

TRUTHMAKING: WITH AND WITHOUT COUNTERPART THEORY

Phillip Bricker

According to the Truthmaker Principle: every truth has a truthmaker. Spelled out a bit more exactly: for every true proposition, there is some entity whose existence entails, or necessitates, the truth of the proposition. The demand for truthmakers has been championed most vigorously by David Armstrong, who, following C.B. Martin, touts it as a way to keep philosophers honest by requiring that they pay the full ontological cost of their theories.¹ Numerous philosophical views, including versions of phenomenalism, behaviorism, and presentism, would seem to run afoul of the Truthmaker Principle. Moreover, according to Armstrong, the demand for truthmakers provides an alternative to the orthodox Quinean approach to ontological commitment, which, due to its narrow focus on the quantifiers, tends to underestimate the ontological cost of theories.² As David Lewis writes: “We can scarcely exaggerate the importance of the demand for truthmakers throughout Armstrong’s writings.” (Lewis 1992, 215)

Attempts to come to grips with the Truthmaker Principle played a prominent role in Lewis’s metaphysical writings over the last fifteen years of his career. He first grappled with the principle in “A Comment on Forrest and Armstrong.”³ Then he launched a critique of the principle in reviews of Armstrong’s books, *A Combinatorial Theory of Possibility* and *A World of States of Affairs*.⁴ Although Lewis agreed that the truth of propositions must somehow be ontologically grounded, the Truthmaker Principle was too strong; it conflicted with two of Lewis’s most fundamental metaphysical assumptions, the uniqueness of composition and the Humean denial of necessary connections. Lewis endorsed instead a weaker principle according to which truth supervenes on being: any true proposition is made true by the pattern of instantiation of fundamental, or perfectly natural, properties and relations among particular things.⁵ Then, in a series of three papers, among his final writings in metaphysics, he further developed and crystallized his view. In Lewis (2001b) he argued that the Truthmaker Principle, even if accepted, does not support a correspondence theory of truth. In Lewis (2001a), he sharpened his critique of the Truthmaker Principle by showing that it is equivalent to an implausible principle as to how possible worlds must differ. Finally, in Lewis (2003a) and Lewis and Rosen (2003b), he changed course, noting that his critique of the

¹ See especially Armstrong (1989), (1997), and (2004).

² I critically discuss this aspect of truthmaking theory in Bricker (forthcoming a).

³ Lewis (1986c). This was a reply to comments delivered by Peter Forrest and David Armstrong on Lewis (1986b).

⁴ Lewis (1992) and Lewis (1998), respectively.

⁵ See also Lewis (1994a) and Lewis (1994b) for statements and endorsement of idea that truth supervenes on being. Lewis uses ‘fundamental’ and ‘perfectly natural’ interchangeably; see Lewis (2009) for the terminological pros and cons. In this essay I stick with ‘fundamental’.

Truthmaker Principle rested on essentialist assumptions that he, as a counterpart theorist, does not accept. Once freed from those assumptions, a counterpart theorist can accept the Truthmaker Principle after all without buying into unmereological composition and mysterious necessary connections. Ironically, it is Lewis, not Armstrong, who can accept the Truthmaker Principle without paying a hefty metaphysical cost.

The divide over the Truthmaker Principle corresponds to a divide over fundamental ontology. For Armstrong, the demand for truthmakers leads to an ontology of *facts*, or *states of affairs*, thus supporting Wittgenstein's famous Tractarian saying: "the world is the totality of facts, not of things." (I will stick with Armstrong's preferred term 'state of affairs' in what follows.) States of affairs are (somehow) composed of particulars and immanent universals, and are themselves immanent entities that go towards making up the world. How abundant are the states of affairs? I will suppose at a minimum that all states-of-affairs theorists accept a full slate of *atomic* states of affairs: for any atomic proposition $Ra_1a_2\dots$, there is an atomic state of affairs S such that, necessarily, S exists (obtains) if and only if $Ra_1a_2\dots$ is true.⁶ For Lewis, states of affairs are trouble. Lewis is a *thing theorist*: the world is a *thing*, the *biggest* thing; and every spatiotemporal part of the world, no matter its shape or size, is also a thing. Perhaps in addition to things there are non-spatiotemporal components of things – immanent universals or tropes. Lewis remained agnostic between a nominalist and a realist version of thing theory. But a thing theorist does not admit states of affairs. Both Lewis and Armstrong hold that truth is ontologically grounded. But whereas Armstrong thinks that states of affairs are needed to ontologically ground truth, Lewis holds that an ontology of things (perhaps together with immanent properties and relations) provides ground enough.

Here, in brief outline, is the plan of the following essay. In §1, I introduce the idea of truthmaking, and consider how much truthmaking can be done by *things* without making controversial assumptions in modal metaphysics. In §2, I present Armstrong's account of truthmaking and the states of affairs he thinks are needed to play the role of truthmakers. In §3, I present Lewis's view that the Truthmaker Principle does not make any claim about the notion of truth, and *a fortiori* should not be taken to be a version of the correspondence theory of truth. In §4, I present Lewis's critique of the Truthmaker Principle, and the ontology of states of affairs that (typically) goes with it. In §5, I present Lewis's claim that, as a counterpart theorist, he can accept the Truthmaker Principle after all. Here, however, I think Lewis's position needs to be amended. Finally, in §6, I present and discuss Lewis's alternative to the Truthmaker Principle, the idea that "truth supervenes on being".

⁶ Here a_1, a_2, \dots are (one or more) particulars and R is a (monadic or polyadic) universal. Since the universals are *sparse* on Armstrong's theory, so are the atomic propositions, and the atomic states of affairs. On the distinction between sparse and abundant conceptions of properties and propositions, see Lewis (1986a, 59-63).

1. *The Theory of Truthmaking.*

Before considering Lewis's critique of the Truthmaker Principle, we need to bring the principle into sharper focus, and view the principle through Lewis's eyes. Lewis's discussion of the principle (prior to Lewis (2003a)) was meant to be neutral with respect to controversial metaphysical assumptions, such as his own modal realism, or his counterpart theory. He supposed only that talk of possible worlds made sense, whether worlds were taken to be concrete, or abstract, or fictional; and that entities could be said to exist in multiple possible worlds, whether existing-in-a-world was to be understood in terms of "transworld identity" or counterpart relations. Moreover, as should go without saying, Lewis interpreted the principle in terms that he found intelligible, so without recourse to a primitive grounding, or dependence, or in-virtue-of relation.

First, I ask: how does Lewis understand the truthmaking relation? For Lewis, truthmaking is a modal relation, and is to be understood in terms of strict implication. When an entity makes a proposition true, it is metaphysically impossible for that entity to exist without the proposition being true. Thus, as an initial formulation of the Truthmaker Principle, we have:

(TM) For every true proposition P , there exists some entity T such that, necessarily, if T exists, then P is true.

Three things should be noted at the start. First, on this account, the truthmaking relation – a relation between *entities* and propositions – is analyzed in terms of strict implication – a relation between *propositions* and propositions.⁷ The analysis requires the assumption that, for any entity, there is a proposition asserting that that entity exists. This assumption, however, is not problematic on an abundant, non-linguistic conception of propositions of the sort that Lewis is supposing (see below). The analysis has the consequence that it is a trivial analytic truth that any (existent) entity is a truthmaker for the proposition that that entity exists. But that seems exactly right.

Second, on this account, the Truthmaker Principle is an assertion of modality *de re*: it involves quantifying into a modal context. It thus presupposes that modality *de re* is coherent (*pace* Quine). In particular, it presupposes that it makes sense to say that an entity exists in multiple worlds. For Lewis, since possible worlds are concrete and do not overlap, modality *de re* must be interpreted using counterpart theory (see §5). But Lewis's discussion of (TM)

⁷ This contrasts with Armstrong's account, according to which truthmaking is a primitive, cross-categorical relation (Armstrong 2004, 5). Armstrong argues against reducing the truthmaker relation to *entailment* (p. 6). But his argument depends upon taking entailment to be a more fine-grained relation between propositions than is strict implication, and so would not apply to Lewis's account.

(prior to Lewis (2003a)) does not presuppose any particular account of possible worlds or of *de re* representation.

Third, (TM) does not by itself assert that all truths are *ontologically grounded* because the truthmaking relation, as Lewis understands it, does not require truthmakers to be in any way fundamental. Consider the following example. On standard assumptions, I cannot exist without my singleton, nor can my singleton exist without me. Thus, according to (TM), not only am I a truthmaker for the proposition that my singleton exists, but my singleton is a truthmaker for the proposition that I exist; for my singleton is such that, necessarily, if it exists, then I exist. But, surely, the truth that I exist is not *grounded* in the existence of my singleton. If a truthmaker theorist wants to capture the idea that truth is ontologically grounded, she has a choice. She can enhance the notion of a truthmaker, requiring that a proposition *P* is made true by an entity *T* only if, both, *P* is strictly implied by the existence of *T* and *P* holds *in virtue of T*. (Cf. Armstrong (2004, 17)) (Depending upon how the in-virtue-of relation is understood, the first conjunct may be redundant.) Or, she can keep the truthmaking relation as it is, realizing that something more will have to be added to (TM) to capture the idea that all truths are ontologically grounded. I will follow Lewis in taking the latter course. Lewis's critique of (TM) is not affected by this choice. Arguably, the intuitive notion of *making* a proposition true includes the notion of grounding; but the terminological decision not to so include it won't lead to trouble if it's made clear at the start.

Next I ask: in taking the bearers of truth to be propositions, what conception of proposition does Lewis intend to invoke? For Lewis, there are many equally legitimate conceptions of proposition; which conception is appropriate to a given task depends upon the role that the propositions are required to play, be it semantic, or epistemic, or metaphysical. (See Lewis (1986a, 53-55)) In the context of seeking truthmakers, what matters is only the *content*, irrespective of how that content is represented, or whether that content is in any way fundamental. When content alone matters, Lewis identifies propositions with classes of possible worlds. But for his critique of the Truthmaker Principle, Lewis does not want to impose his own view, and assumes only the following. First, propositions are not linguistic entities, nor in any way tied to language; the metaphysical demand for truthmakers should not be limited by the expressive capabilities of actual languages, or even humanly possible languages. Second, propositions are abundant to at least this extent: for any possible world, there is a proposition asserting that that world is actualized. Beyond this, Lewis's assumptions on propositions are standard: the propositions form a Boolean algebra, and thus are closed under the standard Boolean operations of conjunction, disjunction, and negation.

By formulating the Truthmaker Principle as (TM), Lewis endorses what Armstrong calls "Truthmaker Necessitarianism": if *T* is a truthmaker for *P*, then there is no possible circumstance in which *T* exists but *P* fails to be true. For to allow that there might be such a circumstance is just to concede that the existence of *T*, by itself, is not enough to make *P* true, that something more is

needed. (See Armstrong (2004, 6-7)) Truthmaking, then, unlike for example causation, isn't a merely contingent affair.

Formulating the Truthmaker Principle as (TM) commits Lewis also to the converse of Truthmaker Necessitarianism: if the existence of T strictly implies P , then T is a truthmaker for P . This consequence of (TM) appears to be problematic. For example, supposing arithmetical truths to be necessary, it makes me a truthmaker for the proposition that $2+2=4$. More generally, it makes any (existent) entity whatsoever a truthmaker for any necessary truth. Truthmaking for necessary truths is thus trivialized.

Lewis has little to say about the problem of truthmaking for necessary truths. I take it that there are three main lines of response. First, one could simply accept that necessary truths lack non-trivial content: they apply indiscriminately to everything, and so everything is on a par with respect to making them true. This response might be acceptable for logical truths, and perhaps even for analytic truths; but it seems especially implausible for truths of mathematics or metaphysics. Second, one could replace strict implication with a more discriminating *relevant* entailment relation: my existence does not *relevantly* entail that $2+2=4$.⁸ Third, one could introduce alongside the metaphysically possible worlds *mathematically* possible worlds wherein the mathematical entities reside. (This is the response that I would prefer.) Mathematical truths are, strictly speaking, true only in mathematical worlds, and so not, strictly speaking, necessary. Since I do not exist in any of the mathematically possible worlds, I am not a truthmaker for any (purely) mathematical truth. Only mathematical entities, on this approach, can be truthmakers for mathematical truths. Nor are we forced to say that any mathematical entity is a truthmaker for any mathematical truth. The number 1, for example, is arguably not a truthmaker for $2+2=4$ because there are mathematical worlds in which mod 3 arithmetic holds, and so in which the number 1 exists but the number 4 does not, and so $2+2\neq 4$. Although Lewis suggests briefly that he would favor some version of the second (relevant entailment) response, he chooses instead in all of his discussions of truthmaking to sidestep the issue by considering only a restricted version of (TM) according to which only *contingent* propositions are required to have truthmakers. For the remainder of this essay, I will suppose that (TM) (and any variant introduced below) has been restricted in this way, and I will say no more about the problem of finding truthmakers for necessary truths.⁹

⁸ For suggestions along these lines, see Restall (1996).

