Trope Theory and the Bradley Regress

"Trope theory" here refers to the view that: (i) there are tropes; (ii) tropes are *abstract*, *particular* and *simple* entities;[1] and (iii) there is nothing but tropes.[2] Two further theses may plausibly be added to trope theory thus conceived. The first addition is the following fundamental principle:

> *Methodological Principle:* Trope theory must (minimally) be able to account for the truth of atomic propositions.

The second is a slightly more controversial (yet perfectly defendable) assumption:[3]

> *Truthmaker theory*: an atomic proposition p is true if and only if there is some truthmaker(s) for p.[4]

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[1] The trope is simple in the sense that its qualitativeness and particularity do not have separate grounds in the trope. That tropes are (or, even, that they can be) simple in this sense has been criticized by H. Hochberg (2004). I defend this view in my [author's reference suppressed].

[2] This, I take it, is the most wide-spread understanding of trope theory although minor variations exist. Trope theory is discussed and to some extent defended by, among others: Bacon (1995); Campbell (1990); Denkel (1997); Heil (2003); McDaniel (2001); Molnar (2003); Mormann (1995); Simons (1994, 2000); Trettin (2004*a-b*), and; [author's reference suppressed]

[3] For a defence of this assumption see, e.g., Mulligan, Simons and Smith (1984); Armstrong (2004*a*), and; [author's reference suppressed]

[4] That the existence of some truthmaker is both *necessary* and *sufficient* for truth is argued by, e.g., Armstrong (2004*a*: 5). Quite a few philosophers otherwise positively inclined towards the truthmaker thesis have criticised this type of "Maximalism". They believe that in general not every truth requires a truthmaker and hold instead the weaker thesis that *if* there is a truthmaker then some proposition is true (Simons (2005: 254); Smith (1999: 284-285)). As it is generally agreed that propositions such as <Lump exists> belong to those that *do* have a truthmaker, nothing in this text depends on whether the truthmaker thesis is interpreted in the strong or weak sense.

Take any concrete object. To illustrate, take Lump. Lump is a particular, complex and concrete lump of sugar. Lump is white, Lump is hard, and Lump is sweet. If Lump exists, then <Lump exists> is true. <Lump exists> is an atomic proposition.[5] But if <Lump exists> is a true atomic proposition, then the methodological principle tells us that there must be room for an account of its truth within the framework of our theory. The assumption tells us that this account should be couched in terms of truthmakers. Trope theory, finally, tells us that the truthmakers must be tropes and that tropes are abstract, particular, and simple entities. But now a notoriously difficult question calls out for an answer. If Lump is one concrete and complex lump of sugar and tropes are many abstract and simple properties: *How can the truth of <Lump exists> be accounted for in a purely trope-theoretical framework?* Call this the truthmaker question.[6]

This question, I submit, is of the type D. M. Armstrong once dubbed 'Moorean'. It is a question which, once generated, cannot be left unanswered; it is a "compulsory metaphysical question" (Armstrong (1980: 441)). It is a question, moreover, that trope

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[5] The atomicity of singular existential propositions is discussed and defended in Simons (1992). According to him, the simplest way to understand the truthmakers for singular existential propositions is as "the object itself." (Simons, 1992: 163)

[6] The truthmaker question can be generalized: How can the truth of a proposition, ostensibly made true by an entity belonging to a category *other* than the trope category, be accounted for in a (purely) trope-theoretical framework? Here is an example of another interesting and potentially problematic instance of the truthmaker question (one that will not be discussed in this paper): How can the truth of a proposition, ostensibly made true by (among other things) a *universal* property, be accounted for in a (purely) trope-theoretical framework? I discuss this particular question in my [author's reference suppressed]. Notice that truthmaker questions can be formulated also in (and for) a non-trope theoretical framework.

theorists normally answer by claiming that the truthmaker for <Lump exists> is not just the many abstract tropes that characterise Lump; it is the *bundle* of these tropes. To make true <Lump exists>, they tell us, it is not enough that tropes $white_1$, $hard_1$, and $sweet_1$ exist; they need to exist somehow bundled or, as it is often put, they must be *compresent*.[7]

Now, to say that propositions ostensibly made true by concrete particulars are really made true by tropes in compresence is not yet to (fully) answer our Moorean question. A full answer must include also some account of compresence. What is the nature of something able to turn many abstract tropes into something (some one thing) apt to make true singular existential propositions such as <Lump exists>?

This is where things tend to get really complicated. In fact, if the conclusion of an argument first presented by F. H. Bradley (1908 [1893]) is accepted, there is no consistent way in which the nature of compresence can be spelled out. But this would mean that there is *no* viable answer to the truthmaker question; something which suggests that at least one of the assumptions that allowed us to generate it in the first place must be rejected. According to Bradley, it is the very idea that there can be complex concrete particulars about which we can ask questions, Moorean or otherwise,

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[7] Two terminological notes: (i) Subscripts will be used throughout to indicate when a predicate is understood as referring to a trope; (ii) The literature features many different names for the bundling relation. Some examples – besides 'compresence' – include 'collocation' and 'combination'. My only reason for choosing 'compresence' is that it is the label chosen by the majority of the trope theorists.

