

A Recent Defense of Monism Based Upon the Internal Relatedness of All Things

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Introduction

At the beginning of the 20th Century, some English and American philosophers in the idealist tradition gave the following kind of argument for a moderate monism: Every individual is related to every other individual by what they called “internal relations”. The resulting web of internal relatedness implies that all things fit together to form essential parts of a single whole: the One. Although the parts of the One are in some ways distinguishable from the whole that contains them (this is a moderate monism, not the more implausible monistic insistence that there is only one thing, period¹); nevertheless, the parts are dependent upon the One, due to the internal relations holding amongst them and between them and the One. The parts should therefore be regarded as “mere fragments” of something larger, since they are incapable of existing alone or outside of the whole in which they are found. Since these monists were idealists, they also had their reasons for thinking that the One is mental or mind-dependent. But some of their reasons for believing that everything stood in internal relations did not presuppose that either the relata or the relations were mental; and so this particular path from internal relations to monism need not have led directly to idealism.²

The idealists’ use of internal relations in such arguments was criticized by Moore and Russell.³ Their criticisms were effective but blunt instruments; for the most part, Russell and Moore did not examine the finer details of the idealists’ reasoning. They

declared that the idealist emperor had no clothes, and their claim was generally judged to be credible. Other critics of idealism, like Ralph Barton Perry and A. C. Ewing, did the job of sorting out the various things idealists might have or should have meant by “internal relation”, “dependence”, etc.⁴ (Theirs was a largely thankless task; but they did a careful, thorough job of it.) The results seem to me to bear out the original verdict of Russell and Moore: to the extent that the idealists’ arguments from internal relations could be made clear, they were unconvincing.

In “The Internal Relatedness of All Things”, Jonathan Schaffer develops a new argument from internal relations to monism. It is intended as an improvement over the kinds given by the idealists, and it does not in any way commit him to idealism.

Schaffer’s argument has two stages. In the first stage, “it is argued that all things are internally related in ways that render them interdependent”; in the second, “the substantial unity of the universe is inferred from the interdependence of all of its parts.”⁵

As inspiration for his monism and his use of internal relations to support it, Schaffer cites many prominent English and American idealists from a century ago, including Royce, Bradley, Bosanquet, and Joachim. Among these four, Royce and Joachim wrote the clearest prose; and I find it easier to see how their arguments are supposed to go. Royce, for an idealist, is practically plainspoken (his relatively non-nonsense style may have something to do with growing up in California when it was still part of the “Wild West”); and internal relations play an especially prominent role in his argument for monism. I shall largely look to him when comparing Schaffer’s argument with its idealist ancestors.

I begin by separating prominent strands in the idealists' use of dependence and independence; in their ways of defining "internal relation"; and in the kinds of monism connected with these notions. Although Royce is my exemplar, I shall also rely upon A. C. Ewing's generally sympathetic criticism of the idealists for guidance in distinguishing among the many meanings of "internal relation" in use one hundred years ago. I show why the idealists thought that internal relatedness was a sign of dependence, and why the internal relatedness of all things might be thought to lead to monism — in their senses of these terms.

I then turn to Schaffer's recent defense of his version of monism. His notion of dependence is not quite the same as theirs. Furthermore, his definition of "internal relation" is not equivalent to any of those made explicit by the idealist monists; and it depends upon a relation of "modal freedom" among objects that does not receive a full analysis or correspond closely to concepts other philosophers have appealed to — at least, not obviously. The complex necessary condition for modal freedom that Schaffer spells out in detail does provide some guidance concerning its application, however; and it shows a condition under which objects can *fail* to be modally free of one another, in his sense. The argument of Schaffer's second stage connects failure of modal freedom with the sharing of parts, or with co-dependence upon a single larger whole. I give two counterexamples to the connection he posits — two examples of disconnected, independent things that share no parts and that do not seem to depend (in his sense or more traditional idealist senses) upon a common larger whole, which nevertheless fail to be modally free of one another (by failing his necessary condition). I conclude that

Schaffer has not made a convincing case that lack of his kind of modal freedom among all the parts of the universe is “the signature of an integrated monistic cosmos”.⁶

Dependence and Independence Among the Idealists

At the beginning of the previous century, idealists were keen to assert, and their realist opponents to deny, the dependence of parts of the universe upon the whole universe, and the dependence of material objects upon the “ideas” we have of those objects (or their dependence upon the “acts of cognition” directed at those objects). But what did the disputants mean by “dependence” and “independence”?

Royce thought that “the only way to deal with a possibly ambiguous conception like this, is to view it first in its most extreme form, and to observe its consequences”; and so, to begin with, Royce took “the realistic type of independence literally, and as a *total* independence”⁷; and by that he meant something like:

(D1) x is Royce-independent of $y =_{df.}$ x could exist without y existing, and differences in the nature of y would not require differences in the nature of x .⁸

A correlatively weak notion of dependence then becomes:

(D2) x is Royce-dependent upon $y =_{df.}$ x could not exist without y existing, or at least differences in the nature of y would require differences in the nature of x .

I suspect that Royce meant “could” and “would” in his definitions to have the force of logical or metaphysical necessity — at any rate, a kind of necessity stronger than mere nomological necessity, if the laws of nature are contingent.

The two components of Royce’s definitions are worth separating. One might be called *existential* independence and dependence:

(D3) x is existentially independent of $y =_{df.}$ x could exist without y existing.

(D4) x is existentially dependent upon $y =_{df.}$ x could not exist without y existing.

The other pair of components in Royce’s definitions of dependence and independence concern changes in the *nature* of a thing. Would differences in the nature of one require that the nature of the other be different as well? In Royce, Bosanquet, and other idealists, “nature” tended to be an elastic notion; and its elasticity was exploited in arguments for the conclusion that internal relations hold amongst all things. Extrinsic properties, like *being thought about by someone*, or *being one mile from a burning barn*, would sometimes be regarded as part of the nature of a thing that had them, or even as *parts* of the thing itself; and then the idealists could claim that changes in anything would entail changes in the very nature of every other thing.⁹

The opponents of idealism quite rightly demanded that they be allowed to draw a meaningful distinction between changes in the nature of a thing (which sounds like a kind of *intrinsic* change) and merely extrinsic changes. Even if the distinction collapses for some reason, there needs to be an argument for the collapse. A natural way for critics of

idealism to make use of such a distinction would be to insist upon the conceptual possibility, at least, of two grades of “natural dependence” — that is, two kinds of dependence of the nature of one thing upon that of another thing: (i) a dependence involving just intrinsic differences in the nature of a thing, and (ii) a dependence involving extrinsic differences as well.

(D5) x is intrinsically independent of $y =_{df.}$ no differences in the intrinsic properties of y would require differences in the intrinsic properties of x .

(D6) x is intrinsically dependent upon $y =_{df.}$ some differences in the intrinsic properties of y would require differences in the intrinsic properties of x .

(D7) x is extrinsically independent of $y =_{df.}$ no differences in the intrinsic or extrinsic properties of y would require differences in the intrinsic or extrinsic properties of x .

(D8) x is extrinsically dependent upon $y =_{df.}$ some differences in the intrinsic or extrinsic properties of y would require differences in the intrinsic or extrinsic properties of x .

In these definitions, one could interpret “would require differences” in a number of ways. Stronger and weaker potential meanings can be formulated (rather anachronistically) in terms of possible worlds. The requirement might be very strong: in

every possible world in which x and y exist, and y is different in this way, then x is different as well. Or it might be read as an ordinary counterfactual, the truth-conditions of which could be stated in terms of nearness of worlds: In the closest worlds to the actual one in which y differs, x differs as well. No doubt alternative readings are possible.

The ways of changing a thing — the differences in a thing's nature — that are countenanced in Royce's arguments against the most extreme kind of realism include even relational changes. Including them makes his notion of dependence extremely weak (extrinsic dependence is sufficient for Royce-dependence), and the correlative notion of Royce-independence absurdly strong (extrinsic independence is necessary for Royce-independence). My son's growing taller than me represents a relational change in me — namely, my becoming shorter than my son — and thus reveals my extrinsic dependence upon him. (No wonder that Royce had little trouble demolishing a sort of realism asserting the extrinsic independence of things!)