⁹ Restricting the scope of (TM) to contingent propositions, however, may not succeed in sidestepping the problem if there are distinct contingent propositions that are necessarily equivalent; any two such propositions could not differ with respect to their truthmakers. (On Lewis's own account of propositions, according to which propositions are classes of possible worlds, necessarily equivalent propositions are identical; but Lewis's professed neutrality prohibits him from presupposing this account.) The conjunction of any necessary proposition with a contingent proposition is contingent. Once we allow that

Next, I turn to the task of finding truthmakers for various sorts of truth. I start with cases of truthmaking that are undisputed common ground, acceptable to both a thing theorist and a states-of-affairs theorist. Consider first *essential predications*. Suppose, for example, that the property of being a dog is essential to whatever has it, and that Fido is some actual dog. Then, Fido is a truthmaker for the proposition that Fido is a dog. For Fido is such that, necessarily, if he exists then he is a dog. Similarly, Fido is a truthmaker for the existential proposition that dogs exist. For Fido is such that, necessarily, if he exists then dogs exist. Now consider any proposition that is strictly implied by *Fido is a dog*, for example, *Fido is a mammal*. Clearly, Fido is also a truthmaker for this weaker proposition. More generally, we have as a consequence of (TM) what Armstrong (2004, 10) calls *the Entailment Principle*, but with strict implication standing in for entailment:

(EP) Whenever T is a truthmaker for a proposition P , and P strictly implies Q , then T is also a truthmaker for Q .

It follows from (EP) that the truthmaking relation is one-many: a single entity is a truthmaker for many – infinitely many – true propositions.

Now, let's consider truthmakers for disjunctions and conjunctions. Suppose that the property of being a cat is essential to whatever has it, and that Tabby is some actual cat. Consider the disjunctive proposition that Fido is a dog or Tabby is a cat. Since a disjunction is strictly implied by each of its disjuncts, it follows immediately from (EP) that both Fido and Tabby individually are truthmakers for the proposition that Fido is a dog or Tabby is a cat. The truthmaking relation, then, is many-one as well as one-many. In particular, disjunctive entities needn't be introduced to make disjunctions true. Now, what about the conjunctive proposition that Fido is a dog and Tabby is a cat? Neither Fido nor Tabby alone can make the conjunction true, since there are worlds where Fido exists without Tabby, and vice versa. The most natural thing to say, surely, is that *they together* make it true, that in this case the truthmaking relation holds between *two* things and a proposition, and that, in general, the truthmaking relation takes a plural

there are distinct necessary propositions that differ with respect to their truthmakers, it is hard to see how the conjunctions of these necessary propositions with a contingent proposition would not also be distinct propositions that differ with respect to their truthmakers. So if there was a problem to begin with, simply restricting (TM) to contingent propositions won't solve it. The right way to sidestep the problem is this: first, form a quotient algebra of the Boolean algebra of propositions by identifying necessarily equivalent propositions; then, second, restrict the scope of (TM) to the resulting equivalence classes of contingent propositions, what might be called the *thoroughly contingent* propositions. All quantification over propositions in what follows is tacitly restricted to the thoroughly contingent propositions.

argument in its first place. This suggests that we consider a plural version of the Truthmaker Principle:

(TMP) For every true proposition P , there exist some one or more entities T_1, T_2, \dots such that, necessarily, if all of the T 's exist, then P is true. (Cf. Lewis (2001a, 607))

Is (TMP) a weaker demand for truthmakers than (TM)? That depends on whether whenever some entities plurally make a proposition true, there is always a single entity that makes the proposition true on its own. There are two prominent candidates for bridging the gap between (TMP) and (TM): classes and mereological sums. Suppose first that one is a realist about classes. Then classes, it seems, can bridge the gap, since, first, class formation is universal – whenever there are some things, there is a class having as members all and only those things – and, second, classes have their members essentially. It follows that whenever T_1, T_2, \dots are plurally truthmakers for P , the class of T_1, T_2, \dots is a single truthmaker for P .¹⁰ But realism about classes is controversial; and if instead one accepts a fictionalist or structuralist account of classes, classes lack the *bona fides* to perform the task of truthmaking.

I suggest, then, that we look elsewhere for bridging the gap. So suppose now that one is a realist about the mereological sums of classical mereology. In particular, assume (with Lewis and Armstrong) universal composition: whenever there are some things, there is a mereological sum of those things. Assume further mereological essentialism according to which wholes have their parts essentially: for any thing and any part of that thing, necessarily, if the thing exists, then the part exists as well. Then sums can bridge the gap between (TMP) and (TM). Whenever there are T 's such that, necessarily, if all of the T 's exist, then P is true, then the sum of the T 's is such that, necessarily, if the sum exists, then P is true. Mereological essentialism, of course, is controversial in ordinary contexts: my left hand is part of my body, but my body, we ordinarily think, could have existed though it never had a left hand as a part. A counterpart theorist such as Lewis, however, will allow that there are also contexts that evoke a counterpart relation that makes mereological essentialism true. If truthmaking contexts evoke such a counterpart relation, then we have as much of mereological essentialism as we need. (See §5 for further discussion of mereological essentialism.) In any case, since nothing that follows hangs on the difference between (TMP) and (TM), I will forgo neutrality by assuming universal composition and mereological essentialism (in truthmaking contexts), and focusing henceforth only on (TM). Taking sums of truthmakers to be truthmakers allows that truthmakers need not be *ordinary* things; for example, a truthmaker for the conjunction, Fido is a dog and Tabby is a cat, is the sum of Fido and Tabby. But, ordinary or not, nothing beyond the category of things has

¹⁰ As Lewis (2001a, 608) notes, this requires that none of the T 's is itself a proper class, since proper classes are not members of proper classes. Lewis provides a way around the problem.

had to be introduced to serve as truthmakers for the propositions thus far considered.

Once we accept universal composition and mereological essentialism, we can establish a flipside to the Entailment Principle that I will call the Parthood Principle:

(PP) If T is a truthmaker for P , and T is a part of T' , then T' is a truthmaker for P .

Call the mereological sum of all (actual, existing) entities the *world*. It follows immediately from (PP) that, if a proposition has any truthmakers at all, then the world is a truthmaker for the proposition. Say that an entity *discerns* one proposition from another just in case it is a truthmaker for the one but not the other. Then, the world is the least discerning truthmaker, and, as such, not a very interesting truthmaker.¹¹ If, as Armstrong thinks, the search for truthmakers is a rival to Quine's method for uncovering the ontological commitments of propositions, we should be searching for more discerning truthmakers; it is no news, after all, that the world exists. Two ways of supplementing the Truthmaker Principle so as to require more discerning truthmakers come readily to mind. First, atomic truths (and intrinsic predications generally) should have discerning truthmakers:

(SUP₁) For any atomic truth $Ra_1a_2\dots$, there exists a truthmaker involving at most a_1, a_2, \dots and R .

For the states-of-affairs theorist, of course, the corresponding atomic state of affairs is the required discerning truthmaker. Second, although in general the truthmaking relation is many-many, for the case of atomic propositions, there are truthmakers with respect to which the relation is one-one:

(SUP₂) Distinct atomic truths have distinct truthmakers.

Again, this supplement to the Truthmaker Principle is automatic for a states-of-affairs theorist: atomic states of affairs are the required discerning truthmakers. The extent to which a thing theorist can accept these supplements to the Truthmaker Principle will be discussed in §5.

Let's take stock. Thus far, we have found truthmakers for essential (monadic) predications, for singular existential propositions, for general existential propositions that generalize over essential properties, and for propositions that can be generated from these by taking disjunctions and conjunctions. And these truthmakers have all been compatible with a thing ontology, where mereological sums of things are taken also to be things. But what about all the propositions not yet included? Don't they too have to be ontologically grounded? The acceptance of (TM), what Armstrong calls

¹¹ Unless, perhaps, one is a priority monist. See Schaffer (2010).

Truthmaker Maximalism, demands that *every* truth have a truthmaker. The Truthmaker Maximalist needs, then, to find truthmakers for inessential predications, both monadic and polyadic, for general propositions, and for negative propositions. According to Armstrong, a thing ontology will not be able to meet this demand. Finding appropriate truthmakers for these propositions leads to an ontology of states of affairs.

2. Truthmaking and States of Affairs

I turn now to Armstrong's theory of truthmaking and the introduction of states of affairs. I start with the simplest case: a predication where the property predicated is intrinsic but not essential to the subject. For example, consider the (singular) proposition I express when, looking at a red ball, I say: "the ball is red". Is the ball a truthmaker for this proposition? Although it may seem as though, in some sense, the ball does indeed make this proposition true (see later in this section, and also §5), taking the ball to be a truthmaker is incompatible with (TM) given our ordinary attributions of modality *de re*. For the ball is only contingently red; it could have existed and been blue, or some other color. So, it is false that the ball is such that, necessarily, if the ball exists, then the ball is red; the ball fails as a truthmaker. Somehow, a truthmaker for the proposition that the ball is red must carry the redness with it wherever it goes. Suppose, then, that there is an immanent universal of redness that the ball instantiates; and consider the mereological sum of the ball and this universal. Could this sum be a truthmaker for the proposition that the ball is red? Although the sum necessitates that the ball exists and that redness exists (is somewhere instantiated), it does not necessitate that the ball is red; the sum could exist if the ball were blue and something else were red. (The class having as members the ball and the universal does no better, for a similar reason.) A truthmaker for the proposition that the ball is red must somehow *unify* the ball and redness, and the unification must itself be necessary. The "obvious candidate" for such a unified truthmaker, Armstrong claims (1997, 116), is the *state of affairs* of the ball's being red. For this state of affairs is such that, whenever it exists, not only do the ball and redness both exist, but the ball instantiates redness. States of affairs, if such entities exist, are made for the role of truthmaking. Accepting the demand for truthmakers, then, gives good and sufficient reason for believing that states of affairs exist.

Armstrong calls the above argument for states of affairs *the truthmaker argument*, and says (in Armstrong 1997, 115) that it is "perhaps the fundamental argument of this book." If the argument is sound, then the demand for truthmakers has substantial ontological consequences. Three caveats, however, are in order. First, positing a state of affairs to serve as truthmaker for an intrinsic predication is only justified, given Armstrong's sparse account of states of affairs, when the property predicated is (or corresponds to) a universal. Without that restriction, the truthmaker argument could be used to support the existence of negative, or disjunctive, states of affairs. Second, as Armstrong concedes, states of affairs might not be the only entities that can fill the

truthmaking role (Armstrong 1997, 119). Indeed, if we switch from an ontology of universals to an ontology of tropes (particularized properties), and we allow that tropes are *non-transferrable* – that a trope cannot be instantiated by anything other than what actually instantiates it – then tropes can take the place of states of affairs as truthmakers for intrinsic predications. But, for lack of space, I will say no more in this essay about tropes as truthmakers. Problems for taking states of affairs to be truthmakers tend to have parallel problems for non-transferrable tropes; and, in any case, Lewis’s critique of (TM) was directed predominantly at Armstrong’s account in terms of states of affairs.

Third, Armstrong identifies what he calls “thick” particulars with certain conjunctive states of affairs, which has the effect of allowing thick particulars to be truthmakers for intrinsic predications. Consider a state of affairs of *a’s being F*. This state of affairs has two constituents: the “thin” particular, which I will call *a-*, and the universal *F*; the relation of instantiation holds between *a-* and *F*. The thin particular, according to Armstrong, is “the particular in abstraction from its properties”. (Armstrong 1997, 123) The thick particular, which I will call *a+*, on the other hand, is “the particular taken along with all and only the particular’s non-relational properties”.¹² (Armstrong 1997, 124) Let *N* (for nature) be the conjunction of all the universals instantiated by *a-*. Then, the thick particular, *a+*, according to Armstrong, is the state of affairs of *a’s being N*. Now, back to our red ball. The proposition that the ball is red predicates a property of a thin particular. In the truthmaker argument, it is this thin particular that fails to be a truthmaker for the proposition. But if instead we consider the ball as a thick particular, a conjunctive state of affairs, then the ball *is* a truthmaker for the proposition after all; for the state of affairs of the ball being red is a conjunct (and so for Armstrong a part) of the thick particular, and must exist whenever the thick particular exists.¹³ This concession undermines the claim, from the perspective of a states-of-affairs theorist, that a thing ontology is inadequate to the task of providing truthmakers for intrinsic predications; for it is thick particulars, presumably, not thin particulars, that a states-of-affairs theorist should take to be the things of the thing theorist. (In §5, we will see that the claim is also undermined from the perspective of a thing theorist who accepts counterpart theory.) At best, the states-of-affairs theorist can claim that things cannot provide sufficiently discerning truthmakers for intrinsic predications, since the ball is a truthmaker not only for the proposition that the ball is red, but also for other intrinsic predications, such as the proposition that the ball is round. But put this aside for now. Lewis (prior to Lewis 2003a) accepts the truthmaker argument, that the demand for

¹² We need not concern ourselves, when we say ‘*a is F*’, with whether ‘*a*’ refers to the thick particular *a+* or the thin particular *a-*; either way, the meaning of the predicate ‘*is F*’ can be adjusted to make the truth conditions of the whole sentence come out right.