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that should be blamed and abandoned. This would take care of the problem, but the price is high. For a trope theorist who wishes to remain a trope theorist, proving Bradley wrong is a Moorean task. It is also the task set for this particular paper.

The Problem

Lump, as we know already, is white, hard, and sweet. But what does *is* (in "Lump *is* white, hard, and sweet") mean? This is the question posed by Bradley in the beginning of *Appearance and Reality* (1908: 19 ff). There is, says Bradley, only two things *is* might mean and he first suggests that 'is' might mean the *identity* of the lump either with each of its qualities taken separately or with all of its qualities taken severally.

But if Lump is identical with his qualities taken one by one contradiction ensues. Nor, says Bradley, can the lump be identical with its qualities taken severally for then nothing will have been added to the properties that can plausibly account for the presence of a lump of sugar. Put in terms of truthmakers (a language foreign to Bradley himself), the reason why Lump cannot be identified with his properties taken severally is that this would prevent us from distinguishing the truth of <Whiteness, hardness,

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and sweetness exist> from that of <Lump exists>. This is not acceptable as the first proposition could well be true while the second is false.[8]

The secret of the thing, Bradley concludes, must lie instead in the way the qualities of the lump stand to one another. More precisely, 'is' must mean the (numerical) identity of Lump with his *qualities related*. This answer will, however, give rise to new (and, as we shall see, equally problematic) questions. If to say of Lump that he *is* white, hard, and sweet, means that he is identical with whiteness, hardness, and sweetness *related*, then what does it mean to say of whiteness, hardness, and sweetness, that each *is* related to the other? Again, this cannot mean that the qualities are numerically identical with one another, or there will be a contradiction. Nor, Bradley rightly points out, does it help much if we say that the relation *inheres in*, or *belongs to* the thing in virtue of being *had* by its several qualities as this reply lands us in a (nonsensical) dilemma where we are forced to choose between contradicting ourselves, or simply failing to provide the requisite explanation. In Bradley's words: "If you predicate what is different, you ascribe to the subject what it is *not* [contradiction]; and if you predicate what is *not* different, you say nothing at all [non-explanatory]" (ibid: 17).[9]

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[8] If properties are universal, this is obvious. If properties are tropes, it follows only if so-called "transferability" is assumed. Only if tropes do not *have to* belong to the objects they in fact belong to must the two propositions have different truthmakers. I will return to this issue in more depth below.

[9] Or, as put by D. L. M. Baxter (1996: 16): "The problem with ascribing the relational quality to the quality is that they are distinct. This makes the ascription false (given that predication is ascribing identity). What then would be the alternative? Only ascribing something that is *identical* with the quality.

We must conclude, therefore, that to say of whiteness, hardness, and sweetness that they are related, means that there is a relation which appears with and holds between them, but which is neither attributed of, nor is it identical with them. The problem with this suggestion is that from it a vicious infinite regress can be generated. If relations exist independently of that which they relate, then the "qualities and their relation fall entirely apart, and then we have said nothing"; to say something, we must come up with a new relation between the old one and its terms which, once there, is not of much use. "It either itself demands a new relation, and so on without end, or it leaves us where we were, entangled in difficulties" (ibid: 21).

We can now see that, for Bradleyan reasons, the trope theorist's relation – compresence – must be conceived of as something which appears with, yet is distinct from and independent of, its relata; given trope-monism, compresence must be understood, furthermore, as yet another trope.[10] A world that contains $white_1$, $hard_1$, and $sweet_1$ does not have to contain Lump (even if Lump is both white, hard and sweet), and if compresence is a (relational) trope which exists independently of the monadic tropes it happens to relate, it appears as if the same is true of it. There could be a world which contains $white_1$, $hard_1$, $sweet_1$, *and* $compresence_1$, but which does not

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But to say this would be to say nothing at all." It is important here, Baxter points out, that "to say nothing" is not only to make *no assertion*; it is also to give *no explanation*.

[10] I leave open the question of whether compresence is or must be a multigrade or a two-place relation. This is an important and possibly difficult question, but here not much depends on its answer.

contain Lump. To make sure that the addition of compresence does the bundling work for which it was introduced, something must therefore, again, be added. What bundles $white_1$, $hard_1$, and $sweet_1$ with $compresence_1$ must be more of the same; $white_1$ is bundled with $compresence_1$ by being *compresent* with it – i.e., by having $compresence_2$ holding between it and $compresence_1$ (*mutatis mutandis* for $hard_1$ and $sweet_1$, respectively). And so on, *ad infinitum*.

