## AGAINST TRUTHMAKER NECESSITARIANISM

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## Abstract

This paper is an argument against Truthmaker Necessitarianism—the doctrine that the existence of a truthmaker necessitates the truth of the proposition it makes true. Armstrong's sufficiency argument for necessitarianism is examined and shown to be question begging. It is then argued in detail that truthmaking is a matter of grounding truth and that grounding is a dependency relation that neither entails nor reduces to necessitation.

Keywords: Truthmaking, Necessity, Explanation, Armstrong.

# 1. Truthmaker Necessitarianism and Maximalism - A Dilemma

Truthmaker Necessitarianism is the position according to which the existence of a truthmaker necessitates the truth of the proposition(s) it makes true: in other words, if *e* makes  $\langle P \rangle$  true, the existence of *e* necessitates the truth of  $\langle P \rangle$ .<sup>1</sup> Spelled out in the picturesque language of possible worlds, the principle states that if  $\langle P \rangle$  is made true by *e* in the actual world, then  $\langle P \rangle$ is true in every possible world where *e* exists. So, if the proposition that the rose is red is made true by the state of affairs consisting in *the rose's being red*, there are no possible worlds where that state of affairs obtains but it fails to be true that the rose is red. What is the motivation behind this requirement? Why is it that whenever *e* makes  $\langle P \rangle$  true, it has to do so in all the worlds in which it exists? It is surprising to learn that the only author who has made an effort to answer this question is David Armstrong. He presents us with the following *reductio*:

If it is said that the truthmaker for a truth could have failed to make the truth true, then we will surely think that the alleged truthmaker was insufficient by itself and requires to be supplemented in some way. A contingently sufficient truthmaker will [make the truth] true only *in circumstances that obtain in this world*. But then these circumstances, whatever they are, must be added to give the full truthmaker.<sup>2</sup>

 $^{2}$  Armstrong (1997: p. 116). See also Bigelow (1988: p. 125) for a similar argument for the view that truth supervenes on being.

<sup>&</sup>lt;sup>1</sup> Armstrong (2004: pp. 5 – 6).

Consider Russell's argument for why the problem of general facts cannot be solved-that, as he puts it, there must be general facts 'separate and distinct from all the atomic facts'.<sup>3</sup> Russell showed that no enumeration of mortal men—no list of the form ' $a_1$  is a man that is mortal', ' $a_2$  is a man that is mortal', etc can entail that all men are mortal (even if all the men are enumerated). The list will only make it true that all men are mortal in circumstances that obtain in the actual world where there are no men in addition to the ones enumerated. In other possible worlds in which these men exist, the presence of some man that is not mortal will render it untrue that all men are mortal. Following Armstrong's advice, we should supplement the individual facts about each man being mortal with whatever makes it true that the circumstances in the actual world obtain: i.e. with the truthmaker for (nothing is a man other than  $a_1, a_2, \dots, a_n$ ). Because it is a contingent fact that there are no men in addition to the ones listed, we also need higherorder states of affairs—that is to say, the totality fact that these are all the men there are.

If it is true that a certain conjunction of states of affairs is all the states of affairs, then this is only true because there are no more of them. [...] That there are no more of them must then somehow be brought into the truthmaker. [...] The truthmaker must be the fact or state of affairs that the great conjunction *is* all the states of affairs.<sup>4</sup>

Armstrong's account is elegant in its generality: that there are no men other than the ones listed is made true by a totality fact of the form T(A), being a man) in which A is the mereological aggregate of  $a_1, a_2, ..., a_n$ , and T is the totality relation. A mereological aggregate is said to total a property just in case no other thing possesses this property, so that A bears the totality relation T to the property of being a man if and only if there are no men other than  $a_1, a_2, ..., a_n$ . That all men are mortal is made true, not by each particular man being mortal, but by these states of affairs in conjunction with a higher-order totality fact guaranteeing that there are no men other than  $a_1, a_2, ..., a_n$ . By the same token we are able to make do without negative states of affairs in accounting for the truth of negative predications. All that is needed in order to make  $\langle a_1$  is not a woman true is the mereological sum of the states of affairs constituting  $a_1$ 's possession of its properties B, and the second-order property of being a property of  $a_1$ : i.e. T(B), being a property of  $a_1$ ).