¹³ Here, however, I wonder what justifies Armstrong’s identification of a conjunction of atomic states of affairs with a state of affairs having a conjunctive universal as a constituent.

truthmakers leads to the postulation of states of affairs; his target, rather, is (TM) and the states of affairs themselves.

In any case, perhaps the Truthmaker Principle makes a stronger case for states of affairs when applied to general or negative propositions. Consider, for example, the general proposition that all humans weigh less than a ton. (Pretend that *being human* and *weighing less than a ton* are universals.) This proposition, if true, is contingently true: it is not impossible for there to exist a supersized human weighing more than a ton. But no thing (or thick particular) could be a truthmaker for the proposition because, assuming even a weak Humean principle of recombination, no thing necessarily excludes the existence elsewhere of a supersized human. In general, no contingent general proposition is made true by a thing, because any thing is compatible with the existence of a distinct thing that is a counterexample to the general proposition.¹⁴

To meet the demand for truthmakers for general propositions, Armstrong introduces *totality states of affairs*. Say that a sum *totals* a property if and only if everything that has the property is a part of the sum. For Armstrong, the totalling relation is a dyadic universal, second-order in its second *relatum*. Whenever a sum stands in the totalling relation to a property, a (second-order) *totality state of affairs* exists.¹⁵ For example, there is a totality state of affairs asserting that the sum of all humans totals the property *being human*. Now return to the proposition that all humans weigh less than a ton. For each human, consider the state of affairs asserting that he or she is human, and the state of affairs asserting what that human weighs. Conjoin all these states of affairs with the above-mentioned totality state of affairs. This conjunctive state of affairs is such that, necessarily, if it exists, then all humans weigh less than a ton. We have found a truthmaker for the general proposition. More generally, consider the proposition that all *F*'s are *G*'s, where *F* and *G* are universals. Let a_1, a_2, \dots be all the *F*'s. Then, the state of affairs of a_1 's *being F* & a_1 's *being G* & a_2 's *being F* & a_2 's *being G* & ... & the sum of a_1, a_2, \dots *totaling F* is the sought-after truthmaker. Further, if we take a_1, a_2, \dots to be thick rather than thin particulars, then all the conjuncts are included in the one totality state of affairs, and the totality state of affairs, by itself, is a truthmaker for the general proposition.¹⁶

¹⁴ See Bricker (2006, 256-262) for a more nuanced discussion of the argument that things cannot be truthmakers for general propositions. See Lewis (1986a, 86-90) for the (weak) Humean principle of recombination that underlies the argument.

¹⁵ Two notes: First, Armstrong says "aggregate" rather than "sum", but elsewhere identifies aggregates with (mereological) sums. Second, I will suppose that the second *relatum* of the totalling relation is always a universal; it is unclear how else to justify the existence of the corresponding totality state of affairs.

¹⁶ Armstrong gives a somewhat different, but equivalent, account of how totality states of affairs provide truthmakers for general propositions in Armstrong (2004, 74). In any case, I see a problem. If the *F*'s overlap in such a way that some *F* is mereologically composed of parts of other *F*'s, then it is possible for a

One might hope that a solution to the problem of finding truthmakers for general propositions would immediately carry over to the problem of negative existentials, since every negative existential proposition is logically equivalent to a general proposition. But if the equivalent general proposition generalizes over a negative property, the solution won't carry over unless we already have a solution to the problem of finding truthmakers for negative predications. Consider, for example, the negative existential that there are no purple swans. (Pretend that *being a swan* and *being purple* are universals.) This is equivalent to the general proposition that all swans are not purple. We have the totality state of affairs of *the sum of s_1, s_2, \dots totalling the property being a swan*, where s_1, s_2, \dots are all the swans. But we don't yet have truthmakers for the negative predications *s_1 is not purple*, *s_2 is not purple*, and so on. Moreover, taking s_1, s_2, \dots to be thick particulars won't guarantee that the totality state of affairs is a truthmaker for the negative existential unless we have a guarantee that *being purple* couldn't possibly be added to the nature of any of the s 's.

Let us then consider the problem of finding truthmakers for negative predications such as *a is not F* , where F is a universal. We could, of course, simply postulate negative states of affairs to play the truthmaking role. But, if the states-of-affairs theorist cares about ontological economy, this should be a last resort. Sometimes, at least, positive atomic states of affairs can serve as truthmakers for negative predications. For example, returning to the red ball, the proposition that the ball is not blue is plausibly made true by the state of affairs of *the ball being red*. For, arguably, *being blue* and *being red* are necessarily incompatible properties. In general, if a thing a instantiates a determinate F from a determinable, then (arguably) the atomic state of affairs of *a being F* is a truthmaker for the negative predication that a is not G , where G is any other determinate from that determinable. But this solution (called the "incompatibility solution" by Armstrong) doesn't generalize. For it does not seem necessary that, whenever a particular lacks a property, there must be some other property that it has that is incompatible with the property it lacks. Suppose, for example, that neutrinos can be *massless* in the sense of instantiating no mass property whatsoever, not even the property of having zero mass (if such there be). Consider the negative predication that some neutrino n doesn't have mass 1 kg. In this case, all positive states of affairs involving n are compatible with n having a mass of 1 kg (given a plausible principle of recombination for properties), and so cannot serve as truthmakers for the negative predication.

But perhaps totality states of affairs, which are needed in any case to serve as truthmakers for general propositions, can do double duty as truthmakers for negative predications. To see how, note that the proposition that a is not F (for universal F) is equivalent to a general proposition quantifying over universals: all universals instantiated by a are distinct from F . Suppose that G_1, G_2, \dots are all

sum of F 's to total F without being all the F 's, and the account fails. This problem could be solved by taking the first *relatum* of the totalling relation to be a class, rather than a sum; though this raises further issues about the ontological status of classes, and states of affairs involving classes.

the universals instantiated by a , and that F is distinct from all of the G 's. Consider the totality state of affairs asserting that the sum of G_1, G_2, \dots totals the property of being a universal instantiated by a . This is a truthmaker for the proposition that a is not F . For this totality state of affairs is such that, necessarily, if it exists, then no universal other than G_1, G_2, \dots is instantiated by a , and so (since F is *necessarily* distinct from all of the G 's) F is not instantiated by a . Taking this totality state of affairs to provide the ontological ground for a simple negative predication might seem suspicious: unlike the second-order totality states of affairs postulated to ground general truths, this totality state of affairs is effectively third-order, relating a sum of properties to a property of properties. Such is the price for repudiating negative atomic states of affairs.

By introducing totality states of affairs, Armstrong provides truthmakers for general and negative propositions, where the properties generalized or negated are universals. But what about the rest of the propositions, including the vast majority of propositions that we think or assert? If we drop any concern with finding discerning truthmakers, we can retreat to the idea that the world *in toto* is a truthmaker for all truths. What is the world for a states-of-affairs theorist? The world must be taken to include, in addition to all the atomic states of affairs, the grand totality state of affairs asserting that these are all the atomic states of affairs. If the world instead were taken to be a big thing, the cosmos, it would not be a truthmaker for general and negative truths, since it would not include the *limits* that these general and negative truths depend on. Totality states of affairs are needed – at least the one grand totality state of affairs – to provide these limits, to provide the ground for general and negative truths. Or so says Armstrong, who, following Russell, rejects as inadequate the Tractarian account according to which all states of affairs are atomic and first-order.

3. *Truthmaking and Theories of Truth.*

Before turning to Lewis's critique of Armstrong's truthmaking theory, it is worth considering a side dispute over the relation between the Truthmaker Principle and theories of truth. Truthmaker theorists such as Armstrong often claim that the Truthmaker Principle is a stripped-down version of the correspondence theory of truth. "Stripped-down", because the correspondence it invokes between truths and states of affairs (a.k.a. facts) is many-many, not one-one, and because it is neutral as to whether the internal structure of propositions, if any, "pictures" the internal structure of states of affairs. This allows the correspondence theorist to embrace a sparse account of states of affairs, paralleling a sparse account of the universals that are constituents of states of affairs. Just as there are no negative or disjunctive universals, so there are no negative or disjunctive states of affairs. Nonetheless, the essential core of a correspondence theory is upheld: a proposition is true if and only if it (appropriately) corresponds to some state of affairs, where the truthmaker relation, it is claimed, provides the appropriate correspondence.

Lewis disagrees. In "Forget About the Correspondence Theory of Truth" (Lewis 2001b), he argues that Armstrong's truthmaker theory is not correctly

described as a version of the correspondence theory of truth, or as a rival to the other standardly mentioned theories of truth such as the redundancy, coherence, or pragmatic theories. Indeed, Lewis thinks that nothing that has gone by the name “correspondence theory of truth” should be counted among the rival theories of truth. Talk of the correspondence theory of truth should be banished from philosophy.

First, some stage setting. Lewis, himself, is a redundancy theorist, at least with respect to *propositional* truth.¹⁷ For each proposition, there is what he calls a redundancy biconditional. For example, for the proposition that cats purr, there is the biconditional: the proposition that cats purr is true iff cats purr. This, and any other, redundancy biconditional is “trivial, necessary, and knowable *a priori*”. (Lewis 2001a, 602) That is the positive side of the redundancy theory. But there is also a negative side: the redundancy biconditionals are all there is to a theory of (propositional) truth. No substantial property of truth is needed to play any theoretical role. Rather, the truth predicate is needed in ordinary language only to play a practical role: it allows us to form generalizations that “make a long story short”. To use his example, the generalization “whatever the Party says is true” is equivalent to an infinite bundle of conditionals: “if the Party says that two and two make five, then two and two make five”; “if the Party says that we have always been at war with Eastasia, then we have always been at war with Eastasia”; and so on, with a conditional for every proposition. If we had world enough and time, perhaps we could assert each member of the bundle individually; but we don’t, and hence the need for a device, such as the truth predicate, which allows us to assert the entire bundle with a single, compact sentence. But the important point is this: since this bundle of conditionals has nothing especially to do with truth, it follows that the generalization also has nothing especially to do with truth. The truth predicate is here merely a syntactic device for increasing the expressive power of our finitary language. (Alternatively, we could have introduced propositional quantifiers and pro-sentences. But we didn’t, not in ordinary language.)

How does the redundancy theory relate to the other standard theories of truth? Most of these theories, it seems, must reject the positive side of the redundancy theory. For example, a version of the pragmatic theory of truth holds that biconditionals such as the following are *a priori*: the proposition that cats purr is true iff it is useful to believe that cats purr. If the redundancy biconditionals were also *a priori*, it would follow that the biconditional – cats purr iff it is useful to believe that cats purr – was itself *a priori*, which, Lewis says, it manifestly is not. Putative correspondence theories of truth, on the other hand, can accept that the redundancy biconditionals are *a priori* (and Lewis

¹⁷ In Lewis (2001a) he explicitly endorses what he there calls a “deflationary theory of truth”. And although his views changed somewhat between Lewis (2001a) and Lewis (2001b) (see the following footnote), I know of no reason to think that what is called “the redundancy theory” in Lewis (2001b) isn’t just the same theory renamed.

assumes throughout that they do). They conflict with the redundancy theory instead only by rejecting its negative side, by denying that the redundancy biconditionals are all there is to truth.

Now, back to the main argument. For a putative theory of truth to be aptly termed a “correspondence theory” and be counted among the rival theories of truth, according to Lewis, it would have to meet at least the following four conditions: first, it would have to go beyond the redundancy theory, thus conflicting with its negative side; second, it would have to conflict with the positive doctrines of the other theories of truth, such as the coherence and pragmatic theories; third, it would have to be aptly summarized by the slogan “truth is correspondence to fact”; and fourth, it would have to be a theory of truth, not a bundle of claims having nothing especially to do with truth. Lewis conjectures that all putative correspondence theories will fall into one of two camps. Those in the first camp, in effect, identify “facts” with true propositions. These theories are vacuous: it is no news to be told that truths correspond to true propositions (if truths themselves are propositions, as we are supposing). These putative correspondence theories, then, fail to satisfy the first two conditions: they do not go beyond the redundancy theory, nor do they conflict with the coherence or pragmatic theories. “Away with them!” Lewis cries.

The other sort of putative correspondence theory is represented by Armstrong’s Truthmaker Principle. On this sort of theory, facts are not identified with true propositions, but with “Tractarian” facts, Armstrong’s states of affairs. This theory is certainly not vacuous, and satisfies the first two conditions. But, according to Lewis, it fails to satisfy the third and fourth condition. It fails to satisfy the third condition, Lewis claims, because truthmakers need not be states of affairs, and so the theory isn’t aptly summarized by the slogan that “truth is correspondence to fact”. For example, as we saw in §1, *any* entity is a truthmaker for the proposition that that entity exists, and that entities of its (essential) kind exist. This objection, however, is not in my view very serious. Armstrong presumably holds that any entity whatsoever, if not itself a state of affairs, is a constituent of some state of affairs. Moreover, any state of affairs is a truthmaker for the existence of any of its constituents. It follows from the transitivity of the truthmaking relation that, whenever an entity makes a proposition true, some state of affairs also makes that proposition true. Thus, all truths have states of affairs among their truthmakers, and the slogan seems to be captured well enough, even if some truthmakers are not states of affairs.