Saving Trope Theory

Having your position charged with the crime of generating a vicious infinite regress may cause reactions of three basic kinds. You may plead guilty as charged and proceed to modify your views accordingly. You may accept that your views generate an infinite regress, yet contest the viciousness of this regress. Or, you may contest the claim that your views generate an infinite regress in the first place. Bradley himself, not surprisingly, belongs to those who adopt the first approach and accept the Bradleyan conclusion.[11] To him, the argument is a *reductio* proving that the world is *really* one undivided and single whole and that distinction and plurality belong to appearances only. Because of its radical consequences, this strategy should be considered as a last resort only.

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[11] A contemporary Bradleyan is Vallicella (2000; 2002).

If there *is* an acceptable account of compresence to be had, on the other hand, there must be something wrong with Bradley's argument. One possibility is that there is something wrong with the way in which Bradley interprets its conclusion. Even if we agree that there will be an infinite regress, must we say that this regress is vicious? Unfortunately, in this particular case, the answer is a definite 'yes'. The regress is vicious because it prevents the theory from completing its assigned task. What this means is that in the Bradley regress, each step depends for its truth on the truth of the next one. <Lump exists> depends for its truth on the truth of <$white_1$, $hard_1$, and $sweet_1$ are compresent>, a proposition which, in turn, depends for *its* truth on the truth of <$white_1$, $hard_1$, $sweet_1$, and $compresent_1$ are compresent> and so on *ad infinitum*.[12] At no point does the addition of a relation result in the existence of Lump, only in more disunited tropes.

To save trope theory, our only remaining option is therefore to challenge the existence of the regress. The quarrel is now, not with how Bradley interprets his conclusion, but rather with how he sets up his argument. The argument may face two types of criticism. One may challenge Bradley's claim that compresence must be

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[12] It is instructive to contrast the dependencies which characterise this (vicious) regress with those of the acceptable kind. In the truth-regress, for instance, the truth of <p> gives rise to the truth of <p is true>, which in turn gives rise to the truth of <<p is true> is true>, etc., *ad infinitum*. Here <p> does not depend for its truth on the truth of any of the subsequent propositions generated in the regress. The direction of dependence is rather the other way around. The truth of <p> depends presumably on whether the fact that p obtains or not, and the same goes for every other proposition in the regress. *Cf.* [author's reference suppressed].

conceived of as a real relation, distinct from its relata. Alternatively, one may dispute his further (reductio-generating) claim that compresence cannot, after all, be understood as a real relation without vicious infinite regress. I will now argue that to *not* conceive of compresence as distinct from (and, in this sense, independent of) its relata, requires us to accept that an implausibly strong sort of (specific) existential dependence holds between the individual tropes that together constitute the concrete particular. If possible, we should prefer, therefore, an account of compresence that treats it as a real relation, distinct from its relata. That an account of the nature of real relations which, *pace* Bradley, does not have relations end up in vicious infinite regress, *can* be formulated, is the main conclusion of this paper.

The No-Relation Response Explored

Armstrong famously formulates one version of the view according to which relating (and, so, bundling) can be achieved *without* 'real' relations. Although the setting in which his suggestion is formulated is neither trope nor bundle theoretical (Armstrong is here interested in joining substrate with universal), his account is still interesting in that it clearly captures both why this 'no-relation' approach is attractive and why it is problematic. Discovering that he cannot join substrate with universal without vicious infinite regress Armstrong finds himself compelled to argue that (1978(2): 3):

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Although particularity and universality are inseparable aspects of all existence, they are neither reducible to each other nor are they related. Though distinct, their union is closer than relation. Scotus talked of a mere "formal distinction" between the thisness and the nature of particulars.

This formal distinction (and union) of substrate and universal, Armstrong further informs us, is subject to four constraints (1978(1): 108 ff.):

> The substrate *necessarily* exemplifies some universal.
> The universal is *necessarily* instantiated in some substrate.
> The substrate only *contingently* exemplifies the universals is does exemplify.
> The universal is only *contingently* instantiated in the substrate it is instantiated in.

Together these constraints lend at least some justification to the suggestion. Substrate and universal stick together not miraculously and inexplicably, but with the help of one of the greatest forces available to the metaphysician: *necessity*. Universal and substrate are *generically dependent* on one another: they require for their existence the existence of *some* entity belonging to the other kind. The object is one because substrate and universal must co-exist, and it is many because the particular cases of substrate and universal that now constitute the object must not do so. In ontology, dependence is often thought to license conclusions of non-existence. According to Armstrong, this is exactly the type of situation where no additional (relational) entity need be posited. The necessary co-existence of substrate and universal is such that it obtains simply given the existence of some substrate and some universal – it is therefore a 'free lunch'.

The problem with this suggestion is that if existential dependence is to succeed in unifying what are many into one, *generic* dependence will not do. The Bradleyan regress

is generated in the attempt to join *specific* entities (a specific substrate and a specific

universal or (for trope theory) some specific tropes) not *kinds* of entities. The fact that

this substrate must be joined to *some* universal (or that this universal must be

instantiated in *some* substrate) does not explain the union of this specific substrate with

this specific universal. This should be even more evident if the entities to be joined are

tropes, as here we do not even have recourse to a difference in kind. Think again of our

lump of sugar. On Armstrong's suggestion (now in a trope and bundle theoretical

guise), the existence of tropes $white_1$, $hard_1$, and $sweet_1$ (and their supervenient

existential dependence) is supposed to be enough for the truth of <Lump exists>. But

what does the generic dependence of $white_1$ on *some* other trope have to do with Lump?