Intrinsic dependence is a more interesting notion. I am not intrinsically dependent upon my son — at least, not merely because his growth would necessitate a relational change in me — but I am intrinsically dependent upon my parts; there are changes which my parts could undergo that would *necessitate* changes in me (e.g., if my skin, while remaining part of my body, were to become tan, then I must become tan as well).

The realist critics of idealism insisted that extrinsic dependence could hold between a pair of things for entirely trivial reasons, so that it was a relation that did not deserve the name “dependence” at all; and, while they could agree that intrinsic dependence is a stronger notion, better deserving of the name, they pointed out that it

hardly follows from extrinsic dependence; and they attacked all the attempts idealists made to argue that it holds between everything and everything else.

Mutual Dependence

Royce-dependence is perfectly compatible with two things' being *interdependent*. Those who say that a living organism forms an organic unity mean at least this much: that there are parts of an organism that are existentially dependent upon the organism. But, since intrinsic and extrinsic differences in those parts require intrinsic and extrinsic differences in the organism, the whole is also intrinsically and extrinsically dependent upon the parts. Given the two components of Royce-dependence and Royce-independence, it is not surprising that dependence can be a two-way street.

For traditional monists, it is also not surprising to find existential dependence, all by itself, holding between two things in both directions. It is my impression that many monists have believed, not only that the parts of the One are existentially dependent upon the One; but also that the One is existentially dependent upon each of its parts. (In the sense of “internally related” that Schaffer dubs “internally_{essentially} related”, monists who argued that everything is internally related to everything else certainly believed that the One and each part were existentially interdependent.) And idealist monists who slid from “everything is extrinsically dependent upon everything else” to “everything is intrinsically dependent upon everything else” would also have thought that the One and each of its parts were mutually extrinsically and intrinsically dependent.

Having something as a part is sometimes said to imply dependence upon the part; and intrinsic dependence of whole upon part does seem to plausible, since intrinsic

changes in a part automatically require that the whole of which it is a part also changes. Furthermore, if a certain whole could not possibly have existed, had a certain part not existed, then existential dependence would hold as well. So there is an obvious connection between the two components of Royce-dependence and the relation of parthood.

However, many of the wholes and parts of everyday interest seem to have lots of parts that they could have lacked (the particular copy of the book you are reading could have had different end papers, for example); such wholes do not seem to be existentially dependent upon each of their parts. Still, even in these cases, a kind of extended existential dependence might hold; individual parts of certain types may be inessential, even though these parts could not *all* have failed to be parts. E.g., one might want to say that this copy of this book could have existed without a certain page, or that it could have had a different dust jacket, or even a different cover; while nevertheless insisting that, if these particular end papers, all other pages, the cover, and dust jacket had failed to exist, then *this* copy of the book could not have existed. Similar things seem plausible with respect to changes of parts over time: a bunch of parts may be swappable gradually, but not all at once. When these kinds of relations hold between a whole and a certain set of its parts, the whole is dependent upon the existence of at least a large proportion of the members of the set.

The two components of Royce's idea of dependence generate two ways of thinking of the world as an organic unity — the One of which all the parts are “mere fragments”. Many monists have held that every proper part of the universe is existentially dependent upon every other part and upon the sum of all the parts. In that

case, no smaller bit of the universe could be broken off, existing in different surroundings that failed to include all other actually existing things. The whole itself *could* be regarded by such a Monist as *not* existentially dependent upon its parts; perhaps it could still have existed with slightly different parts, in which case it would be the one and only completely (existentially) independent entity. However many philosophers traditionally denominated “Monists” seem to me to have held that the whole was not existentially independent of its parts, so I shall not build that assumption into this variety of traditional monism:

(D9) Existential Monism =_{df.} Every proper part of the universe is existentially dependent upon the one object that has every other object as a part.

Another characteristically monistic doctrine is that every part of the One is intricately connected to all the others by links of intrinsic dependence. If every change in one part has repercussions for all, there would be a sense in which the whole constitutes a single, vast system — even if relations of existential dependence did not hold among the parts of the universe or between those parts and the whole. Here is one monistic doctrine that makes use of the idea that the whole forms a single system:

(D10) Systematic Monism =_{df.} Every part of the universe can be connected to every other part by chains of intrinsic dependence or its converse.

Traditionally, monistic doctrines of these two kinds have been held together, but they seem to me to be usefully distinguishable strands in monistic thinking.

Internal Relatedness Among the Idealists

As many critics of idealism noted, the “doctrine of internal relations” did not mean the same thing to everyone who affirmed it; and the phrase “internal relation” meant different things to different philosophers (and sometimes seemed to mean different things at different points in the argument of a single philosopher).

In Ewing’s catalogue of meanings for “internal relations” (some explicitly defined by idealists, some conjectural attributions on Ewing’s part), the seventh and tenth definitions are particularly important. They can readily be found in the writings of idealists, and were taken to entail dependence of one thing upon another. Ewing finds some idealists claiming that all relations are internal in the sense that, “where two terms are related in some specific way, it is always true that they could not both have been what they are without the relation being present.”¹⁰ Ewing takes “what they are” to include the “qualities” of a thing; and the prime examples of such internal relations to be “quantitative relations” like *half the size of*, along with “similarity or difference”. Taking “qualities” to be intrinsic properties, the definition becomes:

(D11) R is a (dyadic) intrinsic-internal relation =_{df.} (i) R is a relation that could hold between distinct objects; and (ii) necessarily, for any x and y , if R holds between x and y , then, had R failed to hold between x and y , at least one of the two would have been intrinsically different or would have failed to exist.

When Idealists talked about internal relations “making a difference” in their relations, however, they were often happy to count acquiring or losing a relational property, like standing ten feet from Napoleon, as making a difference. So, on a much looser understanding of “qualities”, internal relations become ubiquitous:

(D12) R is a (dyadic) extrinsic-internal relation =_{df.} (i) R is a relation that could hold between distinct objects; and (ii) necessarily, for any x and y , if R holds between x and y , then, had R failed to hold between x and y , at least one of the two would have been intrinsically or extrinsically different, or would have failed to exist.

According to Ewing’s tenth definition of “internal relation”, a pair is internally related if and only if “one term is...logically dependent upon its relation to the other term and *vice versa*.”¹¹ Ewing claims that “[m]ost advocates of the internal relations view seem to have held that any particular thing was not only causally but logically dependent on the other things to which it was related, for they insist that it is self-contradictory (i.e. logically and not only causally impossible) without them.”¹² One might call this sort of relation “existential-internal”:

(D13) R is a (dyadic) existential-internal relation =_{df.} (i) R is a relation that could hold between distinct objects; and (ii) necessarily, for any x and y , if R holds between x and y , then, necessarily: (a) x exists if and only if y exists and R holds between them; and (b) y exists if and only if x exists and R holds between them.¹³

A dyadic existential-internal relation is an example of what Schaffer calls an “internal_{essential}” relation.

Although I will not provide detailed historical evidence here, I simply report that the writings of leading nineteenth and early twentieth century idealists frequently make use of Royce-like notions of dependence and independence, and interpretations of “internal relation” along these lines.

The Plausibility of the First Stage of Schaffer’s Argument

Schaffer is not arguing for the necessity of monism, at least not directly. He argues instead for a conditional conclusion: there are at least three metaphysical doctrines that some contemporary philosophers find attractive which, if true, would lead to monism. The metaphysical views he considers are: (A) the conjunction of causal essentialism with determinism and a single, causally interconnected cosmos; (B) structuralist supersubstantivalism; and (C) the denial of transworld identity for all (actual and merely possible) individuals. The idealists, with their views about dependence, and their understandings of internal relations and monism, might well have been able to find arguments from these metaphysical doctrines to monism. So it is not surprising that Schaffer’s overall strategy should seem plausible. Here, I simply sketch a couple of ways that doctrine (A) might lead to Systematic and Existential Monism, by the lights of the idealists.