For all their merits, totality facts are controversial. It has been claimed that they are negative facts in sheep's clothing;<sup>5</sup> that they unfold an unhappy

<sup>&</sup>lt;sup>3</sup> Russell (1956: p. 236).

<sup>&</sup>lt;sup>4</sup> Armstrong (1997: p. 198).

<sup>&</sup>lt;sup>5</sup> Molnar (2000: pp. 81–82). See also Armstrong (2004: p. 73).

regress:<sup>6</sup> and that they might lead to something resembling Russell's paradox.<sup>7</sup> There are also no independent reasons to believe in them, so the worry is that we are extending our initial ontological stock with problematic entities that are tailored to fit as truthmakers for the sake solely of general and negative truths. To take an example, suppose we want to know what makes it the case that a certain collection of books are all the philosophy books there are on my bookshelf. Armstrong's theory suggests that there is a distinctly second-rate property being a philosophy book on my bookshelf which is included in a totality state of affairs consisting of a mereological collection of books, the second-rate property and a totality relation. But why should we think that there are states of affairs with such properties? After all, as Ross Cameron points out, "There is not in general the state of affairs of the X's being F whenever the X's collectively satisfy the predicate "... are F".<sup>8</sup> According to a sparse theory of properties we should rather only include properties into states of affairs that non-redundantly account for the similarity and causal powers of things. It is therefore particularly vexing to wonder how there could be a second-order property like being the only things of kind K, which is such that it applies collectively to all the firstorder states of affairs of that kind. The property appears to be neither sparse nor non-redundant; it is wholly extrinsic to its bearer and it violates the intuition that fundamental states of affairs are constituted solely by positive entities of the first-order.<sup>9</sup> How we are to reify such an abundant property into a totality fact remains a mystery. This is not to say that we cannot truly describe the world being such that certain circumstances do not obtain. But however advantageous it would be, it need not follow that for every such description there is an entity in the world to which the description corresponds and whose existence is such that it necessitates the non-existence of any possible circumstance other than the actual.<sup>10</sup>

Armstrong admits that higher-order entities are 'objectionable' and 'a major sin against economy'.<sup>11</sup> Somewhat reluctantly, he nonetheless thinks that they are required in view of general and negative truths. This is because he accepts Truthmaker Maximalism, the principle according to which for

<sup>6</sup> See Heil (2006: pp. 237–40) and Cox (1997). Armstrong addresses this worry in his (2004: pp. 78–79).

<sup>8</sup> Cameron (2008b: p. 294).

<sup>9</sup> Schaffer (2008).

<sup>10</sup> Other alleged truthmakers for negative truths include the likes of negative states of affairs (Russell 1956) and absences (Martin 1996 and Kukso 2006). It should be noted, however, that totality states of affairs enjoy ontological superiority over these entities. For even if we admit the existence of negative existences into our ontology, it will still be necessary to include states of affairs of totality (Armstrong 1997: p. 135). For this reason, I shall limit the discussion to the latter.

<sup>11</sup> Armstrong (1997: p. 134).

<sup>&</sup>lt;sup>7</sup> Keller (2007).