The chief reason to deny that Armstrong’s theory should be called “a correspondence theory of truth” is that it fails to satisfy the fourth condition: it is a bundle of claims having nothing especially to do with truth, and therefore is not really a theory of truth at all. According to Lewis, the word ‘truth’ occurs in the Truthmaker Principle just for the purpose of making a long story short. The Truthmaker Principle is equivalent to a bundle of biconditionals, one member of which, for example is the following: the proposition that cats purr is true iff there exists some entity T such that, necessarily, if T exists, then cats purr. But, given the redundancy biconditionals, this biconditional is equivalent to: cats purr iff there exists some entity T such that, necessarily, if T exists, then cats

purr. This biconditional says nothing of truth; rather, it claims that the purring of cats is *existentially grounded*. Similarly, the other biconditionals of the bundle make claims about the existential grounding of all manner of things – the flying of pigs, or what-have-you – but say nothing about the concept of truth. Lewis concludes, “if the Truthmaker Principle amounts to a bundle of claims that are not at all about truth, it should not be called a ‘theory of truth’”. (Lewis 2001b,) Consequently, disputes over whether or not to accept the Truthmaker Principle should be sharply separated from disputes over what is the correct theory of truth.¹⁸

4. Lewis’s Critique of (TM) and a States of Affairs Ontology.

I turn finally to Lewis’s critique of Armstrong’s truthmaker theory.¹⁹ Following Lewis, I focus in this section on just two types of proposition: negative existentials and inessential (monadic) predications. Offhand, Lewis claims, we do not expect such propositions to have truthmakers. Consider, for example, the proposition that there are no unicorns. Intuitively, this is true not because of anything that exists, but because of what fails to exist. Sure, we can say: the *absence of unicorns* makes the proposition true. But only someone beholden to a naïve theory of reference would take this to imply that absences populate the world, along with people, and planets, and protons. Consider now the proposition that the ball is red. (Pretend, as before, that *being red* is a universal.) Intuitively, this proposition is true not because of *what* things there are, but because of *how* things are. Sure, we can form a gerundial phrase, ‘the ball’s being red’; and using that phrase, we can say that such-and-such is true in virtue of the ball’s being red. But such use of the gerundial phrase, by itself, should not lead

¹⁸ It is worth noting that Lewis’s discussion of theories of truth in (2001b) differs in substantial ways from his discussion in (2001a). (Although both papers were published in the same year, and neither refers to the other, I suppose that (2001b) contains his later, considered view. Lewis (2001a) was circulated in draft form in May, 1998, and presented at AAP in July, 1998; Lewis (2001b) was published in *Analysis*, which typically has a quick turnover.) In Lewis (2001a), the correspondence theory of truth is included among “the grand theories of truth”; and it is claimed that *all* the grand theories are compatible with the redundancy biconditionals, and so none the grand theories of truth are really about truth. In Lewis (2001b), as noted above, he argues that the pragmatic and coherence and other substantial theories of truth are incompatible with the redundancy biconditionals. It is because the correspondence theory (if there were such a thing) would presumably be taken in conjunction with the redundancy biconditionals that it, alone, turns out not really to be a theory of truth.

¹⁹ For an alternative, substantial discussion of Lewis’s critique of the Truthmaker Principle with different points of emphasis than what follows, see MacBride (2005).

us to say that the world is populated by an entity, *the ball's being red*, distinct from, but co-located with, the ball.

To put flesh on these intuitive bones, Lewis recasts the Truthmaker Principle as a principle as to how possible worlds must differ. Before recasting, however, we first need to strengthen the principle. Truthmaker theorists typically hold that (TM) is *necessarily* true: contingently false propositions *would* have had truthmakers had they been true.²⁰ Appending 'necessarily' to the front of (TM) and regimenting the result in the language of possible worlds gives:

(TM+) For any proposition P and any world W , if P is true in W , there exists some entity T in W such that, for any world V , if T exists in V , then P is true in V . (Lewis 2001a, 606)

(TM+) implies: For any two worlds W and V and any proposition P , if P is true in W but not in V , then there exists some entity T in W that does not exist in V . For if T is a truthmaker for P in W , then T cannot exist in V lest P be true in V . But on the abundant conception of propositions being assumed, for any two worlds W and V , there is a proposition true in W but not in V : the proposition that W is actualized. The following difference-making principle therefore follows from (TM+):

(DM) For any two worlds W and V , there exists some entity T in W that does not exist in V . (Lewis 2001a, 606)

(DM) is a *two-way* difference making principle: for any two worlds, each world contains some entity not contained in the other.²¹

The case of negative existentials, however, suggests that the difference between world populations need not be two-way. There are no unicorns in our world, but there are unicorns in some other possible worlds (I suppose). In moving from our no-unicorn world to a world populated with unicorns, why can't we simply *add* unicorns to the population? Why must we also take something away?

²⁰ There is one sort of actualist, however – an actual world exceptionalist – who holds that in alien possible worlds, existential propositions may lack truthmakers.

²¹ Note that (DM) demands that there be no indiscernible possible worlds, since indiscernible worlds do not differ with respect to what exists in them. If one wants to avoid this consequence, one can restrict the Truthmaker Principle to what Lewis (oddly) calls *discerning* propositions, where a proposition is *discerning* iff it is never true at one but not the other of two indiscernible worlds: only discerning propositions have truthmakers. (Correlatively, the initial quantifier in (DM) is 'for any two *discernible* worlds W and V '.) See Lewis (2001a, 606-7). Note that for an anti-Haecceitist a proposition is discerning if and only if it is qualitative. For Lewis's affirmation of anti-Haecceitism, see Lewis (1986a, 220-235).

The case of (inessential) predications suggests that there need not even be a one-way difference in population. Consider a red ball and green bat in our world, and another world where that ball and bat have switched colors: the ball in the other world has the exact shade of green that the bat has in our world; the bat in the other world has the exact shade of red that the ball has in ours. Why must there be any difference in population between these two worlds? Why must a change in *how* things are bring with it a change in *what* things there are?

These difference-making considerations against the Truthmaker Principle are suggestive, but they are not likely to have much force for a states-of-affairs theorist such as Armstrong. They presuppose that the right way to think of a world population is in terms of things, or things and universals, not in terms of states of affairs. To get a more decisive argument against (TM+), Lewis attacks directly the states of affairs that (he allows) would be needed to serve as truthmakers. States of affairs violate two principles that are fundamental to Lewis's metaphysics: the uniqueness of composition; and the Humean denial of necessary connections. Because of these violations, Lewis concludes that an ontology of states of affairs is "bad news for systematic metaphysics" (2001a, 611).

Let's start with the composition of states of affairs. Lewis holds to a twofold principle of uniqueness of composition: "there is only one mode of composition; and it is such that, for given parts, only one whole is composed of them" (Lewis 1986c, 92). For Lewis, the laws of this single mode of composition are given by classical mereology. Many philosophers reject uniqueness of composition because they accept sets into their ontology, and hold that sets are composed of the individuals that are their members, or their members' members, or On this view, distinct sets, such as $\{a, \{b\}\}$ and $\{\{a\}, b\}$ are composed of the same elements. Lewis argues, however, that the formation of sets involves two operations: the forming of singletons and the forming of unions. Only the latter operation is a mode of composition, and the composition is mereological. Sets, then, on Lewis's account, do not violate uniqueness of composition.²²

Now, consider states of affairs *a's being F*, *b's being G*, and *a's having R to b*, where *a* and *b* are particulars and *F*, *G*, and *R* are universals. Somehow, the state of affairs of *a's being F* is supposed to be composed of the particular *a* and the universal *F*. But, as noted in §2, the composition cannot be mereological because (on standard essentialist assumptions) the sum *a+F* can exist even though the state of affairs of *a's being F* does not. Moreover, whatever sort of composition is involved, it is not unique. The dyadic states of affairs of *a's having R to b* and *b's having R to a* are distinct (at least if *R* is not necessarily symmetric), even though they are composed of the same particulars and universals. And, for good measure, the conjunctive states of affairs of *a's being F & b's being G* and *b's being F & a's being G* are distinct, even though again they do not differ in their (ultimate) components. For Lewis, the idea that states of affairs can be

²² See Lewis (1991). Other potential counterexamples to uniqueness of composition – for example, involving compositional change over time – are also discussed and dismissed (pp. 78-79).

unmereologically composed in this way from particulars and universals makes them totally mysterious.

Consider next how states of affairs violate the Humean denial of necessary connections. To capture the Humean prohibition, Lewis introduces a *principle of recombination*, initially formulated as follows: “anything can coexist with anything else, and anything can fail to coexist with anything else.” (Lewis 1986a, 88) The first half, strictly speaking, is a prohibition against necessary *exclusions*. Lewis’s illustration: if there could be a unicorn, and there could be a dragon, then there could be a unicorn and a dragon side by side. How should this be interpreted in terms of worlds? Since worlds do not overlap for Lewis, a unicorn from one world and a dragon from another cannot *themselves* exist side by side. The principle is to be interpreted in terms of *intrinsic duplicates*: in some world, a duplicate of the unicorn and a duplicate of the dragon exist side by side. The second half of the principle of recombination is the prohibition against necessary *connections*. Spelled out in terms of worlds and duplicates, it says: whenever two distinct things coexist in a world, there is another world in which a duplicate of one exists without a duplicate of the other.²³ Lewis’s illustration: since a talking head exists contiguous to a living human body, there could exist an unattached talking head, separate from any living body. More precisely: there is a world at which a duplicate of the talking head exists but at which no duplicate of the rest of the living body exists.

Now, suppose that the atomic proposition that *a* is *F* is true for some particular *a* and universal *F*, and consider the atomic state of affairs, *a’s being F*, that according to the states-of-affairs theorist makes it true. As noted above, *a’s being F* is not mereologically composed of *a* and *F*, and thus *a’s being F* and *a* are mereologically distinct. Moreover, since *a’s being F* is a truthmaker for the proposition that *a* is *F*, *a’s being F* is necessarily such that if it exists, then *a* is *F*. But also, necessarily, if *a* is *F*, then *a* exists. Thus *a’s being F* cannot fail to coexist with *a*, and the prohibition against necessary connections is violated.

Next, suppose that the negative existential proposition that there are no *F*’s is true, and consider a state of affairs *S* that according to the states-of-affairs theorist makes it true. (For Armstrong, *S* is, or includes, a totality state of affairs.) Since *S* is a truthmaker for the proposition that there are no *F*’s, *S* cannot possibly coexist with an *F*. Thus, Lewis concludes, the prohibition against necessary exclusions is violated.

Lewis’s second argument against states of affairs, however, falls short of the mark, as can be seen by recasting it in terms of worlds and duplicates. *S*, we are supposing, exists in the actual world where there are no *F*’s. Let *W* be a world where *F*’s exist, and let *a* be an *F* that exists in *W*. And suppose as is usual that *F*,

²³ ‘Distinct’, in this context, means non-overlapping, rather than non-identical; I trust that context successfully resolves this ambiguity throughout the essay. Lewis’s statement of the principle of recombination is rough, and in need of qualification. For example, distinct duplicates cannot “fail to coexist”, as Lewis understands that phrase. For a detailed attempt to set all this right, see Bricker (forthcoming b).

being a universal, is an intrinsic property of *a*. The most that Lewis's argument establishes is that *S itself* cannot coexist with a duplicate of *a*: there is no world in which both *S* and a duplicate of *a* exist. But what needs to be shown is that there is no world in which *a duplicate of S* and a duplicate of *a* both exist. If the exclusionary power of *S* arises from its *extrinsic* nature – as one would naturally suppose – then the argument fails. The way in which *S* manages to necessarily exclude *a* may be mysterious – Lewis no doubt thinks that it is – but not because it is a violation of Lewis's Principle of Recombination.

The first argument against states of affairs also faces difficulties. Although it establishes a violation of the Principle of Recombination, as Lewis understands it, it has no force against a states-of-affairs theorist who thinks that states of affairs have an unmereological mode of composition. For such a theorist, the state of affairs of *a's being F* and the particular *a*, though *mereologically* distinct, are not distinct *simpliciter* because *a* is an unmereological component of *a's being F*. And since they are not distinct *simpliciter*, necessary connections between them are excusable, indeed, are to be expected. The Humean denial of necessary connections between “distinct” existences does not apply. So Lewis's argument that states of affairs violate the Humean denial of necessary connections depends upon his defense of the principle of Uniqueness of Composition. Lewis's metaphysical views on composition are primary.