If every event and individual is related by chains of causation (links of causing-or-being-caused) to everything else, and if determinism is true, and if the laws governing

the web of causal relations are necessary truths; then it is impossible that there be a universe exactly like ours but with some individual or event simply *deleted* (and not replaced by an exact duplicate). Schaffer points out that this impossibility, repeated for every individual and event, represents a pervasive web of internal relatedness and a concomitant lack of what he calls “modal freedom”; and he argues that this lack of freedom, in turn, requires that everything depends upon the whole that includes it and all other things as parts. In the sequel, I shall criticize some of the key assumptions in Schaffer’s argument to this conclusion — once it is clear what he means by “dependence”, “monism”, “internal relation”, and “modal freedom”, his crucial assumptions appear to have clear counterexamples. Still, causal essentialism plus determinism will support the varieties of Systematic and Existential Monism defined above, given certain auxiliary premises. These doctrines are not exactly what *Schaffer* means by “monism”, but they are familiar enough from the writings of idealist monists like Royce.

The connection between doctrine (A) and Systematic Monism requires assumptions about the nature of the laws and the events they govern. Here is one quick and dirty argument for Systematic Monism from causal essentialism and determinism, plus Big Bang cosmology: Suppose the spatiotemporal paths of every causal process lead back to the universe’s origin, converging towards a point in such a way that the causal histories of any two events ultimately can be connected. Assuming “two-way” determinism, a difference from actuality at any point in the universe would require that there have always been, and will always be, further differences from actuality; so positing a difference at any point requires that one posit differences in the past history of every

causal process in the universe. If those differences always make further differences of their own, propagating along every causal path, a change from actuality at one point will require differences that go back to the beginning of the universe, and must radiate out from there to change everything, everywhere. Given some hefty assumptions like these about the shape of the universe, Systematic Monism will follow from causal essentialism and determinism.

One could also argue for the existential dependence of any event in this sort of universe upon the universe as a whole. Suppose that, for any possible universes u and u^* , if they share an initial segment, then u and u^* are the same universe. In other words, if, at some point in the past of u and some point in the past of u^* , the prior histories of u and u^* are indiscernible — i.e., before that point, both universes contain the very same individuals similarly related, and undergoing the same events, in the same order — then u and u^* represent two different possible histories for one and the same universe. In a universe beginning with a Big Bang, this assumption implies that a different universe would have existed only if there had been differences in the past as far back as one can go. Now, throwing in a strong doctrine of origin essentialism for events and individuals, one could infer Existential Monism: Had a different universe existed, nothing that actually exists would have existed, since everything in the actual world has a common causal ancestry in a past converging on the Big Bang.

Similar things could probably be said about (B) and (C): given some further, not utterly implausible assumptions, these metaphysical doctrines could be used to argue from the interdependence of parts, or the dependence of all parts upon the whole, to Systematic or Existential Monism.

The first stage of Schaffer's argument ought, then, to have an air of plausibility to it: these three metaphysical doctrines may very well lead to varieties of monism, in the right setting — though Systematic Monism and Existential Monism are importantly different from Schaffer's own variety of monism. Schaffer's argument from (A), (B), and (C) to his kind of monism must, however, pass through the second stage of his argument; and the second stage makes use of two assumptions — displayed as (A3) and (A4), below — that I shall call into question. There is no reason to suppose (A3) and (A4) describe necessary connections between internal relations, modal freedom, and monism, as Schaffer understands these notions.

Dependence in Schaffer

Schaffer gives his own spin to the notion of dependence used to define monism, and he also introduces his own variety of internal relation. (As he notes, his relation is not to be found on any list of definitions of “internal relation” attributable to idealists¹⁴; but in a large and already heterogeneous family of notions, there ought to be room for one more!) Schaffer's version of monism does not take the form of either of the monistic doctrines I described. Schaffer's monism is the thesis that the One that includes everything else is the only “basic” thing, the only thing not dependent upon other things. Given the principles governing Schaffer's kind of dependence, from the fact that the One is the only basic thing, it follows that everything else is dependent upon the One. But Schaffer's sense of “dependence” differs greatly from the modal meanings I have explored thus far.

In Schaffer's argument from internal relations to monism, the notion of dependence is defined in terms of a relation of “grounding” or “priority in nature” that

can hold between facts and properties as well as amongst objects. It is, in fact, “*the primitive structuring conception of metaphysics*”.¹⁵ For example, grounding is said to be the relation required to articulate the thesis of “physicalism”: the physical properties and facts provide the *grounds* for all properties and facts. Suppose Plato was right, and that acts are not holy because the gods approve of them, but the gods approve of acts because they are holy; the fact that an act is holy is not, then, *grounded in* the approval of the gods.¹⁶ Grounding also holds between propositions and their “truthmakers”, the things in the world in virtue of which they are true.¹⁷ Grounding holds between the unit set including only Socrates, and Socrates himself. “Though both objects exist at exactly the same worlds, Socrates seems prior — the singleton is *founded upon* its member”.¹⁸ The dependence of one part of Schaffer’s monistic universe upon another is the same ubiquitous grounding relation, but restricted to *concrete*¹⁹ things.

One might well worry whether there *is* a single relation that does all of the jobs Schaffer assigns it; but that is not a worry I shall press here.²⁰

In Schaffer’s metaphysics, dependence is closely tied to fundamentality — “dependence identifies the fundamental entities on which all else depends”²¹ — but its relationship to the modal varieties of dependence I have been exploring is not so obvious. Schaffer-dependence can hold between things that are necessarily existing and intrinsically immutable, such as propositions or pure sets; so Schaffer-dependence could hardly entail existential dependence or intrinsic dependence. An interesting question is whether Schaffer’s dependence relation, when it holds between contingent objects, would imply any of the essentially modal kinds of dependence deployed in the writings of idealist monists. If it does not, I should find “dependence” a potentially misleading term

for the relation he has in mind, at least when used in this context. It is not implausible, however, to suppose that, whenever one contingent object is Schaffer-dependent upon another, some of these modal dependencies hold as well. Stage two of Schaffer's argument is, in effect, an attempt to link a kind of modal dependence (the failure of one thing to be "modally free of" another) with his non-modal notion of dependence-as-greater-fundamentality.

Schaffer-dependence is a kind of metaphysical "in-virtue-of" relation. In a forthcoming paper, "x grounds y" is offered as the definition of "x partly metaphysically explains y"; if one can say that a certain concrete object is what it is in virtue of some other object, the former is grounded in or dependent upon the latter.²² If a fist exists in virtue of the fact that a certain hand exists with its fingers and thumb arranged like so, the fist is Schaffer-dependent upon the hand. If a certain hand exists in virtue of the fact that a certain whole human body exists (as Aristotle thought), then the hand is Schaffer-dependent upon a larger whole of which it is a part. On the face of it, however, there are also mere aggregates, the parts of which do not exist in virtue of the whole. A heap of sand, for example, would seem to be a whole that exists and is what it is in virtue of the grains of sand that make it up, and not the reverse.

Schaffer's monistic conclusion is going to be that the largest concrete object, one which includes every other one as a part, is the only basic thing; it is fundamental, which means that its existence is not even *partly* metaphysically explained by the existence of any of its parts. This is a rather shocking conclusion; but the kinds of metaphysical hypothesis from which it is supposed to follow are themselves quite extreme — (A), (B), and (C) imply that the parts of the sum of all concrete objects are very closely tied,

modally, to that sum; and that it in turn is closely tied, modally, to all of them. In the case of (C): None of the parts could have existed outside the sum, and the sum requires each and every part in order to exist. (A) and (B) may well require just as tight an entanglement. As indicated above, given enough origin essentialism, (A) will lead to the conclusion that each part implies the whole and vice versa; and similar arguments could be given with respect to (B).