every truth  $\langle P \rangle$ , there is some entity e such that e makes  $\langle P \rangle$  true. Some truthmaker theorists deny this. In the tradition of logical atomism, for example, the truth value of a truth-functional complex is explained in terms of its logical structure and atomic propositions. All it takes to determine the truth value of a truth-function is to fix the truth value of its simpler constituents. This suggests that a proposition does not need a truthmaker if it is a truth-functional construction out of atomic propositions. In particular it would appear that negative truths do not need them, for if  $\langle P \rangle$  is made true by e, then all it takes to make  $\langle P \rangle$  false and hence  $\langle P \rangle$  true is that e does not exist. There is thus no need for totality facts or negative states of affairs to make it the case that that there are no men other than  $a_1, a_2, \dots, a_n$ . All it takes to make it true that all men are mortal are the truthmakers for the atomic truths. These truthmakers do not necessitate the truth of (all men are mortal) because they only make the proposition true in worlds where there are no men other than  $a_1, a_2, \dots a_n$ . But this is a negative truth—it requires no truthmaker. To demand that those circumstances must be added to give the 'complete' truthmaker for (all men are mortal) would be to require the addition of something whose existence is denied; namely, that there is a circumstance in the actual world answering to the proposition that there are no men other than  $a_1, a_2, \dots a_n$  and which necessitates its truth. Additional supplements can only be added if they exist, but to deny the existence of higher-order or negative states of affair is, precisely, to deny that there is anything guaranteeing that there are no men other than  $a_1, a_2, \dots, a_n$ .<sup>12</sup>

Unfortunately, matters are not quite as easy as those who deny maximalism would like us to believe. Among the truth-functional complexes it is only negative propositions that are meant to be true because there is nothing making the more atomic propositions true. The truth of all the other complexes bottoms out at existence facts requiring truthmakers for the simpler constituents. We do not need to postulate the existence of a truthmaker for  $\langle P \& Q \rangle$ : the conjunction is true as long as there exists a truthmaker for *each* conjunct. Nor do we require a truthmaker for  $\langle P \lor Q \rangle$ : it suffices that there is a truthmaker for either disjunct. However, there is no analogous case for negations:  $\langle P \rangle$  is supposed to be true just in case *nothing* makes  $\langle P \rangle$  true. But why should we accept this? Truthmaking is the relation we invoke to explain why a proposition is true by reference to the existence of that upon which its truth is grounded. Surely this must apply to all truths. It is no good requiring grounds for the positive truths while arguing that negative truths escape such explanation. For if there is nothing making negative truths true, why bother with truthmakers to begin with? The motivation for truthmaker theory is unrestricted—it applies to all cases if it applies to any. Julian Dodd concurs, adding that "[t]o posit exceptions to the claim that

<sup>&</sup>lt;sup>12</sup> The same point is made in Cameron (2005) and Mellor (2003).

every truth has a truthmaker is to cut oneself adrift from the motivation for being a truthmaker theorist in the first place".<sup>13</sup> Once we give up on the idea that negative truths are made true, we also have to give up on the metaphysical picture driving truthmaker theory—the intuition that truth requires ontological grounds.

This presents us with a dilemma. Maximalism is either true or false. If it is true, we need to pay the heavy ontological price it commands in terms of entities able to act as truthmakers for general and negative truths. This makes us vulnerable to everything entailed by totality facts: vicious regresses; paradoxes and a negative ontology. On the other hand, if maximalism is false in view of negative truths, we must accept defeat of ever having a unified theory of truthmaking: some truths are *made* true, the rest are true by some other means. This is hardly attractive as it undermines the intuitively compelling idea that truth (i.e. every truth) is grounded in existence facts. Irrespective of whether we accept maximalism or not, we are thus forced to concede undesirable consequences.

Fortunately, there is a way to resolve this dilemma. Assuming maximalism, there must be an entity which makes it true that there are no men other than  $a_1, a_2, \dots a_n$ . And if Armstrong is correct, we should be persuaded to include that entity together with the conjunction of individual facts about each man being mortal; thus yielding a 'complete' truthmaker necessitating the truth of the generalisation that all men are mortal. But what are our reasons for thinking this? Why should we accept that there are no worlds where this truthmaker exists but where it is false that all men are mortal? We are only ever committed to this assumption if we accept Truthmaker Necessitarianism. For if the truthmaker for the negative proposition only contingently makes it the case that there are no men other than  $a_1, a_2, \ldots a_n$ , there will be worlds where the 'complete' truthmaker exists, but where it is nonetheless false that all men are mortal. The only way to avoid this consequence is to assume that truthmakers need to necessitate the truth of the propositions they make true; and this cannot be assumed without presupposing what the sufficiency argument is set out to establish. So in order not to beg the question, Armstrong must leave it open that there are worlds where the 'complete' truthmaker exists, but where it nonetheless fails to be true that all men are mortal. Consequently, even if the conjunction of individual facts about each man being mortal merely contingently suffices to make it the case that all men are mortal, we have been given no reason to think that they are not adequate truthmakers for that truth.<sup>14</sup>

<sup>&</sup>lt;sup>13</sup> Dodd (2007: p. 395).