Interestingly, Lewis thinks it is the other way around, claiming that the complaint involving necessary connections “subsumes” the complaint involving unmereological composition. (2001a, 611). He says that unmereological composition can be defined in terms of necessary connections, so if he could understand the necessary connections, then he could understand unmereological composition. Although he doesn't elaborate on this, the definitions he has in mind are, presumably, something like the following. First, some terminology. Let's say that *a* is a *part* of *b* just when *a* is a mereological component of *b*; and let's say that *a* is a *constituent* of *b* just when *a* is an unmereological component of *b*. ('Component', then, is the inclusive, neutral term.) We suppose that 'part' (or 'mereological component') is already understood. We can define the neutral notion of being a component as follows: *a* has *b* as a *component* iff, necessarily, whenever *a* exists, *b* exists. We can then define the unmereological notion of a constituent like this: *a* has *b* as a *constituent* iff *a* has *b* as a component, but *b* is not a part of *a*. Then, unmereological composition can be defined in terms of 'constituent' just as mereological composition is defined in terms of 'part'. These definitions show that if we could understand necessary connections between mereologically distinct entities, then we could understand unmereological composition. And that is why Lewis thinks the Humean objection to states of affairs subsumes the mereological objection.

This puts pressure on Lewis to defend the Humean denial of necessary connections. For all the importance that it plays throughout Lewis's metaphysics, his defense essentially comes down to this: “it is the Humean prohibition against necessary connections that gives us our best handle on the question what possibilities there are.” (2001a, 611) But that does not help with

determining the exact *scope* of the principle. The Humean prohibition does not apply without restriction: entities that are not mereologically distinct, that have a part in common, are allowed to stand in necessary connections. Lewis needs a principled reason why these, and only these, entities are excluded from the scope of the principle. One good reason, I think, would be this. Parthood is partial identity; so it is as much to be expected that there are necessary connections between an entity and its parts as that there are necessary connections between an entity and itself; and, surely, no entity could fail to coexist with itself! But Lewis has backed away somewhat from the view that composition is identity – he says instead that composition is *analogous* to identity (Lewis 1991, 84-7) – and so it is unclear whether he can avail himself of this response. In any case, we see again that it is the account of composition that is primary, since one’s views on composition inevitably inform the interpretation and defense of the Humean denial of necessary connections. This turns Lewis’s claim on its head: if we could understand why mereological composition is, or is not, the only mode of composition, we could understand why the Humean prohibition always, or only sometimes, applies to mereologically distinct entities. The mereological objection subsumes the Humean objection.²⁴

5. *(TM) and a States-of-Affairs Ontology, Reconsidered.*

Over the course of fifteen years and four papers (1986c, 1992, 1996, 2001a), Lewis never wavered in his critique of the Truthmaker Principle and the states-of-affairs ontology that goes with it. Then, towards the end of his career, he takes it all back – or so it might seem. In Lewis (2003a), he argues that intrinsic predications have truthmakers after all. In a postscript to that paper (Lewis and Rosen 2003b), he argues that negative existentials have truthmakers as well. In an unpublished paper written shortly thereafter (Lewis, this volume), he withdraws his objections to a states-of-affairs ontology. This is certainly a *new* view; but is it a *change* in view? Lewis thought not. His critique had relied upon standardly accepted attributions of essential properties; he did not want his own views in the metaphysics of modality, his own brand of essentialism, to prejudice the debate. When he stopped to consider what could be said from his own perspective, there was a radical shift. A counterpart-theoretic account of essential properties allows for a more flexible interpretation of the Truthmaker Principle, an interpretation under which it can be taken to be literally true without running afoul of Uniqueness of Composition or the Humean prohibition. For a truthmaker theorist who does not embrace counterpart theory and the inconstancy of *de re* modality, Lewis’s critique still stands.

²⁴ For a more detailed discussion of the relation between the Humean prohibition and composition, see Bricker (forthcoming c).

5.1. *Truthmaking and Counterpart theory: Lewis's Approach.* First, we need some background on counterpart theory.²⁵ As noted in §1, the Truthmaker Principle (for Lewis) is an assertion of modality *de re*. It depends for its interpretation on how a world represents *de re* of an object whether it exists in the world, and what properties it has in the world. For Lewis, since objects inhabit – are part of – only one world, this must be done by considering an object's *counterparts* in other worlds. Thus, a world *W* represents *de re* of an actual object *a* that *a* exists in *W* just in case *a* has a counterpart that inhabits *W*. A world *W* represents *de re* of *a* that *a* has property \emptyset just in case some counterpart of *a* inhabits *W* and is \emptyset .²⁶ The counterpart relation can then be used to characterize which properties of *a* are contingent, and which essential: *a* has \emptyset *contingently* just in case *a* has \emptyset , but some counterpart of *a* in some world doesn't have \emptyset ; *a* has \emptyset *essentially* just in case every counterpart of *a* in every world has \emptyset .²⁷

Three conditions that must be met by any proposed counterpart relation are especially significant for what follows. (See Lewis (2003a, 33).) First, the counterpart relation must be based on qualitative similarity. Second, the respects of similarity that count must be predominantly intrinsic. And, third, the respects of similarity that count must be "important", where what counts as important can vary, within limits, from context to context. This leads to the *inconstancy* of *de re* modality, and to a multiplicity of admissible counterpart relations. Lewis writes: "Today, thinking of Saul Kripke as essentially the occupant of a distinguished role in contemporary philosophy, I can truly say that he might have been brought by a stork. Tomorrow, thinking of him as essentially the man who came from whatever sperm and egg he actually came from, I can truly say that he might never have had a philosophical thought in his life. I would be right both times, but relative to different, equally admissible, counterpart relations." (Lewis, 2003a, 28)

One of the chief benefits of counterpart theory with multiple counterpart relations is that it allows us to hold on to ordinary ways of counting and individuating objects. Consider the stock example from Gibbard (1975): suppose I peer into a room that is empty except for a statue of Goliath made of clay. We ordinarily think that there is one object in the room, an object that is both a statue and a lump of clay. But philosophers often disagree. They say that the statue – let's call it Goliath – and the lump of clay – let's call it Lumpl – cannot be one and the same object. For there is a property Lumpl has that Goliath lacks: Lumpl, but not Goliath, *could have survived a squashing*. By an application of

²⁵ Counterpart theory was introduced in Lewis (1968). It was expanded and modified in Lewis (1971), Lewis (1973), and Lewis (1986a).

²⁶ Note that if *a* has multiple counterparts inhabiting *W*, some of which are \emptyset and some of which are not \emptyset , then *W* represents *de re* of *a* both that *a* is \emptyset and that *a* is not- \emptyset , although not, of course, that *a* is \emptyset -and-not- \emptyset .

²⁷ See Lewis (1986a, 10-13) for some limitations on these definitions. It is controversial, to be sure, whether essence should be analyzed in terms of modality; see Fine (1994). But here I follow Lewis in presupposing it.

Leibniz's Law, Lump1 is not identical with Goliath. But if 'could have survived a squashing' expresses different modal properties when applied to 'Lump1' and when applied to 'Goliath', the inference from Leibniz's Law is invalid. The counterpart theorist diagnoses the situation as follows. There is one counterpart relation, *counterpart_s*, under which all counterparts of the object are statues; with respect to the counterpart_s relation, the object is essentially a statue, and could not have survived a squashing. There is a different counterpart relation, *counterpart_L*, under which all counterparts of the object are lumps of clay, but need not be statues; with respect to the counterpart_L relation, the object is not essentially a statue, and could have survived a squashing. When we use the name 'Goliath', we typically (though not invariably) evoke the counterpart_s relation. So interpreted, 'Goliath could have survived a squashing' falsely attributes the property *has a counterpart_s that survives a squashing* to the object in the room. When we use the name 'Lump1', we typically evoke the counterpart_L relation. So interpreted, 'Lump1 could have survived a squashing' truly attributes the property *has a counterpart_L that survives a squashing* to the object. Sometimes both counterpart relations are needed for the interpretation of a single sentence, such as 'Lump1, but not Goliath, could have survived a squashing'. The best way of capturing this in a semantic or pragmatic theory need not detain us. What matters is that counterpart theory with multiple counterpart relations allows one to attribute different modal properties to an object depending upon how the object is considered.²⁸

Now, in order to apply counterpart theory to truthmaking, we need to reformulate (TM) explicitly in terms of worlds and counterparts:

(TMC) For every true proposition *P*, there exists some entity *T* and some admissible counterpart relation such that, for every world *W*, if *T* has a counterpart (under that relation) in *W*, then *P* is true in *W*.²⁹

(TMC) makes explicit that, for Lewis, the counterpart relation used to interpret truthmaking claims is not fixed once and for all; it may vary from context to context depending on which truthmaking claims are under discussion. I consider this further in §5.2.

To illustrate (TMC), let's return to the problem of finding truthmakers for intrinsic predications such as 'the ball is red'. As noted in §2, there seems to be some sense in which the ball itself can serve as truthmaker for the proposition that the ball is red; but we were prohibited from saying this because *being red* is a contingent property of the ball, and so not a part of its essence. To serve as

²⁸ Lewis introduced multiple counterpart relations to solve the problem of contingent identity in Lewis (1971).

²⁹ This deviates from what one would get if one slavishly applied the translation scheme from Lewis (1968) to (TM) (even putting to one side the introduction of multiple counterpart relations). As discussed in Lewis (1986a, 10-13), the translation scheme does not give the expected results when applied to sentences that are, or contain, existence propositions.

truthmaker, the ball would have to be *essentially* red. Then, and only then, would the ball be such that, necessarily, if it exists, then it is true that the ball is red. Counterpart theory to the rescue! A flexible essentialism can allow that there are contexts with respect to which *being red* is part of the ball's essence. One way to conventionally evoke such a context is to introduce special '*qua*'-names of objects, such as 'the ball *qua* red'. When we refer to the ball as 'the ball *qua* red', we evoke an unusual counterpart relation under which all counterparts of the ball are red; thus we can truly assert 'the ball *qua* red is essentially red'. What are these peculiar *qua*-entities, and how do they fit into a thing ontology? The ball *qua* red, of course, is nothing other than the ball itself, just as the statue Goliath is nothing other than the lump of clay Lump. Once again, by multiplying counterpart relations, we avoid having to multiply entities. But is there an *admissible* counterpart relation under which all counterparts of the ball are red? Suppose we start with an ordinary counterpart relation and simply add the restriction that all counterparts of the ball are red. The new counterpart relation is based on predominantly intrinsic respects of qualitative similarity, since the ordinary counterpart relation is; and the new counterpart relation is still based on respects that are important in the context, since use of 'the ball *qua* red' made *being red* important by suggesting that that was how we were to consider the ball. The strategy clearly generalizes. For any intrinsic predication, a is \emptyset , we can say that a *qua* \emptyset is a truthmaker where a *qua* \emptyset is none other than a itself; for, under the counterpart relation evoked by a *qua* \emptyset , any world in which a exists (by having a counterpart) is a world in which a is \emptyset (by having a counterpart that is \emptyset).

Consider next the problem of finding truthmakers for negative existentials such as the proposition that there are no unicorns. Perhaps the *qua*-names, and the unusual counterpart relations they evoke, can help here as well. For example, we could say that an ordinary thing, such as the Eiffel Tower, is a truthmaker for the proposition that there are no unicorns if we conceive of the Eiffel Tower as: the Eiffel Tower *qua* unaccompanied by unicorns. Does this *qua*-name evoke a counterpart relation under which all of the Eiffel Tower's counterparts are in worlds uninhabited by unicorns? Unlike the use of *qua*-names to show that ordinary things are truthmakers for intrinsic predications, this, according to Lewis, is a cheap trick. The supposed counterpart relation evoked by use of this *qua*-name is based on respects of similarity that are almost entirely extrinsic, depending neither on the intrinsic nature of the Eiffel Tower nor the intrinsic nature of its immediate surroundings. Thus, it is not an admissible counterpart relation. Even a flexible essentialism, Lewis thinks, must have limits to its flexibility. Lewis (2003a) thus still denies that negative existentials have truthmakers.

But in the postscript (Lewis and Rosen, 2003b), Lewis reconsiders. By considering bigger truthmakers, the needed counterpart relations become less extrinsic. Although no proper part of the world can, in virtue of its intrinsic nature, make it true that there are no unicorns, perhaps the world in its entirety can do the job, where the world is just the biggest thing, the cosmos. Indeed,

surely there is some sense under which the world as a whole makes it true that there are no unicorns.

A truthmaker theorist would argue, however, that no *thing* can make negative existentials true, because any thing, even the cosmos, might have been a proper part of a bigger thing. (Consider, for example, a possible world containing a series of cosmic oscillations – big bang, big crunch, big bang, and so on – and suppose one of the cycles is a duplicate of our cosmos.) If our world might have been a proper part of a bigger world, then it might have existed in its entirety while there also existed somewhere outside of its bounds a unicorn. Thus the world, if taken to be a thing, is not a truthmaker for the proposition that there are no unicorns. We can, indeed, the truthmaker theorist continues, say that the world as a whole is a truthmaker for the proposition that there are no unicorns; but only because the world is a state of affairs, not a thing, and is composed in part of totality states of affairs.