This kind of modal joint implication certainly bespeaks Existential Monism of the kind advocated by some idealists. But the steps from such radical, two-way modal entanglement to the conclusion of monism, *in Schaffer's sense*, are not obvious, now that Schaffer-dependence has been clarified. Compare Socrates and his singleton: the existence of Socrates necessitates the existence of his singleton, and the existence of his singleton necessitates the existence of Socrates — but we are supposed to share Schaffer's intuition that the singleton is grounded in Socrates (and, indeed, that sounds right); and that means that Schaffer-dependence holds between the singleton and Socrates. Discovering existential dependence of one thing upon another does not show that the one Schaffer-dependes upon the other, at least not when the existential dependence is mutual.

My skepticism about the connection between modal dependence and Schaffer-dependence can be brought out by comparing the universe and its parts (on hypothesis (A), (B), or (C)) with a set and its members, when the set and members exhibit two-way existential dependence. Consider three necessarily existing things, say, the numbers 1, 2, and 3; or three contingent things that exist in all and only the same possible worlds, such as the properties *being one kilogram*, *being two kilograms*, and *being three kilograms*

(under the assumption that, if *any* mass property is exemplified, *all* determinates under the determinable *mass* exist, whether or not the others are exemplified; but whether any mass properties exist depends upon the exemplification of at least one determinate mass property). What Schaffer-dependence relations hold between 1, 2, and 3 and the set containing just 1, 2, and 3? Or between the three mass properties and the set of the three? The existence of each member entails the existence of the whole set, and vice versa. But, if Schaffer's judgment about Socrates and Socrates's singleton is correct, we should think that the sets depend upon the members and not the reverse.

Each part of the biggest concrete object, on the strongest versions of Schaffer's three metaphysical hypotheses, necessitates the existence of the whole, so that the whole existentially depends upon each part; and each part, too, existentially depends upon the whole. Should this kind of two-way modal entanglement lead us to believe that the whole is somehow more fundamental than the parts? In the parallel cases of the sets, two-way modal entanglement did not suggest that the whole was more fundamental than its members. So why think otherwise in the case of things related not by membership but parthood? After all, a set is *something like* a whole made up of its members; so why should two-way modal entanglement be associated with dependence of parts upon whole, but not with dependence of members upon whole? We need a good, solid argument! And that is where Schaffer's stage two is supposed to come in, with its appeal to a special kind of internal relatedness.

Internal Relatedness in Schaffer

“Internal relation” was a technical term introduced by the idealists. Some, like Royce, provided fairly precise definitions, though they did not all define the term in the same way. Others were more vague in their use of the expression, leaving the less sympathetic critics, like Moore, free to simply choose a likely meaning; and the more sympathetic critics, like Ewing, to explore a wide range of things that they might have had in mind. One cannot expect the literature of the idealist–realist controversies to bear directly upon Schaffer’s use of the term, since he introduces a further meaning that cannot be found in earlier authors (though he does find a couple of passages suggestive of something in the vicinity). He calls his variety “an internal_{constraining} relation”, and characterizes it as “a *modally constraining* relation, which is a relation that precludes the free recombination of its relata”.²³

Schaffer defines “R is an internal_{constraining} relation” for relations of arbitrary adicity, using “Mⁿ” for the relation of *being modally free of one another* that can hold among *n* things:

(D14) R is an internal_{constraining} relation =_{df.} $\forall(x_1)\dots\forall(x_n)$ if $Rx_1\dots x_n$ then $\neg M^n x_1\dots x_n$

Because examples will usually be confined to the case of two-place relations, it may help to focus on a simpler definition restricted to dyadic relations:

(D15) R is a (dyadic) internal_{constraining} relation =_{df.} for any *x* and *y*, if R holds between *x* and *y*, then *x* and *y* are not modally free of one another.

The kind of “modal freedom” precluded by internal_{constraining} relations is given the following informal gloss:

Modally free entities are like multiple knobs on a stereo. There are no necessary connections between the setting of the one knob and the other. Any way the one knob can be set, and any way the other knob can be set, is a way both knobs can be set. All combinations are possible.²⁴

The metaphor is certainly suggestive, but — as Schaffer realizes — it leaves many questions unanswered. Here are two examples of pairs that may or may not count as “modally free” of one another, depending upon how the idea of “recombinable settings” is made more precise.

(a) Suppose a certain child *must* have had parents; but suppose also that the essentiality of origins is false, and any man and woman could have been the parents of that child. Are the child and her actual parents internally_{constraining} related due to the fact that setting the “knob” at “existence”, for that child, requires that *some* knobs be set at “existence” for *some* pair of people — though not necessarily for the actual parents? (Spoiler alert: the child would *not* count as modally free of the parents, by Schaffer’s criteria; and so parent and child *would* qualify as internally_{constraining} related.²⁵ On most of the Idealists’ uses of “internal relation”, given the two suppositions, the child would not qualify as internally related to other things — at least not in virtue of having parents.)

(b) Consider two houses *A* and *B* that happen to be painted red, but could have been painted different colors. *A* is red and the same color as *B*; *B* is red and the same

color as *A*; but *A* could have been green; and *B* could have been green. These are not all freely recombinable; it is impossible to combine *A*'s *being red and the same color as B* with *B*'s *being green*. Either *being the same color as* is an internal relation (which it is, on one meaning of "internal relation" popular amongst idealists — but not on every meaning they gave to the expression); or else *being the same color as* can pass the test for the modal freedom of its relata, even though *being red and the same color as B* is not a "setting" that must be freely recombinable with *being green*. (Spoiler alert: by Schaffer's criterion, the two houses *are* modally free, and so are *not* internally_{constraining} related — at least, if they lack modal freedom and are internally_{constraining} related, it is not in virtue of being the same color.²⁶)

Schaffer's initial, informal gloss provides no guidance on how to answer questions about cases like these — one cannot tell how they will turn out, from nothing more than the "knob" metaphor. To really figure out what Schaffer means by "modal freedom", one must look to the finer details of his characterization of the notion.

Since there are many questions unanswered by Schaffer's informal introduction of the idea of modal freedom, it would be nice to have what Peter van Inwagen often asks for: a "Chisholm-style definition". Schaffer does not provide one, but he does offer a necessary condition for the dyadic case. And it is true that, for some purposes, a necessary condition is all he needs. If the satisfaction of a condition *C* is necessary in order for *x* and *y* to be modally free of one another, then the failure of *x* and *y* to satisfy *C* is sufficient for the absence of modal freedom. Schaffer will argue that (A), (B), and (C) are plausible hypotheses about the metaphysical structure of the actual world that entail that every pair of concrete objects fails to satisfy his necessary condition for modal

freedom; so there are plausible metaphysical hypotheses according to which, for every pair of objects x and y , x is not modally free of y , and therefore x and y stand in some internal_{constraining} relation.

(Strictly speaking, a failure of modal freedom between x and y does not immediately entail that x and y stand in a dyadic internally_{constraining} relation; for suppose x and y were modally free of one another, but that *every* relation holding between x and y also held between things that *were* modally free of one another. The gap between modal freedom and the existence of such a relation could be filled by a sufficiently liberal theory of relations, according to which there is a relation for every set of ordered pairs — although this would render the “R” in the definition of internal relation superfluous, and one might just as well skip the step through “internal relation” and appeal directly to the absence of modal freedom in arguing for monism. On the other hand, the reasons a monist gives for thinking that certain things are not modally free of one another might well include citation of particular relations in virtue of which modal freedom is blocked. In that case, a culprit to play the role of “R” will have been found. Schaffer’s positive arguments for the internal_{constraining} relatedness of all things provide good candidates for the relations that block modal freedom.)

Schaffer formulates the following necessary condition for the modal freedom of x and y :

for any way that x can be, and for any way that y can be, there is a metaphysically possible world w in which x and y are each of these respective ways (barring co-location, and leaving the rest of the world as is).²⁷

The statement of the condition introduces a couple of further quasi-technical notions.

