far too easy to populate the world with these objects.

Whether the great number of negative facts is a problem depends on the relevant measure of ontological excess. I will assume that the standard is Occam's: we should not postulate entities beyond (explanatory) necessity. So understood, however, this objection has no bite on internalism. Internalism takes negative facts to be constituted entirely by the objects and properties that constitute positive facts: the *having* and *lacking* lies entirely within these objects and properties. Consequently, the only way in which there would be too many negative facts is if something were wrong with the object-property ontology that comes with accepting substantial facts in the first place. And my claim is merely that *if* you believe that there are substantial positive facts, you should believe that there are negative facts.

7. Negative facts exist only in our minds?

One objection to negative facts is that they would be causally inefficacious, and should be excluded from ontology for that reason. One big problem

with that argument is that negative facts *seem* to be causally efficacious. We think that people die from lack of oxygen, that they have accidents caused by inattention, and that they fail an exam for lack of sleep: these would seem to be obvious cases of causation by negative facts. It is sometimes retorted that such cases are best understood in terms of counterfactual or contrastive claims about positive causation, causation involving some kind of physical processes (Molnar 2000, Dowe 2001, Armstrong 2004b, pp 63-6). This, we are told, is revealed by the obvious interest- or expectance-relativity of our talk about negative facts. For example: it is because we normally expect the *positive causal processes* that sustain life by means of oxygen that we might find plausible the claim that lack of oxygen caused someone's death. By contrast, we do not find it plausible to say that lack of hemlock in my digestive tract caused survival – unless we had, for some special reason, *expected* there to be hemlock involved in a positive causal process leading to my death. But this cannot be an argument against the causal efficacy of negative facts, for expectation-relativity also shows up in intuitions about causation by positive facts. For example, if someone drinks hemlock and dies from hemlock poisoning, we do not want to say that her death was caused by the fact that she had a digestive tract, unless, for some odd reason, we took it to be a significant possibility that she would *lack* a digestive tract and that this would prevent her from being poisoned when taking hemlock. So our judgments of causation by positive facts would seem to depend on assumptions about causation by negative facts.

Still, causation by negative facts can seem *more* interest- and expectation-relative and so less real than causation by positive facts, and this intuitive difference between positive and negative facts might look like a major obstacle for theories of causation that take prevention and

causation by omission to be genuine causation (Dowe 2001). But the difference is not difficult to explain. As discussed above, objects seem to lack many more properties than they have, and this makes for a greater number of negative facts. An object's *having* a certain property will therefore seem more interesting and be more salient than an object's lacking a property. For that reason, our perception of it as a cause is less likely to depend on *particular* interests and expectations, and so less likely to wear its context dependence on its sleeve.

This should be enough to answer the objection from causal inefficacy, as far as it is commonly developed. But what makes a negative fact *causally relevant* for a certain other fact, questions of expectations and interests to the side? That will depend on what the correct theory of causation is, of course. Suppose first that causation is a matter of some kind of counterfactual dependence of effect on cause. Then it is hard to see that there would be any interesting difference between positive and negative facts. Expectation and interest relativity to the side, the student's lack of sleep would be causally relevant for her failing the exam if the circumstances are such that, if she had slept, she would have passed the exam. Similarly, the student's watching videos all night is causally relevant for her failing the exam if the circumstances are such that if she had not watched the videos, she would have passed. (That some counterfactual theories do not take facts as causal relata is irrelevant here. Insofar as an ontology with substantial positive facts is correct – which is taken for granted in this paper – and participation in causal relations has some credibility as a test for reality – which is taken for granted in the argument for causal insufficiency – facts *can* be causal relata.)

Counterfactual theories of causation are no threat to the thesis of this paper. But suppose instead that causation is a matter of sequences of events

(timed facts) unfolding according to natural laws. This would present a problem for the causal efficacy of negative facts if natural laws were conceived of as relations between instantiations of properties, for negative facts are not instantiations of properties, but extantiations. Still, we can have something similar with only minor modifications. Intuitively, natural laws relate kinds of facts, and it has seemed natural to identify kinds of facts with respect to the properties that constitute these facts. However, if we accept the argument of this paper, we should think of kinds of facts not only in terms of the properties they involve – for positive and negative facts both involve the same properties – but also in terms of their polarity: whether they are a having or a lacking, an instantiation or an extantiation of the property in question. Expectation and interest relativity to the side, the student's lack of sleep would then be causally relevant for her failing the exam if the circumstances are such that her failing the exam follows by natural law from her lack of sleep, given the circumstances.