But the thing theorist who accepts the inconstancy of *de re* modality has a ready response. Although we can say that the world might have been part of a bigger world, we also can say, with no less propriety, that the world might have been bigger than it is. (For example, the world might have contained a series of cosmic oscillations.) Both of these claims are naturally and straightforwardly interpreted as modality *de re*; moreover, the very same possible world (say, with cosmic oscillations) can serve to validate both claims. To validate the first claim, we identify the world by intrinsic character alone, so that counterparts of the world must be duplicates of the world. To validate the second claim, we identify in part by extrinsic character, taking it to be essential to a world that it be a world, that is, the biggest thing there is; on this way of identifying, counterparts of the world must be *worlds*. Combining these two ways of identifying, we get a counterpart relation according to which counterparts of worlds are always duplicate worlds. This counterpart relation is admissible, being based on respects of similarity that are predominantly intrinsic. And the respect that is not intrinsic, being the biggest thing, and so unaccompanied, is clearly an important respect. To evoke this counterpart relation, we can use the *qua*-name: the world *qua* unaccompanied and intrinsically just as it is. When the world is thus considered, the world is a truthmaker for every truth. A thing theorist, then, can endorse (TM) and Truthmaker Maximalism.

Thus far we have seen how the flexibility of counterpart theory allows *things* to be truthmakers for intrinsic predications and negative existentials; states of affairs aren't needed to satisfy (TM). But the states-of-affairs theorist is not content. Suppose that there are immanent universals, and that some particular *a* instantiates universals *F* and *G*. Although the states-of-affairs theorist grants that some thing – the thick particular associated with *a* – makes true both the proposition that *a* is *F* and the proposition that *a* is *G*, she thinks that each of these propositions has its own, more discerning, truthmaker. The state of affairs of *a being F* makes true that *a* is *F*; the state of affairs of *a being G* makes true that *a* is *G*. To get sufficiently *discerning* truthmakers, one still needs states of affairs.

As we saw in §4, Lewis had objected to states of affairs on two grounds: their unmereological composition and their involvement in necessary connections.

But in an unpublished note titled “States of Affairs Reconsidered” (Lewis, this volume) written shortly after Lewis (2003ab), he withdraws these objections. With the flexibility of counterpart theory on board, states of affairs can be made innocent by identifying them with mereological sums of particulars and universals. The Truthmaker argument touted by Armstrong and previously endorsed by Lewis, that the state of affairs of *a being F* could not be identified with the mereological sum $a+F$, rested in part on mereological essentialism, the view that the whole cannot exist without its parts, nor the parts exist without the whole. Formulated in counterpart theoretic terms, mereological essentialism amounts to this:

(ME) For all entities a and b , if $a+b$ has a counterpart, $(a+b)'$, in a world W , then both a and b have counterparts, a' and b' , in W , and $a'+b' = (a+b)'$; and if a and b have counterparts, a' and b' , in a world W , then $a+b$ has a counterpart $(a+b)'$ in W , and $a'+b' = (a+b)'$.

But a flexible essentialist will say that (ME) is true in some contexts but not in others. To illustrate, consider the question whether a chair is identical with the sum of its legs, seat, and back. A dogmatic mereological essentialist must answer “no” because we can truly say that the chair could have existed without one of its legs, and that the sum could have existed even though the legs, seat, and back were never assembled into a chair. In counterpart theoretic terms: because there are counterparts of the chair that are not identical with any sum of the counterparts of the chair’s parts, by (ME), the chair cannot be identical with the sum. But, once again, flexible counterpart theory comes to the rescue. There is only one thing, alternately referred to as “the chair” or “the sum of the legs, seat, and back”. When we refer to it as “the chair”, we create a context that evokes a counterpart relation under which the parts are not essentially tied to the whole and mereological essentialism is false. When we refer to it as “the sum of the legs, seat, and back”, we create a context that evokes a counterpart relation under which the parts and the whole are essentially linked and mereological essentialism is true. One thing has different essences depending upon how it is considered.

The same treatment applies to sums and states of affairs. An enlightened states-of-affairs theorist, one who accepts a flexible essentialism, can say that the state of affairs of *a being F* is identical with the mereological sum $a+F$. (More exactly, $a+F$, the sum of the *thin* particular and the universal.) But this one entity, which is both a state of affairs and a sum, has different essences depending upon how it is considered. Considered as a state of affairs, it is essentially a state of affairs, and exists if and only if a is F . Considered as a sum, it is not essentially a state of affairs, and exists whenever a and F exist, whether or not a is F . Again, one multiplies essences (and counterpart relations) without multiplying entities. This same treatment applies to any state of affairs with

particulars and universals as components: the state of affairs is identical with the mereological sum of those particulars and universals.³⁰

Lewis's earlier objections to a state-of-affairs ontology now dissolve. The first objection was that states of affairs violate Uniqueness of Composition. But if states of affairs *are* just mereological sums, then no two states of affairs have the same components because mereological composition is unique. An opponent might, however, try to turn this on its head: don't the examples in §4 introduced to show that the composition of states of affairs is *not* unique tell against the identification of states of affairs with mereological sums? Suppose, for example, that the states of affairs of *a having R to b* and of *b having R to a* both exist, for some dyadic universal *R*. (Suppose also that *R* is not necessarily symmetric.) Aren't these states of affairs distinct, *contra* Lewis's proposal? There are two complementary replies. First, perhaps our offhand opinion that these states of affairs are distinct comes from thinking of states of affairs as proposition-like. On that conception of states of affairs, the opinion is correct, but irrelevant. Second, even when thinking of states of affairs as Tractarian facts that compose the world, we may still be in the grip of some Leibniz' Law argument that lacks force for a flexible essentialist. In any case, notwithstanding our offhand opinions, perhaps overall theoretical considerations favor identifying these dyadic states of affairs with mereological sums, and thus with one another. Or so Lewis could claim (but see §5.2 for a problem).³¹

The second objection was that states of affairs are involved in mysterious necessary connections. Whenever the state of affairs of *a being F* exists, necessarily, *a* exists and instantiates the universal *F*. Whence come these necessary connections? They arise from the counterpart relation evoked when speaking of states of affairs, and thus are no more mysterious than the workings of a flexible counterpart theory – something Lewis thinks we understand well enough. Thus, it is no mystery on this account how there could be something such that (in some contexts) it is true to say that, necessarily, it exists only if *a* is *F*. This entity, *qua* state of affairs, is a truthmaker for the proposition that *a* is *F*. This same entity, *qua* mereological sum, is not a truthmaker for the proposition that *a* is *F*. Once again, whether or not an entity is a truthmaker for a proposition depends upon how that entity is considered.

³⁰ One might wonder whether a similar treatment could be applied to structural universals, thus taking them to be mereologically composed. Such a "reconsideration" of structural universals would undercut Lewis's reason for rejecting universals in Lewis (1986b). But if there are, or could be, basic laws involving structural universals, then such a reconsideration would not be compatible with either Lewis's or Armstrong's theory of laws.

³¹ A third, and I think better, reply is to hold that fundamental relations are necessarily symmetric; but I know of no reason to think Lewis would support it. Dorr (2004) provides some arguments for this view.

5.2. *Truthmaking and Counterpart Theory: An Alternative Approach.*³² Lewis's strategy for rehabilitating the Truthmaker Principle, however, is open to a decisive objection. That strategy is this. For any true proposition, find some thing whose essence can be tailor-made, using flexible counterpart theory, so that the thing's existence necessitates the proposition. For *the ball is red*, use 'the ball *qua* red' to evoke a counterpart relation under which the ball is essentially red; for *there are no unicorns*, use 'the world *qua* unaccompanied by unicorns' to evoke a counterpart relation under which the world cannot co-exist with a unicorn. And so on. What constrains this tailoring of essences to truths? Without constraints, we could apply the strategy according to a simple formula: for any true proposition *P* and any thing *T*, use '*T qua* inhabits a world where *P*' to evoke a counterpart relation that makes *T*'s existence necessitate *P*. Lewis would reply: '*T qua* inhabits a world where *P*' will often fail to evoke an admissible counterpart relation; *P* may be about matters that are too extrinsic, or unimportant, for *P* to be taken to be essential to *T*. I demur. I think a flexible essentialist should allow that for any *T* and *P*, *some* context could be concocted according to which the truth of *P* is essential to *T*. But put that worry aside. There is a bigger problem.

Suppose, then, that the problem of placing limits on what counts as an admissible counterpart relation is satisfactorily solved. At best, Lewis's strategy shows that, for each truth, there is a counterpart relation under which that truth has a truthmaker. What we need, I claim, is something stronger: there is a single counterpart relation under which every truth has a truthmaker. That is, we should replace (TMC) with the stronger:

(TMC+) There is an admissible counterpart relation, call it *counterpart_T*, such that: for every true proposition *P*, there exists some entity *T* such that, for every world *W*, if *T* has a *counterpart_T* in *W*, then *P* is true in *W*.

The counterpart_T relation is evoked by "truthmaker contexts", contexts in which we ask whether a proposition is *made true* by some thing, or is true *in virtue of* the existence of some thing. Without a single such counterpart relation, we do not have a *uniform* interpretation of the Truthmaker Principle under which it is true. We have only, for each instance of the Truthmaker Principle, an interpretation that makes that instance true. If we take the Truthmaker Principle to be a *schema*, an infinite bundle of assertions, one for each proposition, then a non-uniform interpretation might be good enough. But if we take the Truthmaker Principle to be a single assertion (as we have heretofore), the assertion that every truth has a truthmaker, then the variable ranging over potential truthmakers needs to be interpreted uniformly with respect to a single

³² Material from this section was presented in a lecture entitled "The World: Facts or Things?" at NYU in February, 1999.

counterpart relation.³³ For comparison, suppose I walk into a room filled with statues made of clay and say: “some of these are essentially statues; others are essentially lumps of clay”. If there are no relevant features distinguishing some of the statues from the others, I find this scarcely intelligible.

What conditions would a counterpart relation have to meet in order to validate the Truthmaker Principle? First, since any aspect of the intrinsic character of a thing may be relevant to what propositions the thing makes true, a counterpart of the thing must preserve its intrinsic character. We can guarantee this by requiring:

(1) Counterparts_T are always intrinsic duplicates.

(1) ensures that a true intrinsic predication of a thing will have that thing as a truthmaker. Thus, if a has \emptyset , for intrinsic \emptyset , then a is such that, necessarily, whenever it exists it has all of its actual intrinsic properties, and so, in particular, it has \emptyset .

Second, on any view that accepts the Truthmaker Principle, the world should be the supreme truthmaker, making every truth true. But, as we saw in §3, if the world is a *thing* – the *biggest* thing – then the world will fail to be a truthmaker for negative existentials if the world could have been a proper part of a bigger world. The thing theorist, then, needs to require, at least in truthmaking contexts, that the world is essentially the biggest thing, that the world is essentially a world. In terms of counterparts:

(2) Counterparts_T of worlds are always worlds.

Any counterpart relation satisfying (1) and (2) trivially validates the Truthmaker Principle. Under any such counterpart relation, the counterpart of a world is a duplicate world. But duplicate worlds are indiscernible;³⁴ they agree with respect to the truth or falsity of any (qualitative) proposition. Thus, for any true proposition P , the world (the cosmos) is such that, necessarily, if it exists, then P is true. The world is a truthmaker for every truth.

If the goal were just to find a counterpart relation that makes the Truthmaker Principle true, we could stop here. But sometimes, at least, more discerning truthmakers can be had. We have seen this, so far, only for the case of intrinsic

³³ Lewis (2002b, 279) does say that the Truthmaker Principle “is equivalent” to an infinite bundle of biconditionals so as to emphasize the dispensability of the notion of truth; see §3 above. But elsewhere, he formulates the Truthmaker Principle as a single assertion by quantifying universally over propositions. The argumentation of Lewis (2002a) depends on it.

³⁴ This requires two assumptions. First, that duplicate worlds are qualitatively indiscernible requires that worlds are externally isolated, that no part of any world is externally related to any part of any other world. (I defend this in Bricker (1996)). Second, that qualitatively indiscernible worlds are indiscernible *tout court* requires anti-Haecceitism. See Lewis (1986a).

monadic predications. This is the only case that Lewis considers. But I think discerning truthmakers can be found as well for intrinsic polyadic predications, and for the negations of intrinsic predications. In each of these cases, the object or objects of predication can serve as truthmakers.

Consider first the case of negated intrinsic monadic predications. Intuitively, when asking what makes it the case that a thing has, *or fails to have*, some intrinsic property, we need look no further than the thing itself. For an intrinsic property \emptyset , a is a truthmaker for a is \emptyset if it is true that a is \emptyset , and a is a truthmaker for a is *not* \emptyset if it is true that a is not \emptyset . In asking what constraints this puts on the counterpart relation in truthmaking contexts, there are two cases to consider: a nominalist thing theorist who rejects universals and tropes; and a realist thing theorist who accepts universals or tropes. For the nominalist thing theorist, (1) already suffices. Suppose a is *not* \emptyset is true. By (1), any counterpart_T of a in any world lacks \emptyset . Thus, a is such that, necessarily, if it exists, then it is not \emptyset . And that's what it takes for a to be a truthmaker for the proposition that a is not \emptyset .