The catalogue of “ways a thing can be” is obtained by listing all the “intrinsic natures that a given actual concrete object can have, together with all of the spatiotemporal locations that it can occupy”, plus “the one way that it can fail to be”, i.e., not existing at all.²⁸

One thing that is not clear from Schaffer’s presentation is whether every intrinsic nature a thing could have plus every location it could be at must count as a “way”; if a thing could be round at region R and square at region R^* , is one of the relevant “ways” for the thing to be *round at R^** ? Presumably not — if it were, then the fact that there is no metaphysically possible world in which any object can be round at R^* would mean that x is not modally free relative to any arbitrary y . This would make modal freedom difficult to come by, and much less interesting. So let us suppose the list of “ways” contains all the pairs consisting of: (a) a location at which a thing could be, and (b) an intrinsic nature it could have *there*. (One might also wonder whether the locations in question are to include merely possible locations; but, as shall appear, this will be answered by the clause: “leaving the rest of the world as is”.)

The recipe for testing whether the necessary condition holds for x and y is this: Take the two lists of “ways” for each of them to be, compile a further list including every combination of a “way” for x to be and a “way” for y to be, and then check to see whether each combination obtains in at least one possible world — “barring co-location, and leaving the rest of the world as is”. Schaffer explains what this final qualification means: (i) A combination of “ways” for x and y to be that would require “the co-location of non-identicals” can be omitted from the list without prejudice to the modal freedom of x and

y ; in other words, that combination of “ways” can fail to be genuinely possible, without its counting against x and y ’s being modally free of one another. (ii) For the remainder of the combinations of “ways” for x and y that are on the list, there must be a metaphysically possible world in which x and y are those “ways”, and “the concrete universe minus the sum of the two objects in question” is just like it is in the actual world — i.e., in the “new” world, the remainder of the concrete universe preserves “its intrinsic nature and spatiotemporal location, while not adding in any alien properties or individuals.”²⁹ If, in order for x and y to be this combination of “ways”, the remainder of the world would have to be different, with alien individuals or properties added to it; then x and y do not count as modally free of one another.

As Schaffer intends the parenthetical clause (“barring co-location, and leaving the rest of the world as is”), (i) and (ii) interact: “If one is considering whether a and b are freely recombinable, and a can be at a location already occupied by something in the remainder, then none of the combination pairs involving this way that a can be should require a realization world. For this would call for co-location of identicals again”³⁰ — though not co-location of a and b .

Schaffer does not say exactly what individuals and properties qualify as truly “alien”. But one must assume that “alien individuals” refers only to *fundamental* individuals that fail to exist in the actual world; and that “alien properties” refers just to *fundamental* properties uninstantiated in the actual world.

Restriction to just fundamental alien individuals is required, on pain of trivializing internal relatedness by making modal freedom much too difficult to obtain. To take a homey example, pretend that bricks are fundamental entities. Rearranging bricks can

bring different non-fundamental things — houses, walls, etc. — into existence. The bricks would be fairly “free of one another” so long as there are possible worlds in which the bricks are arranged every which way, and they can exist or fail to exist in any combination. If the bricks were nevertheless allowed to qualify as “not modally free of one another” simply because different arrangements would constitute different (“alien”) buildings, modal freedom would become a difficult status to achieve for things that can compose other things. Restriction to just alien *fundamental* individuals will take care of this problem.

For similar reasons, on a latitudinarian conception of what it takes to be a property (e.g., the view that there is a property corresponding to every satisfiable, non-paradoxical open sentence), “alien properties” must be restricted to some family of the most fundamental properties. To see why, suppose that, in fact, *a* is a raisin in a box and *b* is a cookie with a hole in it — a hole just the right size for the raisin to fill. One “way” that *a* could have been is: exactly the same as it is, but located inside the cookie. But then “being a cookie with *a* inside it” had better not count as the name of a property, for the purposes of excluding alien properties. If it did count as an alien property, this very natural way for *a* to be (namely, inside *b*) would require that *b* have an alien property, and its being there would not “leave the rest of the world as is”. Indeed, for each of the locations that an object does not occupy but could have occupied, there is an “alien property” of this sort that would have been exemplified by the rest of the world, had the object been there. As a result, allowing these concocted properties to count as “alien” would have the following result: anything that could be located anywhere other than its actual location is, automatically, not modally free of anything else. It would be natural to

read Schaffer's prohibition of aliens as including every unexemplified fundamental property; but it might more plausibly be taken to be a prohibition of just unexemplified fundamental properties falling under a determinable no determinate of which is actually exemplified. Either restriction will exclude "cooked up" properties, like *being a cookie with a inside it*.

Another question worth asking is whether the prohibition of alien properties applies (in the dyadic case) to the two objects in question (i.e., neither is allowed to possess, on any of the combinations of "ways", alien properties), or does it only apply to the rest of the world (i.e., no combination of "ways" for the two objects to be requires that something in the remainder of the world must possess an alien property). Tobias Wilsch has pointed out to me that the first interpretation has the following consequence: if there is any object that could have had a property which, as a matter of fact, qualifies as alien, then that object would automatically fail to be modally free of everything else. Although my grip on Schaffer's notion of modal freedom is none too secure, I feel fairly confident that this would not be a happy result. So I shall interpret the "no alien properties" prohibition as applying only to "the rest of the world": the objects being tested for modal freedom may have alien properties, if having such properties is included among the "ways" they could be; but none of those "ways" can involve *other* objects having alien fundamental properties.

What Schaffer has provided is a necessary condition for two things' being modally free of one another *with respect to a world*. Since he wants to know whether monism is *actually* true, Schaffer naturally restricts his attention to the actual world. But one can ask whether things *would* have been modally free of one another, had some *other*

world been actual instead. Now, if x and y are internally_{essentially} related, they are so necessarily. And if x is existentially dependent upon y , x is (by most accounts of metaphysical modality) necessarily existentially dependent upon y . But if two things are not modally free of one another, in Schaffer's sense, and are therefore internally_{constraining} related, is this a matter of necessity? In other words, could a pair fail to be modally free of one another contingently? It is not too difficult to come up with examples of worlds in which a pair of things seem to be modally free of one another in some respect, and then to imagine another possible world in which they are not modally free of one another in that same respect.

Here is an example devised by Tara Rhoades and Meghan Sullivan. Suppose that the essentiality of origins is true; in particular, a person could not have existed if his or her parents had not existed. Suppose, further, that a certain man and woman are actually unrelated and childless. So far as entanglements from the essentiality of origins go, they are modally free of one another. In another possible world, however, they have a child; and so, there, they fail to satisfy Schaffer's necessary condition for modal freedom. Leaving the rest of that second world as it is, the child exists and therefore both parents must exist — so that rules out one of the “ways” for the parents to be, namely, nonexistent. In principle, then, a pair of things might be contingently modally free of one another, or contingently modally entangled. Perhaps a full understanding of what Schaffer means by “modal freedom” would show that it holds necessarily if it holds at all; but from everything we are explicitly told about the relation, it would seem to be an excellent candidate for contingency.

One final oddity about Schaffer's notion of modal freedom has been pointed out to me by Tara Rhoades. Take a single object, and suppose that, for some of the ways it could be, the rest of the world would have to have alien properties, or alien individuals would have to be added. That object fails the modal freedom test relative to *any arbitrary object* in its world. So the first member of a pair of things can fail to be modally free of the second member for reasons that have nothing special to do with the second member of the pair, but for reasons that automatically apply to *everything that exists*. The kind of modal entanglement that is indicated by the failure of this necessary condition, in such cases, does not seem very relational.