<sup>&</sup>lt;sup>14</sup> See Cameron (2008*a*) for a lengthy analysis of the question-begging character of Armstrong's sufficiency argument. See also Merricks (2007: p. 5–11).

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We are now in a position to see that the dilemma can be resolved by denying Truthmaker Necessitarianism. The preceding argument illustrates that we are able to hold on to maximalism without having to postulate the existence of negative or totality states of affairs. For these are entities, the postulation of which is, supported by no arguments independent of maximalist versions of truthmaker theory there is a prior commitment to Truthmaker Necessitarianism. The task of the present paper is to provide arguments to the conclusion that truthmaking neither implies nor reduces to necessitation, and that the explanatory role that some theorists take truthmakers to play can be played equally well by truthmakers that need not necessitate the truth of the propositions they make true.

## 2. Truthmaking as Grounding

The insight behind truthmaking is that truth is grounded. In other words, the truth of a proposition is not primitive but depends in a non-trivial way upon an antecedently existing reality. As noted by Gonzalo Rodriguez-Pereyra, "If a certain proposition is true, then it owes its truth to something else: its truth is not a primitive, brute ultimate fact. The truth of a proposition thus depends on what reality [...] is like. What reality is like is anterior to the truth of the proposition, it gives rise to the truth of the proposition and thereby accounts for it."<sup>15</sup> The idea is intuitively appealing. Whenever a proposition is true, it is not just true; one feels that there must be something external to the proposition in virtue of which it is true. In accordance with Rodriguez-Pereyra, I take the explanatory relationship to be underwritten by a non-causal grounding relation holding between what is explained (i.e. the truth of the proposition) and what explains it (i.e. the truthmaker). Everyone who thinks that truths are made true accepts this. To be sure, some find the notion of 'grounding' obscure in which case they try to define truthmaking in terms of notions that are better understood.<sup>16</sup> But this does not mean that they deny the groundedness of truth, only that they think that there is a more perspicuous explication of the concept to be had. Be that as it may; we need not settle the question in order to see that truthmaking qua grounding cannot be reduced to anything like necessitation.

## 2.1. Truthmaking qua Grounding does not reduce to Necessitation

Starting with the formal properties; grounding is an *irreflexive* and *asymmetric* relation in that for every *e* and  $\langle P \rangle$ , if the truth of  $\langle P \rangle$  is grounded in

<sup>&</sup>lt;sup>15</sup> Rodriguez-Pereyra (2005: p. 21, footnote removed)

<sup>&</sup>lt;sup>16</sup> See e.g. Bigelow (1988: p. 125).

*e*, then *e* is not grounded in the truth of  $\langle P \rangle$ ; and for no  $\langle P \rangle$  is the truth of  $\langle P \rangle$  grounded in the truth of  $\langle P \rangle$ . The intuition behind this is clear: nothing is such that it explains itself, nor is such that it explains what it is explained by. In contrast, necessitation is a modal relation between what holds at a set of worlds S and what holds at a superset S<sup>+</sup>.<sup>17</sup> This means that necessitation will exhibit the same formal properties as set inclusion: i.e. *reflexivity* and *non-asymmetry*. Truthmaking *qua* grounding cannot exhibit these features as it is a cross-categorial relation relating worldly entities with true propositions.