For the no-relation approach to successfully replace relations with the dependencies in

which their relata stand, the dependence in question must be of a much stronger kind.

It must be specific:[13]

> *Specific dependence*: existential dependence holding between the specific particular
> (and/or universal) constituents of some concrete thing.

If the constituents of Lump depend specifically on one another it seems as if their

union can now be explained without contradiction or vicious infinite regress. The price,

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[13] Armstrong, inspired by Baxter (2001), has in a recent paper changed his mind (Armstrong 2004*b*); he here defends a more radical version of the *no-relation* approach. The relating of universal and substrate is no longer to be understood in terms of generic dependence, but in terms of what he calls *partial identity*. As I understand it, partial identity (minimally) amounts to what I call specific dependence. Armstrong's new suggestion is therefore subject to the type of criticism I raise against the no-relation approach with specific dependence below.

however, is high. A world fundamentally constituted by specifically dependent entities, is a world in which nothing strictly speaking moves or changes. Worse, it is a world in which nothing could have been other than it actually is.[14] On the no-relation approach with specific rather than generic dependence, if e.g. trope $white_1$ partly constitutes Lump, then that trope could not exist and constitute some particular object other than Lump. This is so because, if the tropes that together constitute a particular object specifically depend on one another, their union becomes necessary, and tropes become what we may call (strongly) *non-transferable*. This means that on the no-relation approach the (non-empty) possibility that <$White_1$, $hard_1$, and $sweet_1$ exist> could be true while <Lump exists> is simultaneously false is blocked. This is truly unfortunate. As put by Armstrong: "Given the world's particulars, properties and relations, then the nature of the world is ineluctably fixed. A rather mysterious necessity in the world." (1989: 118)[15] In what follows I will assume (plausibly, I believe) that the 'fixed' world-view to which

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[14] There is an important distinction to be made here. True, on the no-relation approach, Lump could not change, yet continue to exist. But this possibility is not merely blocked for the proponent of the no-relation approach. As soon as you identify an object with its constituents there will be a sense in which *it* could not have been different; and so we can hardly put special blame on the no-relation approach for likewise blocking this possibility. What we *can* fault it for is blocking an even more basic possibility. On the no-relation approach, not only could Lump not change yet continue to exist; what now constitutes Lump could not have existed and constituted something else (as well what now constitutes Lump could not have existed and constituted nothing at all – but let's disregard this possibility for the moment so as not to complicate matters too much). *Cf.* also the section "Objection and Replies" below.

[15] Some philosophers have tried to deal with the problematic consequences of combining the no-relation approach with specific dependence without giving it up entirely. In this spirit, Simons (1994) develops a *nuclear* theory intended to leave room for at least some contingency in the universe. Unfortunately, his suggestion fails because it will have to face all the problems facing those who hold that dependence is only generic *as well as* the problems facing those who hold that it is only specific (*cf* my [author's reference suppressed] for a more detailed criticism).

the no-relation approach with specific dependence commits us is only acceptable if there really is no other way in which to secure the possibility of unity in complexity. Before I can argue that there in fact *is* such another way I must, however, make a necessary detour.

Tropes are Transferable

It seems as if the following two questions could at this point be reasonably asked: Are there not reasons, besides that of finding a cure for the Bradleyan disease, for considering tropes as non-transferable? And, provided that those reasons are convincing, does not their existence mean that a rejection of the no-relation approach would still not amount to a rejection of a strangely fixed universe? My immediate answer to these questions is yes and yes. To be able to criticize the no-relation approach for forcing the trope theorist to accept the non-transferability of tropes I must therefore first persuade you that there is no convincing reason that is not simultaneously a Bradleyan reason for holding that tropes are non-transferable.

   The first and perhaps most famous reason for holding that tropes are non-transferable, is given by the so-called swapping argument, first formulated by Armstrong (ibid: 131-132):

Suppose that *a* has property P but lacks Q, while *b* has property Q but lacks P. In general at least, it makes sense to say that *a* might have had Q and not P, while *b* might have had P and not Q. For instance, it is possible that the two electrons in different excited states might each

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have had the state that characterizes the other. Suppose now that we are dealing with property tropes, and that the two tropes involved, P' and P", resemble exactly. Since the two tropes are wholly distinct particulars, it appears to make sense that instead of *a* having P' and *b* having P", the two tropes should have been swapped. But this is a somewhat unwelcome consequence. The swap lies under suspicion of changing nothing.