We have come quite a distance since the metaphor of the independent knobs, when I felt I had a rough-and-ready grasp of Schaffer's notions of modal freedom and entanglement: They were, I thought, relations which might or might not hold between distinct things, depending upon whether the things could coexist under every possible variation of their intrinsic features. Modal entanglement, so understood, seemed quite clearly to require at least two knobs, one of which could not be set a certain way without requiring that the other be set a certain way. What Tara Rhoades noticed, in effect, is that, once one knob fails the test for modal freedom with respect to some other knob, it automatically follows that the first knob lacks modal freedom with respect to any arbitrary knob; no further facts about the settings of the arbitrarily chosen knob are required. This discovery extinguishes the light that I thought was being shed on Schaffer's notion of modal freedom by the metaphor of independent knobs. Although I understand the complicated necessary condition for modal freedom that Schaffer eventually articulates, I am no longer sure I understand the relation of modal freedom he

has in mind. Absence of modal freedom — modal entanglement — arises for reasons I never would have expected.

I find myself, now more than ever, hankering for at least an attempt at stating necessary and sufficient conditions, if only for the case of two things that might or might not be free of one another. If I could get the hang of dyadic modal freedom and entanglement, I could probably feel comfortable extending the notion to similar relations holding among larger numbers of things. As it is, I feel I have begun to lose my grip even on the dyadic case.

Dependence and Internal_{constraining} Relatedness

Stage two of Schaffer's argument links being internally_{constraining} interrelated with being interdependent. He gives two different arguments for the same monistic conclusion: that there is just one thing that is not dependent upon anything else, and it includes every other concrete object as a part. The first makes use of what he calls "Assumption 3":

(A3) "Any basic thing will be modally free of anything it does not overlap."³¹

The assumption implies that, if x and y are basic things not modally free of one another, then either they have a part in common or the one depends upon the other, or they both depend upon something else. The second makes use of "Assumption 4":

(A4) "Non-overlapping, modally constrained things are interdependent".³²

“Interdependence” here has a partly mereological meaning: there is a larger whole that includes the things as parts, and upon which each of them depends. (A4) implies that, if x and y are not modally free of one another, then either they have a part in common, or they both depend upon the same larger whole.

Does failure to satisfy Schaffer’s necessary condition for modal freedom suggest that a pair of things must be entangled in these ways? I can think of seemingly possible combinations of objects x and y with a world w that seem to satisfy this description: in w , x and y fail to satisfy Schaffer’s necessary condition on modal freedom; and yet (i) at least one of the two is a basic entity, (ii) x and y have no parts in common, (iii) neither depends upon the other, nor is there a single larger whole in w upon which both x and y depend.

In “stage one”, Schaffer argues that, given certain hypotheses about the contents of the actual world, it could turn out that the stuff of our world is interrelated in such a way that it constitutes a monistic whole. These are hypotheses (A), (B), and (C), mentioned above. Many metaphysicians will think that (A), at least, is contingently true if true at all; for it is the conjunction of causal essentialism (plausibly necessarily true if true at all) with two seemingly contingent claims: that determinism is true, and that reality consists of a single cosmos (as opposed to spatially disconnected cosmoi). Some of us will suspect that (B) is a contingent matter, too — that it is possible for there to be two universes that “look” more or less like ours, from the point of view of beings our size; but one of which consists in nothing but a four-dimensional plenum of points, and another of which includes a manifold of points *plus* objects coincident with those points. ((C), the world-bounded nature of all individuals, is intended as part of a theory of

“modal space”, and could hardly be contingent.)³³ Descriptions of worlds that falsify (A) and (B) have seemed perfectly coherent to plenty of metaphysicians — worlds in which individuals are quite “loose and separate” — and these descriptions, whether genuinely possible or not, do not suggest that the individuals in such worlds would be part of a web of internal relations in any of the relevant senses. Monisms of the sorts defended by the idealists or by Schaffer would not have been true of such worlds, were they genuinely possible. So I shall describe two ostensibly possible worlds in which none of these varieties of monism would be true. I choose pairs of things that, in such worlds, would seem to be basic — pairs which therefore would not depend upon one another in Schaffer’s sense; nor, for that matter, in any way that could be explicated in terms of existential or intrinsic dependence. Then I will show that the members of the pairs nevertheless fail Schaffer’s test for being modally free of one another. They are counterexamples to (A3) and (A4).

Before describing these examples, I should say that I am not convinced, beyond a shadow of doubt, that the scenarios I describe are genuinely possible kinds of universe with genuinely possible kinds of stuff in them. I see no glaring impossibilities in them; but there may be a hidden incoherence somewhere. The first example basically takes with utter seriousness the description of actual matter provided by statistical mechanics, and asks us to imagine a universe filled with such stuff; and then it adds the supposition that dispositional essentialism is true (part of hypothesis (A) in stage one of Schaffer’s argument, and a metaphysical position that some monists clearly find congenial). Maybe statistical mechanics is deeply incoherent; if it is, I would be the last to know, so I would not bet the farm on the genuine metaphysical possibility of this plenum world. Still,

classical mechanics is a pretty durable theory; if it is impossible for anything to behave in the way it says our stuff behaves, that would be a surprising and interesting fact. The second example requires the possibility of causally disconnected space-times. Again, I see no obvious impossibility here. Of course some people think actual infinities are impossible, which rules out the infinities of point-sized parts in the plenum world; and some people may think the disconnected space-times of the second example are impossible, too. I doubt whether either judgment is right; but I would not bet the farm against them.

Even if impossibilities are hidden within them, however, the two scenarios cast doubt upon Schaffer's claim to have forged a conceptual connection between his type of internal relatedness and his type of dependence. It is not at all obvious (to me, at least) that there is any deep connection between the two. My grip upon the first is based entirely upon the metaphor of "knobs" and the complicated necessary condition for modal freedom — and these do not take me very far, given the number of questions the metaphor leaves unanswered, and the surprising behavior of modal entanglement noted above. Whether modally entangled items *must* stand in dependence relations, either one to the other or both to a further thing, is hardly obvious. Counterexamples that are at least conceptually possible seriously undermine the links between the two notions that are required by Schaffer's arguments.

First Counterexample: Two Spheres in a Plenum

Consider a world much like Descartes's material universe. Space not filled with stuff is impossible; in fact, there is no further entity, "space", that coincides with the material

stuff. The bits of stuff can move around and take on different shapes. In Descartes's theory, all interaction were supposed to take place by way of contact between the various kinds of stuff — no action-at-a-distance. In fact, he wanted his matter to have no properties to speak of besides size and speed. A fleshed out plenum physics will need fundamental properties besides size and speed, in order to explain why objects resist motion, and what forces hold the parts of a solid together and keep neighboring parts of the plenum from deforming it. But suppose that statistical mechanics — which, on the macroscopic level, provides a very good approximation of the way the substances of our world behave — is an even *better* theory of the fluids, solids, and gases of the plenum than Descartes's own description of it.

Crucial to my example is the thesis that the parts of the plenum do not even *know what to do* in the presence of a vacuum — a vacuum is nomologically impossible, and the stuff has no need of powers or propensities to behave in one way or another if there were a vacuum. Similarly, the purely metrical relations between the points of the plenum give it the geometry of a Euclidean three-space; and the powers and forces exemplified by the stuff have no determinate application in curved spaces or spaces with different topological properties.³⁴

Another assumption is needed: the doctrine of causal essentialism, a thesis Schaffer finds somewhat plausible: “By causal essentialism, I mean the claim that individuals bear their causal powers and liabilities essentially.”³⁵ Schaffer argues that, *given certain further assumptions* about a world in which causal essentialism is true, the internal_{constraining}-relatedness of everything would follow. In particular, the world must be

sufficiently deterministic. Although it is not crucial to the example, let our plenum include some indeterminism in the effects that the bits of it have upon one another.

Now, do discrete parts of the plenum world depend upon one another, or upon the whole of which they are parts? With some further stipulations, the answer should be negative, whether the dependence in question be Schaffer's or any of the interesting modal varieties. Suppose that every bit of the stuff is "loose and separate" from every other (non-overlapping) bit: there are possible worlds in which each bit exists all by itself; and for any combination of (non-overlapping) bits there is a world with just them in it; and these possibilities can be countenanced without intrinsically changing the bits in any way. Suppose further that, for any world like this particular plenum world, there are plenty of other worlds containing all the stuff in the first world, *and more*, while leaving the original stuff intrinsically unchanged. This ought to ensure that neither existential dependence nor intrinsic dependence holds between discrete bits of the stuff.