Secondly, grounding is a *hyperintensional* relation. Necessary existents and truths figure in non-trivial explanations invoking the relation of grounding. Necessitation, on the other hand, is an intensional relation. It cannot distinguish entities or propositions that exist or are true in exactly the same worlds. For any entity e and necessary truth  $\langle P \rangle$ , the existence of e necessitates the truth of  $\langle P \rangle$  in that there is no possible world in which e exists and in which  $\langle P \rangle$  is false. Since *e* is any arbitrary existent and  $\langle P \rangle$  is any arbitrary necessary truth, it follows that every existent makes every necessary truth true. But this is false. Whatever makes it true that 2 + 2 = 4, that water is identical to H<sub>2</sub>O or that it either rains or does not rain, it is clear that any old entity does not. While the rose makes it true that the rose exists. it is intrinsically implausible that the rose can function as a truthmaker for  $\langle 2 + 2 = 4 \rangle$ . The truth of the proposition is not grounded in the existence of the rose. Grounding is a hyper-intensional relation; and the mere fact that there are no possible worlds where the rose exists but where  $\langle 2 + 2 = 4 \rangle$  is false does not establish grounding.

Thirdly, grounding depicts a relation of *ontological priority* in that if  $\langle P \rangle$  is true in virtue of *e*, then *e* needs to be ontologically prior to  $\langle P \rangle$ . The guiding intuition behind the requirement is that the truth of a proposition is not primitive, but depends in a non-trivial way for its truth upon an antecedently existing reality. The ways in which the world is must therefore take explanatory priority over the semantic properties used in our descriptions of it.<sup>18</sup> That is to say; we need to restrict truthmakers to entities that are ontologically prior to that which they make true. This enables us to ensure the right order of explanation. Assume Kim to be in the state of knowing that a certain rose exists. Since knowledge is a factive state, it follows that in every possible world in which Kim's in that state, it will also be true that the rose exists is *Kim's being in the state of knowing that the rose exists* is clearly false. The rose should qualify as a truthmaker for the proposition that the rose exists

<sup>&</sup>lt;sup>17</sup> Schaffer (2008).

<sup>&</sup>lt;sup>18</sup> See e.g. Liggins (2005: p. 113) and Schaffer (2008: p. 309).

and not the fact that someone is in the state of knowing that the rose exists.<sup>19</sup> We explain (at least partly) the fact that Kim's in the state of knowing that the rose exists in terms of the truth of the propositions that the rose exists, not the other way round. The proposition is prior to the state in so far as the latter is explanatorily dependent upon the truth of the former, but not *vice versa*. If there is no restriction of ontological priority, then there is no guarantee that the order of explanation goes from that which is anterior to that which is posterior.

Last but not least, grounding is *non-monotonic* in that if *e* grounds the truth of  $\langle P \rangle$ , it does not follow that  $\langle P \rangle$ 's truth is also grounded in the plurality consisting of e and x (for some arbitrary x). The rose grounds the truth of the proposition that the rose exists. But it does not follow-and it would not be true-that the truth of the proposition is grounded in the plurality consisting of the rose and, say, the Eiffel Tower. The latter is of no relevance to the truth of the proposition that the rose exists; and when an entity is of no relevance to the truth of a proposition, no plurality of entities one of which is that entity, is something the proposition in question is true in virtue of.<sup>20</sup> Necessitation, on the other hand, is monotonic and, hence, indefeasible in view of irrelevant additions. Thus for example, the plurality consisting of the rose and the Eiffel Tower necessitates the truth of the proposition that the rose exists in that there are no possible worlds where the plurality exists but it is false that the rose exists. However, (the rose exists) is not true *in virtue of* the plurality in question, which it would be if grounding could be reduced to necessitation. So it can't.

More could be said about the differences between truthmaking and necessitation. But for our present purposes this exposition suffices, for it illustrates that any attempt to define truthmaking in purely modal terms provides little in the way of ontological illumination. By substituting the notion of necessitation for truthmaking we merely generate empty formalities, rather than provide a substantial account of what it is for truthmaking is definable in terms of possible worlds, but whether the grounding conception involves commitment to Truthmaker Necessitarianism. For even if truthmaking *qua* grounding does not reduce to patterns of modal covariation, it might still have implications for them.

<sup>19</sup> This also goes to illustrate that we cannot avoid the problem that every necessary truth is necessitated by every existent by rendering the schema  $\Box B \supset \Box (A \supset B)$  invalid. An implementation of relevance logic simply misses the target as we may assume the contingent truth that the rose exists to be relevantly necessitated by Kim's being in the state of knowing that the rose exists.