The only way to avoid this unwelcome consequence, says Armstrong, is to opt for non-transferable tropes. Notice, first, that the swapping argument can be used to prove that tropes *must* be non-transferable only in combination with something like an Eleatic principle.[16] A principle, that is, according to which only what, in one way or another, makes (or, can make) a difference, exists.[17] Whether or not we should assume something like an Eleatic principle is a question that must be left for another occasion. Suppose that we do. Is it true that the swap makes for *absolutely no difference*? Some have argued that this is not true. M. C. Labossiere, for instance, argues from analogy (1993: 262):

Consider, for example, two exactly similar watches, A and B, which have exactly similar batteries. Suppose that a person takes the batteries *a* and *b*, from each watch and swaps them. In such a swap, there would be no qualitative change in the watches. In this case it would seem that there is a real difference because the watches are no longer the same as they were prior to that change. Further, there would be a real change in the causal order of the world. Prior to the change, *a* powered A and after the change *b* is powering A. /…/ Now, it seems that if these intuitions are correct in the case of concrete particulars, they should hold in the case of tropes.

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[16] A principle first formulated by Plato in the *Sophist* (247d-e): "I'm saying that a thing really is if it has any capacity at all, either by nature to do something to something else or to have even the smallest thing done to it by even the most trivial thing, even if it only happens once. I'll take it as a definition that *those which are* amount to nothing other than *capacity*."

[17] An Eleatic principle *is* assumed by Armstrong: "we have no good reason to postulate anything which has no effect on the spatio-temporal world." (1978 vol. 2: 5) Armstrong's principle is discussed and criticised in Oddie (1982).

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As this quote demonstrates, the swapping argument only forces us to conclude that

tropes must be non-transferable if we assume also that only detectable (or verifiable)

differences are *real* differences. It is not obvious why we should accept this restriction,

but suppose, again for the sake of the argument, that we do. Suppose that we agree that

the swapping argument proves that tropes must be non-transferable. Then we must ask

whether the non-transferability which the argument forces us to accept is really such

that it makes it impossible that <White$_1$, hard$_1$, and sweet$_1$ exist> is true while <Lump

exists> is simultaneously false. To be able to discover whether this is so, we must

further investigate the notion of 'non-transferability'. According to R. Cameron (2006),

there are three distinct and different ways in which the non-transferability of tropes

might be interpreted (here ordered according to their strength (ibid: 99-100)):

1. If an object A has a trope F at a time t in a world W, then there is no time t* such that an object distinct from A has F at t*.
2. No thing which is not A can have the trope of A's being F.[18]
3. Not only can no other object have that trope, but that trope *must* belong to that object.

Only on the strongest interpretation (3) does it follow that it is impossible that

<White$_1$, hard$_1$, and sweet$_1$ exist> is true, while <Lump exists> is simultaneously false.

But this is not the sense of 'non-transferable' to which the swapping argument commits

us. It does not commit us to much more than non-transferability in Cameron's weakest

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[18] To avoid the slightly question-begging air of "the trope of A's being F" this understanding is better put as follows: If an object A has F, then no object B (A ≠ B) could have F".

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sense (1). Swapping is prohibited because it would make no *detectable* difference and this is a type of difference that requires us to look at tropes only intra-worldly. But if the swapping argument only commits us to non-transferability in its weakest sense, it cannot be raised in defence of the kind of non-transferability entailed by the no-relation approach with specific dependence.

G. Molnar (2003) also believes that tropes are essentially (strongly) non-transferable (or, as he puts it, that they obey the OWNERSHIP principle[19]), although he does not believe that the swapping argument is what proves this (swapping, he points out, "does not show metaphysical impossibility" (ibid: 44)). What should convince us that tropes are non-transferable are instead the following two arguments. First, there is the "argument from identity" (ibid: 45f):

Tropes have their type identity, which is their exact resemblance to all tropes that are their identical twins. They also have their particularity, or numerical identity. What is it about tropes that determine their numerical identity? Can it be that about them which grounds their type identity, or is it something different? If the latter, then presumably it is something that all tropes have in common, and *that* looks like a universal. There are philosophers who think, 'in trope theory, individual, isolated tropes, compresent with nothing, are admitted as possibilities.' Such theories have the greatest difficulty in giving an account of the numerical identity of (transferable) tropes. The best they can do is to treat that identity as an undefinable primitive. We can do better /…/ tropes get their particular identity from the object that bears them. Their identity is parasitic but well-defined, provided we reject the possibility that two exactly resembling tropes could be had by the same bearer at the same time. That possibility is intuitively unappealing anyway.

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[19] As he puts it (2003: 43): "Properties have to be borne; relations have to have relata." Thus put it sounds as if this is merely a principle of generic dependence. It is, however, clear from the context that Molnar is talking about the specific dependence of tropes on the object to which they belong. Unlike Armstrong, Molnar does not seem to think that the non-transferability of tropes should count in trope-theory's disfavour.

This argument fails because it illegitimately individuates tropes with reference to that which they supposedly constitute – the objects.[20] That is simply to put the cart before the horse. The trope theorist must bite the bullet and treat identity as an undefinable primitive – that is part of the cost of the theory. Identity cannot, therefore, give us an independent reason to hold that tropes are non-transferable.