What about Schaffer's kind of dependence? Can two discrete parts of the plenum fail to be dependent upon one another, in his sense? That is, can each be equally fundamental, equally basic? Schaffer has arguments to the effect that a "gunky" world, in which every concrete object has further such objects as proper parts, would have to be monistic.³⁶ I am not convinced by these arguments; but let this plenum not be gunky. After all, statistical mechanics for a fluid or solid body posits point-sized parts of the substances. So suppose there *really are* point-sized bits of the plenum with states of motion that can be used to explain shearing effects and other interactions between surfaces. These bits, too, are as loose and separate as described in the earlier paragraph;

and the ban on a vacuum applies to them as well: there are no places without point-sized atoms in them.

Let x and y be two point-sized parts of such a plenum, far away from one another. Let them be immutable atoms — they cannot be intrinsically changed in any way. Is one of the atoms dependent upon the other? I should think that, given Schaffer's notion of dependence, they should not be. They are of the same type, and so, when "dependent upon" is closely tied to "less fundamental than", each should fail to be dependent upon the other because they are obviously equally fundamental parts of the plenum. Are they basic entities? Well, why would they *not* be basic? They are the kinds of things everything else is made of, and their states of motion and other properties are involved in explaining the properties of the fluids and solids of which they are parts. If all that exists in this plenum world are portions of stuff, there is no reason to suppose that the tiny bits that explain all the physical properties of the larger wholes are not the explanatory basis — the "grounds", in Schaffer's sense — for all the larger portions. Of course a monist of Schaffer's stripe could simply *insist* that every part is dependent upon some larger whole of which it is a part. But, in this case, none of the reasons apply that are typically given for accepting the (initially rather surprising) thesis that some parts depend upon wholes — as in Aristotle's examples of the functioning parts of an organism.

(Though it is, strictly speaking, a side issue, one may ask: Are x and y related by any of the modal kinds of dependence found in Royce? x and y are certainly not existentially dependent upon one another; nor could they be intrinsically dependent, since neither can change intrinsically. Of course a philosopher is free to use "dependent" in whatever way he or she likes — in theoretical discussions, with quasi-technical terms like

“ontologically dependent” or “grounded in”, Humpty Dumpty was right: “It’s a question of who’s to be the master”. But I can think of no other notion of dependence invoked by the *idealists* that would have any purchase upon x and y . Of course, the idealists would have argued that the parts of the plenum I have described are *impossible*; no two things could possibly be so independent of one another as these atoms have been stipulated to be. But Schaffer is willing to grant, at least for the sake of argument, that monism is a contingent thesis.)

I conclude that, had the plenum world been actual, neither x nor y would have been dependent upon the other; and, indeed, they would have been among the basic entities in such a world. I shall argue that x and y do, however, fail to satisfy Schaffer’s necessary condition for modal freedom (and therefore, so long as there is a relation they have that always brings with it a lack of modal freedom, they are internally_{constraining} related). But then the assumptions (A3) and (A4) linking *dependence* and *modal freedom* are false.

Here is the reason the two atoms fail to satisfy Schaffer’s necessary condition for modal freedom. If they are to pass his test, it must be possible that they fail to exist while the rest of the universe remains intrinsically unchanged, *with no alien individuals or properties added*. There are exactly similar worlds with all the same parts of the plenum surrounding x and y , and duplicate, new atoms in their places. But leaving them empty is doubly impossible: it would break the ban on holes, and it would change the topology of the plenum. In this medium, because of causal essentialism, such holes cannot appear.

So, one of the “ways” the two atoms could be (namely, both failing to exist) is only possible given inadmissible changes to the world — namely, the introduction of

alien individuals. x and y are not modally free of one another; so they are internally_{constraining} related; yet they have fair claim to be basic and independent of one another in Schaffer's sense of dependence (and in the modal senses as well); and, since basic, there is also no larger whole upon which both x and y depend. Thus x and y satisfy the three conditions listed above — (i) at least one of the two is a basic entity, (ii) they have no parts in common, (iii) neither depends upon the other, nor is there a single larger whole upon which both depend — and falsify both (A3) and (A4).

Second Counterexample: Disconnected Space-Times

In the discussion of Schaffer's notion of modal freedom, I mentioned an oddity of his necessary condition that was pointed out to me by Tara Rhoades: if, in some world w , some of the possible "ways" for an object to be would require the existence of fundamental individuals alien to w or the exemplification of fundamental properties unexemplified in w , then the object fails the modal freedom test *relative to any arbitrary object in w* . Each of the atoms in the plenum world fails Schaffer's necessary condition because one of the ways it could be requires an alien individual; so each not only fails to be modally free of the other, it fails to be modally free of any of its world-mates in the plenum. One can use this result to concoct further cases that make trouble for (A3) and (A4).

Two of Schaffer's examples of hypotheses requiring the internally_{constraining} relatedness of all things are: (A) causal essentialism with determinism, and (B) supersubstantivalism with a structuralist theory about the nature of space-time points. In both cases, the universe consists of an interconnected whole that does not allow any bit to

be “popped out” without replacement — and replacement, with no other changes to the remainder of the universe, would require an alien individual.

In (A), each event is preceded by conditions that necessitate that an event of that type occurs; so, one of the ways for that event to be — namely, not existing — would require that an alien event be added to take its place. In (B), every concrete object is made out of space-time points, and these points have their locations relative to other points as a matter of necessity. For each point, one of the ways it could be — namely, not existing — is incompatible with leaving the remainder of the concrete universe “as is”.

Now suppose there could be two spatiotemporally and causally disconnected universes, *a* and *b*; and let *w* be a possible world in which they both exist. Let the parts of each universe be as internally interconnected as the actual universe is supposed to be, on hypothesis (A) or (B). Since *a* and *b* are not spatiotemporally or causally connected to one another, there is no reason to suppose that *a* and *b* constrain one another (modally) in any way. Each could have failed to exist without the other; and, given these strong essentialist doctrines about their parts and their arrangement, there would seem to be no *other* ways for them to be. There is also no reason to suppose that, in Schaffer’s sense of “basic”, *a* and *b* cannot both be basic. Each one would, according to stage one of his own argument, qualify as a basic entity when it exists solo. They seem to be modally free of one another, each able to exist with or without the other. I can think of no reason to suppose that either exists in virtue of the other or in virtue of the existence of their sum.

Consider some event or point *c* that is part of *a*. In *w*, *c* fails the test for modal freedom due to the fact that one of the “ways” open to it — namely, failing to exist — is

incompatible with the remainder of the objects in w staying the same. This means c fails Schaffer's necessary condition for modal freedom with respect to any object in w , including b . But c and b have no parts in common, they do not both depend upon one another, and they do not both depend upon a further thing; and one of them is a basic thing. As shown earlier, any pair of things satisfying the following conditions will be a counterexample to both (A3) and (A4): (i) at least one of the two is a basic entity, (ii) they have no parts in common, (iii) neither depends upon the other, nor is there a single larger whole upon which they are both dependent. c and b comprise another such pair.

The Failure of the Second Stage

The case of the plenum world and the case of the disconnected universes cast doubt upon key assumptions in the second stage of Schaffer's argument for monism. In each example, there are pairs of things that are not modally free of one another, by Schaffer's criterion; and yet they do not stand in the kinds of dependence relations that are supposed to characterize his type of monistic universe.