<sup>20</sup> Compare Rodriguez-Pereyra (2006: p. 970 – 973).

#### 2.2. Truthmaking qua Grounding does not imply Necessitation

In the previous section, we saw that an abandonment of Truthmaker Maximalism in view of negative truths results in abandoning Truthmaker Necessitarianism for all truths which, in addition to their truthmakers, also require that something does not exist. Moreover, we saw that we were able to explain this lack of necessitation by claiming that truthmakers for negative truths are not needed. Assuming maximalism, however, this explanation is no longer open to us. Negative truths, like all truths, demand the existence of ontological grounds in virtue of which they are true. Having said that, we recall that there are no non-question begging reasons to assume that the truthmakers for negative truths (or any other truth, for that matter) must necessitate those truths. In fact, a lot is to be gained by giving up on necessitarianism while retaining maximalism. It would, among other things, enable us to account for the intuition that the explanation of truth bottoms out at existence facts, without thereby having to pay the heavy ontological cost raised by the demand for having necessitating truthmakers for all truths. In what follows, I will argue that truthmaking has, indeed, nothing to do with necessitation, and that we have no reason to think that the role of truthmakers to provide ontological grounds for truths cannot be performed by entities that merely contingently make those truths true.

Consider Armstrong's argument for why contingent predications are made true by states of affairs. Suppose it is contingently true that a is F. That particular a instantiates F, but it is metaphysically possible that a is not F. What is it about the world that makes it true that a is F? In view of Truthmaker Necessitarianism, the truthmaker cannot be a itself. The particular might, *ex hypothesis*, not have been an F, in which case there will be worlds where a exists but where it is false that a is F. Nor can the truthmaker be the joint existence of a and F-ness, since both entities could exist without it being true that a is F. (Supposing that properties cannot exist unexemplified, F could be instantiated by another particular). It would thus seem that something in addition to a and F-ness is needed to serve as a truthmaker for  $\langle a$  is F $\rangle$ . And according to Armstrong, this is the state of affairs, a's being F. For in every possible world where that state exists, it is also true that a is F.

Let us follow Armstrong and take the proposition that the rose is red to be made true by the state of affairs consisting in *the rose's being red*. Unlike the rose, there are no possible worlds where the state of affairs exists but where it fails to be true that the rose is red. The necessity that the state confers is, according to Armstrong, essentially related to, or a consequence of, the truthmaking abilities of that state. But why should we accept this? Why can't the necessity conferred by the state of affairs rather be a consequence of its being a necessary and sufficient condition for the identity of states of affairs that they contain exactly the same constituents arranged in the same manner? After all, this is something that Armstrong has to assume independently of Truthmaker Necessitarianism in order for his argument to work. This can be seen if we suppose that the transworld identity of states of affairs does not supervene on their structural composition, and that the rose's being red could have been constituted by, say, the rose and yellowness. In that case, the state would not necessitate the truth of (the rose is red), since there would be worlds where *the rose's being red* obtains, but where it is false that the rose is red. The state will only make the proposition true in worlds where the rose's being red is constituted by the rose and redness. For the sake of the argument, we may assume this to be a contingent fact. So there will be worlds where the same state obtains, but where the proposition is false. Nonetheless, the obtaining of the rose's being red is enough to ground the truth of (the rose is red) despite the lack of necessitation by that state of affairs. What goes on at other possible worlds is totally irrelevant to the question of what makes that proposition true in the world in which it is being evaluated. That the rose's being red could have been constituted by the rose and yellowness makes no difference whatsoever to the truthmaking abilities of that state. And why should it? As long as the state of affairs makes it the case that the rose is red in the actual world, there is no non-question begging reason to take any other-worldly inhabitants into account. Nor are we forced to accept that the rose's being *red* must be supplemented with the factual circumstances. For this no longer makes any sense. The rose's being red is only a truthmaker for (the rose is red) under circumstances that obtain in this world, where the state of affairs is constituted by the rose and redness. But since this is the case solely in virtue of *the rose's being red*, it follows that there is nothing in addition to the state of affairs to be added. And if Armstrong means to say that there has to exist something in the actual world that does not exist in a world where (the rose is red) is false, and that this existence must be incorporated into the truthmaker, he begs the question. He has yet to give an argument showing that this supplement, assuming it exists, would have to be added to the rose's being red in order for (the rose is red) to be true. Until then, there is no reason to assume that truthmakers must necessitate truth.