Molnar next argues that, if tropes are transferable, states of affairs must be posited as a separate ontological category and that, for "Ockhamist" reasons, we should therefore treat tropes as non-transferable (ibid: 45-46):

It can be seen that the argument for *sui generis* states of affairs, which is compelling in the context of an ontology of particulars/universals, or of transferable tropes, loses its force when tropes are assumed to be non-transferable. With tropes non-transferable one can omit states of affairs from the list of the ultimate categories, and make do with, at most, objects, properties, and relations: a significant saving in ontological cost!

Now, even if we accept the Ockhamist principle on which this argument relies, it fails to persuade. First, because it is unclear to me exactly why the fact that tropes are transferable would force one to admit states of affairs as fundamental *sui generis* constituents of reality and why treating them as non-transferable would suddenly exempt one from such a commitment. Second, because even if there really is an 'Ockhamist' reason for treating tropes are (strongly) non-transferable, it is certainly not a very strong reason. Given a choice between a strangely fixed universe, on the one

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[20] Alternatively, it fails because it begs the question against anyone holding that tropes are transferable.

hand, and one extra category (of states of affairs), on the other, I, for one, would choose a slightly enlarged ontology. In this case, added explanatory value (a world with transferable tropes would be one where we could account for the intuition that $<white_1, hard_1,$ and $sweet_1$ exist$>$ can be true, while $<Lump$ exists$>$ is simultaneously false) would trump (maximized) ontological parsimony.

To these arguments we should add one that, from our particular perspective, may seem especially compelling: the trope theorist must regard tropes as non-transferable because if she does not, tropes will not be able to act as truthmakers. According to truthmaker theory, the existence of a truthmaker *necessitates* some truth.[21] If tropes are non-transferable, the trope that is a's F-ness makes true the proposition that $<a$ is F$>$ because it necessitates it. If tropes are transferable, things appear more complicated. How can what happens to be a's F-ness make true $<a$ is F$>$ if (what is now) a's F-ness may very well exist while $<a$ is F$>$ is false?

If trope F *necessarily* belongs to object a, then finding truthmakers for atomic propositions such as $<a$ is F$>$ is straightforward. All that is required is the existence of trope F. Things are not as easy if tropes are transferable. To make true $<a$ is F$>$ more than trope F is required. We also need the object a, and we need something that binds trope F to object a. It is this extra something for which we have been searching all along and finding it is, as Bradley demonstrates, highly problematic. This 'argument',

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[21] *Cf.* n 4, above.

therefore, accomplishes little more than to just highlight the task faced by anyone set out to prove that there can be compresent bundles in a universe with transferable tropes.

As far as I can see there is, therefore, no convincing reason for holding that tropes are non-transferable that is not at the same time a reason for adopting the no-relation approach (i.e. a Bradleyan reason). I can now repeat my claim that only if it turns out that there is no acceptable account of that extra something needed to provide adequate truthmakers for singular existential propositions *with* transferable tropes, should we accept the no-relation approach. Next I will try to convince you that such an account does exist, which means that the fact that non-transferability entails commitment to an implausibly fixed universe gives us reason to reject it.

The Asymmetric Dependence Theory of Relations

I have now arrived at the alternative that I will defend. Once again, a crucial part of Bradley's argumentation is challenged, only now it is his claim that relations need, in turn, to be related rather than his claim that independently existing relations need be posited in the first place, that is questioned.

The Bradleyan regress is generated on the assumption that relations are entities that are in a relevant sense *the same* as the entities they relate. This is why 'adding' a compresence-relation to $white_1$, $hard_1$, and $sweet_1$ does not give us Lump, but merely a

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slightly longer list of entities. I will now argue that this is not how the result of adding a relation should be understood. Relations are relevantly different from the entities they relate – they are *relations*, and so they *relate* – which means that they are precisely the kind of entity that, when added to $white_1$, $hard_1$, and $sweet_1$, gives us Lump.[22]

Now, as already mentioned, to simply state that relations relate is not enough to satisfactorily answer our Moorean truthmaker question. An adequate answer must also include an account of the nature of relations that explains what make them apt to unite distinct relata without vicious infinite regress. This was Bradley's point. The key to a solution to the Bradleyan problem, I will now suggest, lies in a better and more fine-grained understanding of how relation and relata existentially depend on one another. Traditionally it is said that relation and relata may depend on one another in one of two ways; that their dependence is either *internal* or *external*. To say that it is internal, is to say of the relation that it depends for its existence on the existence of its relata and of the relata that they depend for their (joint) existence on the existence of the relation. To say of the dependence that it is external is to say just the opposite; the relation exists independently of the existence of its relata, and the relata exist independently of the existence of the relation.

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[22] A solution to the problem along precisely these lines is suggested by R. Grossmann (1992). Grossmann, however, does not explain what it is about the nature of relations that make them apt to relate without generating a vicious infinite regress. I try to explain just that.