But now consider a realist thing theorist who takes things to be thick particulars composed of thin particulars and universals. In seeking a truthmaker for a is *not* \emptyset , we need to keep track of the distinction between the thin particular, $a-$, and the thick particular, $a+$. It is the thick particular, $a+$, that the thing theorist takes to be a truthmaker for a is *not* \emptyset . But (1) does not suffice to guarantee that the thing $a+$ is a truthmaker. For consider a world W where $a+$ has a (unique) counterpart_T b that is not itself a thick particular, but is instead a "middle-sized" particular properly included in a thick particular $b+$. And suppose that, although b does not include \emptyset (since by (1) it is a duplicate of $a+$), the thick particular $b+$ does include \emptyset . Now, I suppose that for any particular a – thin, thick, or middle-sized – it is true that a is \emptyset iff the thin particular component of a instantiates \emptyset . On those truth conditions, although $a+$'s counterpart_T in W , b , does not include \emptyset , the proposition that a is \emptyset is nonetheless true in W . To defuse this counterexample, we need to require that a thick particular could not have failed to be a thick particular, that things are essentially things. In terms of counterparts:

(3) Counterparts_T of things are always things.

(1) and (3) together ensure that a true negation of an intrinsic predication of a thing will have that thing as a truthmaker.³⁵

Finally, consider the problem of finding things to serve as truthmakers for intrinsic polyadic predications. Start with the dyadic case; the generalization to

³⁵ *Proof.* Suppose a is not \emptyset , for intrinsic \emptyset ; and let W be a world where a exists, that is, where a has counterparts_T. By (1) and (3), all of a 's counterparts_T in W are thick particulars and duplicates of $a+$. Since they are thick particulars, they have a property \emptyset iff they *include* \emptyset . Since they are duplicates of $a+$, they do not include \emptyset . Therefore, no counterpart_T of $a+$ has \emptyset , and the proposition that a is *not* \emptyset is true in W . Which goes to show: a is a truthmaker for a is *not* \emptyset .

higher adicity is routine. Thus, suppose that a has R to b , where R is a fundamental relation, and thus intrinsic.³⁶ A flexible truthmaker theorist might hope that the sum $a+b$ will be a truthmaker for the proposition that a has R to b . This will require (as we saw in §1) that, in truthmaking contexts, mereological essentialism (ME) holds, at least with respect to things. Does (1) together with (ME) (for counterpart_T) ensure that $a+b$ is a truthmaker for a has R to b ? Indeed, given (1) and (ME), every counterpart_T of $a+b$ is a duplicate of $a+b$, and so has a duplicate of a as a part that is R -related to a part that is a duplicate of b . But that may not be sufficient to make $a+b$ a truthmaker for aRb . For a counterexample, consider this. Suppose that a and b are duplicates, and that R is an intrinsic relation such that aRb , but not bRa . Consider a world where a and b each have a single counterpart_T, a' and b' , respectively, and such that $b'Ra'$. By (1), a , b , a' , and b' are all duplicates of one another. By (1) and (ME), $a'+b'$ is a duplicate of $a+b$, and so not $a'Rb'$. Then, although $a+b$ has a counterpart_T in the world, no counterpart_T of a has R to any counterpart_T of b . Thus, the existence of $a+b$ does not necessitate that a has R to b .

The solution, as in other cases involving essential relations, is to consider not only counterparts of individuals, but also counterparts of pairs (and more generally counterparts of sequences of arbitrary length).³⁷ Say that two pairs, $\langle a,b \rangle$ and $\langle a',b' \rangle$, are *intrinsic isomorphs* iff a and a' are duplicates and b and b' are duplicates, and, for any intrinsic relation R , aRb iff $a'Rb'$. To ensure that $a+b$ will be a truthmaker for aRb we can, first, put the following constraint on the pair-counterpart relation:

- (4) If a and b have counterparts_T in W , then $\langle a,b \rangle$ has a counterpart_T pair in W ; and counterpart_T pairs are always intrinsic isomorphs.³⁸

Then, second, we modify the counterpart-theoretic semantics for doubly *de re* modal assertions so as to quantify over counterpart pairs rather than counterparts.³⁹ Thus, a world represents *de re* of $\langle a,b \rangle$ that a has R to b iff some counterpart pair of $\langle a,b \rangle$, $\langle a',b' \rangle$, exists in W , and a' has R to b' in W . Given (1)-

³⁶ A relation is *intrinsic* if it is either *internal* or *external*, and thus supervenes on the intrinsic natures of its *relata*, taken together. See Lewis (1986a, 62). Lewis supposes that fundamental properties and relations are intrinsic. (See §6.)

³⁷ See Hazen (1979) and Lewis (1986a, 232-233).

³⁸ Lewis (1986a, 232-233) calls the counterpart pair $\langle a',b' \rangle$ a “joint possibility” for $\langle a,b \rangle$. So (4) could be rephrased: if W contains individual possibilities for a and for b , then it contains a joint possibility for $\langle a,b \rangle$; and joint possibilities preserve intrinsic relations between a and b .

³⁹ See Hazen (1979, 333-334). For the general case, Hazen quantifies over the “representative functions”. The modification in the semantics is needed in any case to solve the problem of “essential relations”.

(4), (ME), and the modified semantics, $a+b$ is a truthmaker for aRb whenever aRb is true and R is intrinsic.⁴⁰

Call any counterpart relation that satisfies (1)-(4) and (ME) a *truthmaking* counterpart relation. (Counterpart relations are now expanded to include sequences among their *relata*.) Truthmaking counterpart relations have at least as much claim to legitimacy as the counterpart relations admitted by Lewis. Because of (1) and (4), the respects of similarity that count are “predominantly intrinsic”. And the extrinsic respects of similarity that count according to (2) and (3) – the property of being a world and the property of being a thing – are undeniably “important” in contexts where ontology is under discussion. Moreover, unlike Lewis’s piecemeal approach to finding truthmakers that appeals to multiple counterpart relations, fixing on a single truthmaking counterpart relation allows for a uniform interpretation of (TM) and its supplement (SUP₁), an interpretation that makes them both literally true. ((SUP₁), recall, was the thesis: for any atomic truth $Ra_1a_2\dots$, there exists a truthmaker involving at most $a_1, a_2\dots$ and R .) The ‘qua’-names are not needed to evoke a truthmaking counterpart relation. Rather, in truthmaking contexts, contexts in which the search for truthmakers is explicit, a truthmaking counterpart relation is automatically evoked. That provides the best explanation, for a thing theorist, as to why (TM) and (SUP₁) have the ring of truth. In considering (TM) or (SUP₁), we create a truthmaking context; and in truthmaking contexts, they *are* true.

There is one casualty, however, in the switch to a uniform interpretation of (TM): states of affairs, understood in Lewis’s way as mereological sums of universals and (thin) particulars, no longer provide sufficiently discerning truthmakers to validate (SUP₂), the other supplement to (TM). ((SUP₂), recall, was the thesis: distinct atomic truths have distinct truthmakers.) The problem arises with certain relational or complex states of affairs. Consider, for example, a dyadic universal R such that aRb and bRa . By (SUP₂), since aRb and bRa are distinct atomic propositions, they have distinct (i.e., non-identical) truthmakers. A thing theorist will simply reject (SUP₂) and say that there is a single truthmaker, $a+b$, for both aRb and bRa . A states-of-affairs theorist, however, is committed to (SUP₂), and must find distinct truthmakers for aRb and bRa . But if states of affairs are mereological sums, how can the one sum, $a+R+b$, provide two distinct truthmakers? On Lewis’s piecemeal approach, this is easily done: by multiplying counterpart relations, one multiplies truthmakers. The ‘qua’-name ‘ $a+R+b$ qua a -having- R -to- b ’ evokes one of these counterpart relations; ‘ $a+R+b$ qua b -having- R -to- a ’ evokes the other. Although there is only one entity involved – $a+R+b$ – one can allow that (in truthmaking contexts) the two ‘qua’-

⁴⁰ *Proof.* Suppose aRb , for intrinsic R . Consider any world W where $a+b$ has a counterpart_T. By (ME), a and b have counterparts_T in W . By (4), $\langle a, b \rangle$ has a counterpart_T pair in W , $\langle a', b' \rangle$ where $\langle a, b \rangle$ and $\langle a', b' \rangle$ are intrinsic isomorphs. Therefore, since aRb and R is intrinsic, $a'Rb'$. Thus, aRb is true in W , as was to be shown.

versions of this one entity count as two different truthmakers.⁴¹ But this way of validating (SUP₂) is ruled out if we want a uniform interpretation of the truthmaking relation. If there is only a single counterpart relation with respect to which we interpret (TM) and (SUP₂), then no one entity can provide two different truthmakers. I conclude, then, that Lewis's irenic attempt to rehabilitate a states-of-affairs truthmaking theory falls short of the mark.⁴²

6. *Truth Supervenes on Being.*

In the previous section, we saw that a thing theorist armed with flexible counterpart theory can accept the Truthmaker Principle as literally true. That is not to say, however, that the thing theorist takes the Truthmaker Principle to be a fundamental principle of metaphysics. On the contrary, showing how to make the Truthmaker Principle true is a metaphysical sideshow, interesting only as a way of appeasing ordinary intuitions about truthmaking, and thereby placating truthmaker theorists overly enthralled by those intuitions.

Here are three reasons why the Truthmaker Principle should be no part of fundamental metaphysics. First, the Truthmaker Principle, being an assertion of modality *de re*, depends for its interpretation on context; and no fundamental metaphysical principle should be context dependent. This objection, however, can be gotten around by formulating the Truthmaker Principle in the language of possible worlds, explicitly incorporating the truthmaking counterpart relation into the formulation. That would eliminate the context dependence.

Second, all fundamental metaphysical principles are necessary, whereas the Truthmaker Principle, even if true, is not necessarily true. Or so I claim, because I take it to be metaphysically possible that nothing exists – or, at any rate, that no contingent entity exists.⁴³ But, the Truthmaker Principle is incompatible with such a possibility: if it is true that no (contingent) entity exists, then that very truth lacks a truthmaker, and the Truthmaker Principle is false. Admittedly, this objection lacks bite for those modal metaphysicians, including Lewis and Armstrong, who reject the possibility of nothing.⁴⁴ But there is worse to come.

⁴¹ There are various ways in which a flexible counterpart theorist can make precise the notion that “one entity can count as two” in intensional contexts. And, of course, truthmaking contexts, on modal accounts of truthmaking, are intensional contexts.

⁴² Would it help to take states of affairs to be sets – sequences of universals and (thin) particulars – instead of mereological sums? No, on any states-of-affairs theory, the (concrete) world is composed of states of affairs; thus, if states of affairs are sets, the (concrete) world itself, implausibly, would have to be a set, or composed of sets.

⁴³ See Bricker (2001, 47-49) on how a realist about possible worlds can accommodate the possibility of nothing.

⁴⁴ Lewis nonetheless transforms it into a meta-metaphysical objection. The Truthmaker Principle, he writes, provides “a swift reason why there must be

The third and most important reason why the Truthmaker Principle is no part of fundamental metaphysics is that it is motivated by a wrong account of ontological grounding, wrong on two counts. Let us take the relation of ontological grounding to be a relation between propositions and propositions, with both arguments plural. Wherever one might speak of *entities* doing the grounding, we will instead say that the corresponding existence propositions provide the ground. (This parallels what was said in §1 about the truthmaker relation.) When some propositions are fundamental, and sufficiently inclusive to ground all truths, call those propositions an *ontological base*; if there is an ontological base, say that *truth is ontologically grounded*. Now, although both Lewis and the truthmaker theorists agree that truth is ontologically grounded, the truthmaker theorist puts two conditions on ontological grounding that Lewis would reject. First, truthmaker theorists hold that for truth to be ontologically grounded there must be an ontological base consisting entirely of existence propositions. I will return to this below. Second, truthmaker theorists hold that *entailment* by propositions in the base is necessary for ontological grounding: truth is ontologically grounded only if every truth is *entailed* by some truths in the ontological base. Call this the *entailment constraint*. (Entailment may be strict implication, or may be something even stronger.) Lewis holds instead that only *supervenience*, not entailment, is necessary for ontological grounding: truth is ontologically grounded only if every truth *supervenes* on the ontological base. Call this the *supervenience constraint*. (Supervenience here is *global* supervenience applied to propositions.) If the ontological grounding of truth satisfies the entailment constraint, it also satisfies the supervenience constraint; but not vice versa. The supervenience constraint, then, is weaker than the entailment constraint, and demands less of the ontological base.