Let me be clear about what I am arguing. I do not deny that truths are grounded in the existence of states of affairs. The truth of the proposition that the rose is red should be conceived of as grounded in *the rose's being red*, rather than, say, the rose itself. But this has nothing to do with the alleged necessity that the state of affairs confers on the proposition that the rose is red, and everything to do with the fact that the rose *is* red. Suppose the truth of the proposition that the rose is red is grounded in the rose. The rose is not only red, but also of a determinate mass, shape and so forth. So if the rose makes it true that the rose is red, it will also make true propositions about other (non-relational) properties of the rose. But this is wrong. For what makes it true that the rose is red is not what makes it true that the rose weighs 50 grams. What makes it true that the rose is red is that it is red, and what makes it true that the rose weighs 50 grams is that it is a mass of 50 grams.<sup>21</sup> This 'is' is not the 'is' of identity, but that of *instantiation*—a fundamental, non-relational tie between particular and property. But the instantiation of a property by a particular is just the state of affairs itself. Consequently, to say that (the rose is red) is true in virtue of the rose instantiating redness is just to say that the proposition is true in virtue of the state of affairs *the rose's being red*. The state cannot exist and it be false that the rose is red. This is not denied. What is denied is that this necessity is somehow a consequence of, or essentially related to, the state making it true that the rose is red. The rose instantiating the colour it actually has (whatever colour that may be) is, in the world in which the evaluation is made, sufficient to ground the truth of the corresponding attribution. In this world the rose exists and is red. And this is enough to make it true that the rose is red, irrespectively of whatever colour the rose happens to exemplify in any other world of evaluation.

That truthmakers need not necessitate the truth of the propositions they make true should come as no surprise. We have already seen the difficulty of finding necessitating truthmakers for negative and general truths that can be justified independently of saving Truthmaker Maximalism from falsification. And, indeed, I gather from the literature on the subject that the less contentious (and less extravagant) maximalist accounts of what makes negative or general claims true have all given up on the idea that truths need to be necessitated by what makes them true.<sup>22</sup> Somewhat surprisingly, however, these accounts don't give up on Truthmaker Necessitarianism completely, but restrict the scope of the principle to only cover atomic truths. But if what has been said here is correct, there is no need for such a restriction. The very notion of truthmaking qua grounding involves no commitment whatsoever to necessitarianism. What is more, the principle has no obvious explanatory role to play in the argument for states of affairs, and the alleged necessity that states confer on truth can be explained away by the identity criterion for states of affairs.

## 2.3. Determination or Dependency?

As already argued, truthmaking is the relation we invoke to explain why a proposition is true by reference to the existence of that which grounds its truth. Now, it is reasonable to assume that explanation is primarily an

<sup>&</sup>lt;sup>21</sup> See Rodriguez-Pereyra (2005: pp. 23-25) for a similar argument.

<sup>&</sup>lt;sup>22</sup> See e.g. Pendlebury (1986), Parsons (1999) and Briggs (2012).

epistemological enterprise, but that in order for explanations to work there has to be an underlying metaphysical structure of interrelated entities of a certain modal force. Consider the following intuitive argument concerning the possibility of explanation offered by Rodriguez-Pereyra:

Explanation is not and does not account for grounding—on the contrary, grounding is what makes possible and 'grounds' explanation [...] what makes explanation possible is the presence of certain *determinative* relations between entities [...] So invoking the explanation of the truth of the proposition that the rose is red will not save us from postulating a relation (namely grounding) between some entity and the proposition.<sup>23</sup>