Notice that the traditional account leaves out what would appear to be two equally possible ways in which relation and relata might stand to one another. For, if relation and relata can be symmetrically dependent on, or independent of, one another, what is to stop them from standing in these sorts of dependence relations only asymmetrically? Taking into account not only symmetric, but also asymmetric dependence, gives us the following possibilities:[23]

	Internal	*	**	External
$a, b \rightarrow_{depend} R$	√	√	–	–
$R \rightarrow_{depend} a, b$	√	–	√	–

Relations that depend asymmetrically on their relata (and *vice versa*) appear in columns (*) and (**). In column (*) the relata depend for their existence on the existence of the relation, yet the relation may exist even if the relata do not.[24] In column (**) the relation depends for its existence on the existence of the relata, but here the relata have an existence that does not depend on the existence of the relation.[25]

Bradley was right to hold that the relation that holds between an object and its properties (or, between the properties that together constitute the object), cannot be

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[23] 'a' and 'b' = the relata; R = the relation; $x \rightarrow_{depend} y$ = x depends for its existence on y.

[24] This is admittedly strange and goes against most of our intuitions concerning relations, or so I would think. I will make no use of (*) in what follows, but I leave it in for completeness.

[25] To see some of the consequences of this suggestion, suppose $white_1$ is $compresent_1$ with $hard_1$ ($w_1 C_1 h_1$) – then: $\Box (E!C_1 \rightarrow (E!w_1 \wedge E!h_1))$; $\Box ((x \neq w_1 \vee y \neq h_1) \rightarrow \neg (x C_1 y))$; $\Box (\exists x, y (x C_1 y \rightarrow w_1 C_1 h_1)$

internal.[26] He was right, moreover, when he argued that any attempt to account for the nature of a truly external relation ends up in vicious infinite regress. But he was wrong to conclude from this, that there can be *no* account of relations able to explain and account for the nature and existence of e.g. Lump. Bradley failed to consider all the possibilities. This was no innocent oversight for, as I will next demonstrate, if relations stand to their relata in the sense of (**), Bradley's problem disappears.

Relations that stands to their relata in the sense of (**), are relations such that:

1. Their existence is contingent
2. If they exists, they must relate what they in fact relate – i.e., there is no possible world in which the relation exists and relates entities other than those it actually relates or where the relation exists without relating anything at all.
3. The relata, if they exist, need not be related – i.e., there is some possible world in which the relata exist yet the relation does not.[27]

On this view, adding compresence$_1$ to a world with tropes white$_1$, hard$_1$, and sweet$_1$, is enough to account for the truth of <Lump exists>. Compresence$_1$ cannot *not* relate white$_1$, hard$_1$, and sweet$_1$; it is *essentially* such that it relates exactly these tropes. No implausibly fixed view on the nature of the universe follows from the fact that relations are, in this sense, (strongly) non-transferable; although compresence$_1$ depends essentially for its existence on the existence of tropes white$_1$, hard$_1$, and sweet$_1$, the

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[26] ...at least not if we want our theory to be able to incorporate the possibility that e.g. <white$_1$, hard$_1$, and sweet$_1$ exist> may be true, while <Lump exists> is simultaneously false.

[27] Although the relata, on this account, exist independently of the relation, it need not follow that they can exist *un*related. It may still be true that the relata are *generically* dependent on relation tropes, and so must stand in some, but in no specific, relation. Whether or not the relata are thus generically dependent entities will make no difference to my discussion here.

opposite is not true. This means that there is some possible world in which it is true that $<\text{white}_1, \text{hard}_1, \text{and sweet}_1 \text{ exist}>$, yet false that $<\text{Lump exists}>$. Problem solved.

Q&A

Why, if there is no (independent) reason for treating non-relational tropes as non-transferable, should we accept that *relational* tropes are nevertheless non-transferable?

If trope-relations are non-transferable, propositions such as e.g. $<\text{Lump exists}>$ can be given adequate truthmakers.[28] They can be given adequate truthmakers, moreover, without the cost of an implausibly 'fixed' universe. In a universe with non-transferable trope-relations it is admittedly true that Lump could not (strictly speaking) change without him, thereby, ceasing to exist. But a universe that is fixed in *this* sense is something we will have to live with on any view according to which an object *is* its constituents (i.e. on any view according to which an object is ontologically complex), and so this does not make the world-view to which non-transferable trope-relations commit us in any way *especially* problematic.[29] What we do not have to accept if we accept that there are non-transferable trope-relations (yet what we *do* have to accept if there are non-transferable non-relational tropes) is that what now constitutes Lump

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[28] This entire paper is, in effect, an argument leading up to the conclusions that relations – in order to be able to relate in the requisite way – must be non-transferable tropes.
[29] *Cf.* n. 14

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could not exist and constitute something or someone else instead. That Lump's

constituents *could* exist even if Lump does not is, I take it, most probably a non-empty

possibility. In a world with non-transferable trope-relations there is room for this

possibility; in a world with non-transferable non-relational tropes, there is not.