Admittedly, this last answer is quite speculative. But given internalism, the argument from causal inefficacy is itself fundamentally ill-conceived, in need of no answer. As long as positive facts involving objects and properties are causally efficacious, everything needed for negative facts exists whether or not negative facts *themselves* figure in natural laws, for negative facts consists of nothing apart from the objects and the properties that constitute positive facts. So, given the assumption that there are positive facts, the argument from causal inefficacy cannot really undermine our reasons to believe that there are negative facts.

8. Why has internalism been overlooked?

I have tried to show that internalism provides a simple and elegant solution to the problem of negative predicative facts, and the problem of truthmakers for negative predicative claims. Yet internalism is conspicuously absent from the literature, and this needs to be accounted for.

It should be noted, though, that a related view has been proposed at times. As mentioned before, Hochberg (1969), Brownstein (1973) and Beall (2000) have all suggested that negative facts can be understood in terms of extantiation (although without using the term “extantiation”) and pointed out that this avoids problems of other accounts of negative facts. Unfortunately, I think that the introduction of extantiation has been perceived as a somewhat artificial *addition* to ontology, to be avoided if possible, with reference to incompatibility or totality facts, or by restricting the scope of truthmaking.

Now, internalism denies that negative facts take us beyond what is already accepted in the ontology of positive facts: no addition is needed. We need no motivation for the introduction of extantiation that goes beyond our motivation for allowing positive facts into ontology and our motivation for taking distinctness to be internal. However, the suggestion that a negative fact consists of nothing above the object and the property that it lacks will *seem* to have fatal flaws and is likely to be dismissed without much consideration (Lewis 1999, Vallicella 2002, pp. 12-18, Armstrong 1997, p. 115). *Ontologically*, internalism implies that Valerie and vigor makes the claim that Valerie is vigorous true, if it is true, and makes the claim that Valerie isn't vigorous true, if it is true. But surely, the truthmaker of a positive claim cannot be the same as the truthmaker of its

negative counterpart! *Modally*, internalism implies that if the claim that Valerie is vigorous is true, then its truth is necessitated by Valerie and vigor, and nothing else. But surely, if it is a contingent fact that Valerie is vigorous rather than not then Valerie and vigor could have existed even though Valerie lacked vigor! *Epistemologically*, internalism implies that knowing that the truthmaker of a fully understood predicative claim obtains – knowing that Valerie and vigor exists, say – doesn't tell us whether the claim is true. But surely, knowing that the truthmaker for a claim obtains should tell us that the claim is true!

These flaws seem obvious, and this explains why internalism is typically dismissed without a proper hearing. But they are only apparent. *Ontologically*, it is true that internalism takes Valerie and vigor to constitute the truthmaker of whichever of the contradictory claims that happens to be true, but Valerie and vigor are *not* the same if Valerie is vigorous as they are if Valerie isn't vigorous. Exactly what the difference is will depend on what objects and properties are, but we have seen what the difference would amount to given some views of the matter. (For example, if instantiation is a matter of being partially identical, then Valerie and vigor are partially identical if it is true that Valerie is vigorous, but fully distinct if Valerie isn't vigorous.)

Modally, the claim that Valerie could have existed even if she had not been vigorous might seem reasonable, but taking instantiation and extantiation to be internal to objects and the properties they have or lack is not obviously in conflict with this claim. Some (Armstrong 2006b) think that it is, others (Baxter 2001, pp 458-60) that it isn't, even though they have very similar views about instantiation. Here is a quick reason to think that it isn't in conflict. To solve the problem of change – the problem of variation in an individual's properties over time – the standard move is to

index an individual's having a property to a time: an individual can be vigorous at one time but not at another. Our problem is the problem of variation across possibilities. Suppose that possibilities are real and that individuals and properties can exist across possibilities. Then we use the same solution here: we index the having and lacking of a property to different possibilities. Suppose instead that our thoughts about possibilities for actual individuals and properties have no direct ontological import, however useful and convenient. Then the bearing of our intuition of contingency on the actual nature of Valerie and vigor is unclear. Either way, there would be no special problem for internalism.

Epistemologically, internalism agrees that it isn't enough to know that Valerie and vigor exists to know whether Valerie is vigorous: we also need to know whether Valerie has or lacks vigor. What internalism denies is merely that knowing this is knowing about something *external* to Valerie and vigor. If internalism is correct, extantiation, like instantiation, is internal to the objects and properties involved. And, as I believe is shown by Bradley's regress and considerations of ontological parsimony, this is something you should accept if you think that there are positive facts.

* The main argument of this paper came to my mind in discussions with Don Baxter when I visited the University of Connecticut between 1999 and 2001, and would never have been presented in written form had it not been for Don's encouragement. Others, too, have provided valuable comments on earlier versions, and I especially want to mention Ruth Millikan, Sam Wheeler, Tim Elder, Björn Eriksson, Folke Tersman, Jens Johansson, and Anna-Sofia Maurin.

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