I have admitted that one may reasonably doubt whether the counterexamples represent genuine metaphysical possibilities. Such doubts notwithstanding, the two cases should still call into question Schaffer's claim to have isolated a meaning for the expression "modal freedom" that connects the notion with Schaffer-dependence — i.e., the state of being grounded in something else, or being partially metaphysically explained in terms of something else. The metaphor of independent knobs, and Humean talk about things being "loose and separate", is enough to conjure up a family of interesting — and interestingly different — kinds of more precisely specifiable varieties of modal freedom

and entanglement that can hold among concrete objects. The various forms of modal independence that I found in use among idealists represent some members of this family; and Schaffer's "modal freedom" is supposed to be yet another. Adding a quite precise statement of a necessary condition for the particular type of modal independence that he has in mind *might* have been enough to bring before the mind, from among this host of modal independence relations, a more definite idea of the particular one he is after. But the necessary condition is very complicated; and, to me, at least, it feels gerrymandered and unnatural. The condition is supposed to be necessary for a species of modal freedom that has some intelligible connection with lacking shared parts and with not being dependent parts of some larger thing. But I have considered what seem to be coherent hypotheses involving pairs of objects that fail to qualify as "modally free" in virtue of failing to satisfy this necessary condition; and it seems to me that I can see that the reasons they fail this condition have nothing to do with parthood or degree of fundamentality. I conclude that Schaffer has not pinpointed a notion of modal freedom that will do the work needed in (A3) and (A4).

Much earlier, I sketched a couple of ways in which metaphysical hypothesis (A) — i.e., causal essentialism-plus-determinism-plus-Big-Bang-cosmology — might lead to one or another of the *idealists'* versions of monism. Perhaps Schaffer is right: *some* kind of monism may be waiting in the wings, if one accepts one of his metaphysical hypotheses (A), (B), or (C). He has not, however, provided an alternative route to monism based upon a new kind of internal relation.³⁷

References

- Chalmers, David; Manley, David; and Wasserman, Ryan (2009), *Metametaphysics: New Essays on the Foundations of Ontology*. Oxford: Clarendon Press.
- Ewing, A. C. (1933), *Idealism: A Critical Survey*. New York: Humanities Press.
- Holt, Edwin B., et al. (1912), *The New Realism*. New York: Macmillan.
- Joachim, H. H. (1906), *The Nature of Truth*. Oxford: Clarendon Press
- Moore, G. E. (1903), "The Refutation of Idealism", *Mind* 12: 433-53.
- Perry, Ralph Barton (1912), "A Realistic Theory of Independence", in Holt, et al. (1912), pp. 99-151.
- Royce, Josiah (1899), *The World and the Individual: First Series*. New York: Macmillan Company
- Russell, Bertrand (1906), "What Is Truth? Review of Joachim, *The Nature of Truth*", *The Independent Review* 9: 349-53
- Schaffer, Jonathan (2009), "On What Grounds What", in Chalmers, et al. (2009), pp. 347-83.
- Schaffer, Jonathan (2010a), "Monism: The Priority of the Whole", *Philosophical Review* 119: 31-76
- Schaffer, Jonathan (2010b), "The Internal Relatedness of All Things", *Mind* 474: 341-376
- Schaffer, Jonathan (forthcoming), "Grounding as the Primitive Concept of Metaphysical Structure," in Correia and Schnieder (eds.), *Grounding and Explanation*.
- Tarski, Alfred (1956), "Foundations of the Geometry of Solids" in Tarski, *Logic, Semantics, Metamathematics*. Oxford: Clarendon Press, pp. 24–29.

¹ Jonathan Schaffer argues that we should attribute moderate monism (rather than the much less plausible claim that there is exactly one concrete object) to many of the philosophers classically denominated “monists”. See Schaffer (2010a), pp. 66-71.

² This line of reasoning is most explicit in Joachim (1906) and Royce (1899). Of all the idealist monists, Royce’s monism seems to me to be closest to Schaffer’s non-idealist monism. Royce was explicit about the existence of many things besides the largest. He also argued for internal relations on grounds that were independent of his idealism.

³ See, e.g., Moore (1903) and Russell (1906).

⁴ Perry (1912), Ewing (1933).

⁵ Schaffer (2010b), pp. 341-2.

⁶ Schaffer (2010b), p. 355.

⁷ Royce (1899), p. 115.

⁸ This definition of independence can be distilled from Royce (1899), pp. 122-7.

⁹ “But now the relations of an object in ordinary experience make parts of the object itself. A change in these relations would result from the change of other objects” [Royce (1899), p. 126].

¹⁰ Ewing (1933), p. 131.

¹¹ Ewing (1933), p. 136.

¹² Ewing (1933), p. 136.

¹³ I thank Jonathan Schaffer for helping me find the right formulation for this relation.

¹⁴ Schaffer (2010b), p. 351.

¹⁵ Schaffer (2009), p. 364.

¹⁶ Schaffer (2010b), p. 345.

¹⁷ Schaffer (2009), pp. 364-5.

¹⁸ Schaffer (2010b), p. 345.

¹⁹ In this context, a concrete thing is to be contrasted with mere *aspects* of the thing, which are more abstract than the thing itself — that is, they are noticed by *abstracting away from* other aspects. According to a metaphysics that builds things out of bundles of tropes or universals, abstraction is the process of focusing attention upon just one trope or universal among many other tropes or universals that a concrete object has; and, for bundle theorists of these sorts, that aspect *itself* counts as a part or component of the thing — a trope or universal in the bundle. If the process of abstraction really leads to entities of this sort, they should be regarded as non-concrete for Schaffer’s purposes.

²⁰ For his response to this worry, see Schaffer (forthcoming), section 1.4.

²¹ Schaffer (2010b), p. 346.

²² The definition appears in Schaffer (forthcoming); compare Schaffer (2010b), p. 346.

²³ Schaffer (2010b), p. 350.

²⁴ Schaffer (2010b), p. 351.

²⁵ To anticipate: one “way for the parents to be” is non-existent. Leaving the rest of the world as is, and not plugging in new individuals for the parents, the child will be parentless — an impossibility, according to the suppositions of the example.

²⁶ Of course they might be internally related for one of the reasons Schaffer gives in stage one — causal essentialism, space-time supersubstantivalism-plus-structuralism, counterpart theory — but I can see no argument for a lack of modal freedom between two things (in Schaffer’s sense of the expression) based on sameness of color.

²⁷ Schaffer (2010b), p. 352.

²⁸ Schaffer (2010b), p. 352.

²⁹ Schaffer (2010b), p. 354.

³⁰ Schaffer (2010b), p. 354.

³¹ Schaffer (2010b), p. 356.

³² Schaffer (2010b), p. 358.

³³ Schaffer briefly discusses the modal status of the hypotheses leading to universal internal relatedness; see Schaffer (2010b), p. 372.

³⁴ If the plenum is “gunky”, it can still be Euclidean; the geometrical relations will hold between point-surrogates, like Tarski’s nested spheres. See Tarski (1956).

³⁵ Schaffer (2010b), pp. 362-4; the quotation is from p. 363.

³⁶ Schaffer (2010a), pp. 61-65.

³⁷ I had useful correspondence and conversations with many people during the writing of this paper — most of them Rutgers graduate students (or graduate students visiting Rutgers) who took seminars or attended a reading group in which Schaffer 2010b was discussed. Several times I had flashes of insight or hit upon a brilliant argumentative strategy ... only gradually to realize that these were ideas I had stolen from others. I have tried to give credit where credit is due, but my poor memory and a tendency to attribute all bright ideas to myself may have betrayed me. Tara Rhoades is chief among those from whom I have borrowed excellent points; Tobias Wilsch, Alex Skiles, Janelle Derstine, Stephanie Leary, Meghan Sullivan, and several others have done much to clear up my thinking about these matters (and, in Janelle’s case, to clear up my prose as well). I also thank Tim Maudlin and Alex Skiles for helpful conversations about a failed counterexample to (A3) and (A4). Finally, I owe a large debt to Jonathan Schaffer himself — what a pleasure and privilege to have, as a colleague, someone so creative, so open to criticism, and so generous with his time! He refuted at least three attempted counterexamples, and provided many other helpful criticisms of an early draft.