Suppose it is true that $compresence_1$ is an entity that depends for its existence on the

existence of tropes $white_1$, $hard_1$, and $sweet_1$. How does this solve the Bradleyan

problem? All this tells us is that the only $compresence_1$ worlds are also $white_1$-$hard_1$-

and-$sweet_1$ worlds. What it does not tell us, or so one might argue, is that every $white_1$-

$hard_1$-$sweet_1$-and-$compresence_1$ world is also a world in which $white_1$, $hard_1$, and $sweet_1$

form a *unity*; or at least, it does not tell us *how* they manage to form such a unity.[30]

   The problem, it seems, is this: In order to answer our Moorean question we need to

posit something that can turn what are many into one. On my suggestion, this extra

something is a relation which, by its very nature, is such that it relates (without

contradiction, nonsense or vicious infinite regress). Now, as I have pointed out

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[30] I owe this objection both to Graham Priest (personal communication). Priest has recently developed an alternative solution to the Bradleyan problem which is set against, and depends upon the adoption of, a paraconsistent logical framework (more precisely, Priest develops his theory with the help of logic LP (*cf.* Priest, 1987: chapter 5)). His suggestion is interesting (although I doubt whether it really successfully solves the problem at hand) but since my concern is a solution to the Bradleyan problem set in a more classical framework, discussing it here would take us too far from the main subject of this paper. Priest's solution to the Bradleyan problem was presented at the *Structure and Identity* workshop in Brussels, December 2007.

repeatedly, simply saying that there is something with these extraordinarily practical characteristics is not enough. What Bradley challenges us to explain is precisely what this extra something must be like in order for it to be able to fulfil its unifying feat. Is spelling out the way in which the relation depends on its relata (and *vice versa*) the same as providing the requisite explanation? Yes.

Bradley holds that unity in manifold must be accounted for in one of three ways (if at all). What is One is either identical with each of what is Many taken separately, or it is identical with what is Many taken severally, or, finally, it is identical to what is Many related. As we have seen, Bradley quickly discards the first two options. Let us concentrate, therefore, on the third one. This is not a viable option, Bradley tells us, because there can be nothing – no thing – which manages both to distinguish a mere congeries (white$_1$, hard$_1$, and, sweet$_1$) from a true unity (Lump) while at the same time avoiding ending up in vicious infinite regress. This means, of course, that *if* it could be demonstrated that there are some thing that *can* uphold the distinction between a congeries and a unity, while at the same time not generating a vicious infinite regress, then this *would* in effect be something able to turn what are Many into One. It would, in other words, be a *unifier*. An argument to the effect that there can be some such thing is precisely what is offered in this paper. The conclusion of this paper should therefore count as a solution to Bradley's problem which, given that we identify it with the unity question, means that it should count also as an answer to the unity question.

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There are of course unity questions other than that posed by Bradley. One such question is perhaps this: under what circumstances does a trope-relation – like compresence$_1$ – come into existence? To ask this is, as it turns out, the same as to ask for the existence conditions for concrete particulars (like Lump). Under what circumstances do things like Lump come into existence? To list the conditions necessary for the existence of a concrete particular may turn out to be a difficult task. I can, however, see no reason to think that this is a task that will present an adherent of the views proposed in this text with any *special* challenge.

Relations, conceived of as dependent upon, yet distinct from some specific relata, can do exactly what they were introduced to do. They can solve the Bradleyan problem and they can (thereby) provide adequate truthmakers for propositions like <Lump exists>. For the purposes of this paper, a further discussion of the nature of and existence conditions for relations, even if interesting for other reasons, is not necessary. Although the present account does not fulfil *every* conceivable explanatory task, it therefore nevertheless manages to fulfil its Moorean task.

An Argument for the Existence of Tropes

Could relations, conceived of as asymmetrically dependent entities, feature also in ontological frameworks other than the trope theoretical? No. To be able to solve the Bradleyan problem, first of all, the present suggestion requires that there be room made

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in our ontology for relations. Traditional Nominalism is thereby, and perhaps not very

surprisingly, eliminated. Relations, moreover, must be such that they relate some

particular relata. But this would appear to rule out also any understanding of relations

as universals. At least, it follows that no relation can exist in more than one place at one

moment in time. Some would say that this is bad news, because a question as general as

our Moorean question should not be answered in such an ontologically prejudiced way.

I would say that it depends on the available alternatives. The Bradleyan argument was

meant to prove that a Moorean question had *no* answer. The present suggestion

disproves this conclusion. Rival suggestions suffer, as I have tried to show, from

serious difficulties. If my suggestion turns out to be the *only* viable answer to the

Moorean question, an answer that *cannot* be combined with a universal realism (at least

not one for relations); this is bad news indeed. Only, it is not bad news for the present

suggestion; it is bad news for universal realism. Ironically (remember the Russellian

attempt to prove the opposite (*Cf.* Russell, 1956(1912): 111f.), relations can end up

being what provides the trope theorist with her best argument for preferring tropes to

entities posited in rival ontologies.

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