Truthmaker theorists, because they accept the entailment constraint, must deny that the atomic propositions form an ontological base. For example, negated atomic truths and general truths need not be entailed by the true atomic propositions. Thus, truthmaker theorists must add non-atomic propositions to the ontological base to ground negated atomic and general truths; Armstrong, for example, adds propositions involving totality states of affairs. Lewis, because he accepts only the supervenience constraint, disagrees: no propositions beyond the atomic propositions need be included in the ontological base. This is because all truths supervene on the atomic truths; two worlds that agree with respect to the truth value of all atomic propositions must agree with respect to the truth value of all negated atomic propositions, of all general propositions, indeed, of all (qualitative) propositions. Speaking picturesquely: once God has fixed the truth value of all the atomic propositions, the (qualitative) nature of the world is thereby fully determined.⁴⁵

something, and not rather nothing ... Altogether too swift, say I." (Lewis 2001a, 611)

⁴⁵ The modifier 'qualitative' is needed because indiscernible worlds (if any) agree with respect to the truth value of all atomic propositions. Note that the

The other condition that truthmaker theorists wrongly require for ontological grounding is that there be an ontological base consisting entirely of existence propositions. This condition is easily met by states-of-affairs theorists. Each fundamental proposition in the ontological base can be replaced by a necessarily equivalent existence proposition asserting that the corresponding state of affairs exists. For example, the atomic proposition that *a* is *F* can be replaced by the existence proposition that *a's being F* exists; the totality proposition that *a* totals *F* can be replaced by *a's totaling F* exists; and so on. Lewis, however, feels no compulsion to whittle down the fundamental propositions in the ontological base to existence propositions.⁴⁶ One aspect of being involves *what* entities there are; but another aspect of being involves *how* those entities are, and *how* they are arranged. The atomic propositions by themselves give full expression to both of these aspects of being. Thus, if truth supervenes on the atomic propositions, then we can say that *truth supervenes on being*:

(TSB) For any proposition *P* and any worlds *W* and *V*, if the same entities exist in *W* and *V*, and those entities instantiate the same fundamental properties and relations in *W* and in *V*, then *P* is true in *W* iff *P* is true in *V*.⁴⁷

For an anti-Haecceitist, the conditional simplifies to: if *W* and *V* have the same pattern of co-instantiation of fundamental properties and relations, then *P* is true in *W* iff *P* is true in *V*. According to Lewis, it is (TSB), not (TM), that is a fundamental principle of metaphysics.⁴⁸ Nothing more than (TSB) is needed to ensure that truth be ontologically grounded.

atomic propositions must include all *possible* atomic propositions, including those (if any) involving alien universals.

⁴⁶ No compulsion. But a thing theorist can do this without cost by interpreting existence propositions using the duplication relation as the counterpart relation: a thing exists in all and only those worlds that have a duplicate of that thing as a part. This leads to a stronger version of Truth Supervenes on Being that I call the Subject Matter Principle: every proposition has a subject matter, entities such that the truth or falsity of the proposition is determined by whether or not those entities exist. See Bricker (2006, 270-277).

⁴⁷ This is essentially the formulation in Lewis (2001a, 612). See also Bigelow (1988, 38). (TSB) is sometimes called "Truthmaker" in the literature. Although (TSB) can be understood as characterizing a weaker truthmaker relation, I think it best to only speak of truthmaking if the truthmaker *necessitates*, or *entails*, the truth.

⁴⁸ Must one be a modal realist to take (TSB) to be a fundamental principle of metaphysics? Lewis thought not; he took the ontological dispute between (TM) and (TSB) to cut across disputes in the metaphysics of modality. But, certainly, some actualist reformulations of (TSB) – by linguistic ersatzists, for example –

A defense of (TSB) must show that, although weaker than the Truthmaker Principle, it is still strong enough to do some ontological heavy lifting. For truthmaker theorists, an important role of the Truthmaker Principle, is to “catch cheaters”: philosophers who, by positing truths without truthmakers, fail to own up to the ontological cost of their theories. Consider, for example, the phenomenalist who holds that propositions about physical objects can be analyzed in terms of sense-data.⁴⁹ To analyze propositions about *unobserved* objects, such as that a ball in an otherwise empty room is red, the phenomenalist typically calls upon the sense-data that an observer *would* have had, had she been in a position to observe the ball. But, the truthmaker theorist asks, what are the truthmakers for these counterfactual truths? Not the unobserved ball (or states of affairs involving it) because these, according to the phenomenalist, do not exist. And not any actual sense-data (or states of affairs involving them) because these are all compatible with the ball not being red. The phenomenalist counterfactuals, it seems, are “brutely true” in violation of the Truthmaker Principle.

Lewis is in rough agreement with the truthmaker theorists as to which philosophical views are guilty of cheating – except, of course, that he doesn’t think the thing theorist, whether or not a flexible counterpart theorist, counts among the cheaters. It is thus imperative for Lewis that (TSB) be strong enough to rule out views that posit brute counterfactuals (as well as brute dispositions, brute lawhood, and brute tensed properties). And so it is. For example, on any plausible version of phenomenalism, the phenomenalist counterfactuals don’t supervene on being: two worlds can agree on the truth value of all atomic propositions, propositions about (actual) sense-data, and yet disagree on the truth value of counterfactuals as to what sense-data would have existed, had unmade observations been made. (This is especially obvious if one grants that there are possible worlds without any observers, and so without any (actual) sense-data.) Thus Lewis, no less than the truthmaker theorists, can reject phenomenalism because it violates the dictum that truth be ontologically grounded.

The philosopher who invokes brute counterfactuals has a ready response. “Every view is entitled to choose its own base of fundamental propositions. I choose to take some counterfactual propositions to be fundamental. Perhaps these brute counterfactuals can be understood to attribute dispositional properties to the entities that populate the world. But, if not, they can always be taken to attribute fundamental properties to the world as a whole. If it is part of my view that the brute counterfactuals are fundamental propositions belonging to the ontological base, then my view is compatible with (TSB).” And a similar speech can be made by the other supposed cheaters.

Lewis would protest: “a philosopher is *not* entitled to take any proposition to be fundamental; the fundamental properties and relations involved in the

are not plausible candidates for fundamental metaphysical principles; and some actualists lack the modal means to provide any formulation of (TSB).

⁴⁹ Armstrong uses this example to introduce truthmaking in Armstrong (2004).

fundamental propositions are all *categorical*; their essential nature is entirely intrinsic, given by their *quiddities*, not by their causal or nomological roles.” And what justifies this view of the fundamental properties and relations? “Humean recombination principles would fail if the fundamental properties and relations were not categorical.”⁵⁰ This would seem to take us in a circle, since Humean recombination principles are only plausible if one assumes that the fundamental properties and relations are categorical, that their natures are intrinsic. A better Lewisian response is that the whole package is justified holistically by the success of the Humean metaphysics, and especially by its *perspicuity*. Its metaphysical rivals are shrouded in mystery, engendering at best an illusion of understanding.

It is now plain that the way in which *Truth Supervenes on Being* “catches cheaters”, and puts constraints on metaphysical theorizing, has little to do with the “supervenience” part, and everything to do with the “being” part, and the conception of fundamentality that informs it. Oft-heard complaints that supervenience by itself is not a dependence relation, or a relation of ontological priority, though true enough, are beside the point. It is supervenience *on being*, where being is characterized in terms of the pattern of instantiation of fundamental properties and relations, that provides an ontological ground for truth. And it is the conception of fundamental properties and relations as *categorical* that gives (TSB) its ontological punch.⁵¹ Those seeking an informative characterization of this Humean conception of fundamental properties will be disappointed; Lewis offers little more than gestures and hints. But one could scarcely exaggerate its importance throughout Lewis’s writings. His entire Humean metaphysics is incomprehensible without it.⁵²

⁵⁰ See Lewis (1986a, 162-3). Sider (2012, 155) suggests that replacing (TSB) with “the correct fundamental ideology is that of predicate logic” would have “essentially the same upshots regarding cheaters”. But I don’t see how that would catch “cheaters” who gladly trade their fundamental propositional operators for fundamental properties of worlds.

⁵¹ Lewis’s most extensive discussion of the nature of fundamental properties is in Lewis (2009). Lewis does not much use the word ‘categorical’; perhaps a better label would be ‘Humean’, since, for Lewis, only properties that satisfy Humean recombination principles are candidates for being fundamental.

⁵² Thanks to Jonathan Schaffer for helpful comments.

REFERENCES

- Armstrong, D.M. (1989). *A Combinatorial Theory of Possibility*. Cambridge University Press.
- Armstrong, D.M. (1997). *A World of States of Affairs*. Cambridge University Press.
- Armstrong, D.M. (2004). *Truth and Truthmakers*. Cambridge University Press.
- Bigelow, John (1988). "Real Possibilities". *Philosophical Studies* 53: 37-64.
- Bricker, Phillip (1996). "Isolation and Unification: The Realist Analysis of Possible Worlds". *Philosophical Studies* 84, 225-38.
- Bricker, Phillip (2001). "Island Universes and the Analysis of Modality". In G. Preyer, F. Siebelt (eds.), *Reality and Humean Supervenience: Essays on the Philosophy of David Lewis*. Rowman and Littlefield.
- Bricker, Phillip (2006). "The Relation Between General and Particular: Entailment vs. Supervenience". In Dean Zimmerman (ed.), *Oxford Studies in Metaphysics, vol. 2*. Oxford University Press.
- Bricker, Phillip (forthcoming a). "Ontology and Ontological Commitment". *Stanford Encyclopaedia of Philosophy*.
- Bricker, Phillip (forthcoming b). "Principles of Plenitude".
- Bricker, Phillip (forthcoming c). "Composition as a Kind of Identity". *Inquiry*.
- Dorr, Cian (2004). "Non-Symmetric Relations". In *Oxford Studies in Metaphysics, vol. 1*. Oxford University Press.
- Fine, Kit (1994). "Essence and Modality". *Philosophical Perspectives* 8: 1-16.
- Gibbard, Alan (1975). "Contingent Identity". *Journal of Philosophical Logic* 4: 187-222.
- Hazen, Alan (1979). "Counterpart-Theoretic Semantics for Modal Logic".
- Lewis, David (1968). "Counterpart Theory and Quantified Modal Logic". *Journal of Philosophy* 65: 113-126.
- Lewis, David (1971). "Counterparts of Persons and Their Bodies". *Journal of Philosophy* 68: 203-211.
- Lewis, David (1973). *Counterfactuals*. Blackwell.
- Lewis, David (1986a). *On the Plurality of Worlds*. Blackwell.
- Lewis, David (1986b). "Against Structural Universals". *Australasian Journal of Philosophy* 64: 25-46. Reprinted in Lewis (1999).
- Lewis, David (1986c). "A Comment on Armstrong and Forrest." *Australasian Journal of Philosophy* 64: 92-93. Reprinted in Lewis (1999).
- Lewis, David (1991). *Parts of Classes*. Blackwell.
- Lewis, David (1992). Critical Notice of Armstrong, *A Combinatorial Theory of Possibility*, *Australasian Journal of Philosophy* 70: 211-224. Reprinted as "Armstrong on Combinatorial Possibility" in Lewis (1999).
- Lewis, David (1994a). "Reduction of Mind". In Samuel Guttenplan (ed.), *A Companion to Philosophy of Mind*. Blackwell. Reprinted in Lewis (1999).
- Lewis, David (1994b). "Humean Supervenience Debugged". *Mind* 103: 473-490. Reprinted in Lewis (1999).

- Lewis, David (1998). Critical Notice of Armstrong, *A World of States of Affairs*. *The Times Literary Supplement* 4950: 30. Reprinted as “A World of Truthmakers” in Lewis (1999).
- Lewis, David (1999). *Papers in Metaphysics and Epistemology*. Cambridge University Press.
- Lewis, David (2001a). “Truthmaking and Difference-Making”. *Nous* 35: 602-615.
- Lewis, David (2001b). “Forget about the ‘Correspondence Theory of Truth’”. *Analysis* 61: 275-280.
- Lewis, David (2003a). “Things *Qua* Truthmakers”. In Hallvard Lillehammer and Gonzalo Rodriguez-Pereyra (eds.), *Real Metaphysics: Essays in honor of D. H. Mellor*. Routledge.
- Lewis, David (2009). “Ramseyan Humility”. In D. Braddon-Mitchell and R. Nold (eds.), *Conceptual Analysis and Philosophical Naturalism*. MIT Press.
- Lewis, David (this volume). “States of Affairs Reconsidered”.
- Lewis, David and Gideon Rosen (2003b). Postscript to “Things *Qua* Truthmakers”. In Hallvard Lillehammer and Gonzalo Rodriguez-Pereyra (eds.), *Real Metaphysics: Essays in honor of D. H. Mellor*. Routledge.
- MacBride, Fraser (2005). “Lewis’s Animadversions on the Truthmaker Principle”. In Helen Beebe and Julian Dodd (eds.), *Truthmakers: The Contemporary Debate*. Oxford University Press.
- Restall, Greg (1996). “Truthmakers, Entailment and Necessity”. *Australasian Journal of Philosophy* 74: 331-340.
- Schaffer, Jonathan (2010). “The Least Discerning and Most Promiscuous Truthmaker”. *Philosophical Quarterly* 60: 307-324.
- Sider, Theodore (2012). *Writing the Book of the World*. Oxford University Press.