The idea here is this: whenever we have a true explanation of the form 'A in virtue of B', there must be entities x and y, and these must be appropriately related to 'A' and 'B' respectively such that y bears some determinate relation to x. So in order for ' $\langle$  the rose is red $\rangle$  is true in virtue of *the rose's being red*' to be true, there must be the proposition (the rose is red $\rangle$  and its truthmaker, *the rose's being red*; and the latter must determine the truth of the former. There is not the state of affairs, *the rose's being red*—and by an outstanding coincidence it happens to be true that the rose is red. Truthmaking is an explanatory enterprise; and there could not possibly be an explanation of truth if the link between explanans and explanandum were a purely accidental relation. When we say that a proposition is made true by a state of affairs, we are implying that the proposition in question is true *in virtue of* that state of affairs. And, if Rodriguez-Pereyra is correct, this signifies a grounding relation holding between a truthmaker and a proposition, such that the existence of the former *determines* the truth of the latter.<sup>24</sup>

For one thing to determine another is at least for the first to suffice for the second. However, this should not be read to imply the kind of metaphysical sufficiency depicted by Truthmaker Necessitarianism. If causal determinism is true, then a cause must suffice for its effect. But we do not conclude from this that causal conditionals are strict. It takes laws of nature to link causes to their effects. And if laws are contingent, then deterministic causes do not necessitate their effects in the sense depicted by Truthmaker Necessitarianism. So it does not follow from the assumption that grounding is a determinative relation that it is also metaphysically necessary. This is

<sup>23</sup> See e.g. Rodriguez-Pereyra (2005: p. 28).

<sup>24</sup> It should be noted that Rodriguez-Pereyra (2005: 21) understands the idea that truth is grounded in reality to be best expressed by true instances of 'A because B', where 'because' is taken to be a predicate referring to the grounding relation. This is controversial. The most common conception is that 'because' is a (non-truth functional) sentential connective, and so that 'A' and 'B' are sentences rather than singular terms. We are thus under no obligation to suppose that true instances of 'A because B' express relations. For the sake of the argument, however, I shall ignore this complication and take truthmaking qua grounding to be expressed by the relational expression 'in virtue of'.

not to say that truthmakers *cause* propositions to be true—they don't. But just as we may talk about causes that contingently determine their effects; we may talk about a contingent form of truthmaking. For when it takes more than one entity to necessitate the truth of  $\langle P \rangle$ , there are, as we have seen, no non-question begging reasons for why we can't call *any* of them, *given* all the others, a truthmaker for  $\langle P \rangle$ .

More important for our present purposes is the fact that true explanations need not have their metaphysical basis in determinative relations at all. What is required in the above case is that there are entities x and y, and that these are appropriately related to 'A' and 'B' respectively, such that *either* y bears some determinative relation to x, or x stands in some dependency relation to  $y^{25}$  And the relevant notion of grounding that is in play here is that of a dependency relation. In fact, this has been the guiding intuition all along.

Recall that grounding and necessitation have different formal features. Grounding is an irreflexive and asymmetric relation, whereas necessitation is neither. So while the truth of a proposition is grounded in reality, reality is not grounded in true propositions. We are able to account for this asymmetry in terms of dependence. For the truth of the proposition that the rose exists is dependent on the rose, but the rose does not depend on the truth of the proposition that the rose exists. We explain the truth of (the rose exists) in terms of the rose, and not vice versa. Or consider the problem of necessary truths. The problem here was that grounding is a hyperintensional relation, whereas necessitation is intensional. The rose cannot exist and it be false that 2 + 2 = 4. But we do not want to say that  $\langle 2 + 2 = 4 \rangle$ 's truth is grounded in the rose, for the proposition does not depend for its truth on the rose. Whatever necessary truths depend on-whether they are grounded in Platonic ideas, or in the meanings of mathematical terms-it is clear that they do not depend on an arbitrary entity like the rose. Or consider the fact that necessitation does not depict a relation of ontological priority. *Kim's being in the* state of knowing that the rose exists necessitates the truth of the proposition that the rose exists. But we would not say that the truth of the proposition is grounded in that state. And if I'm right, the reason for this is that the proposition does not depend for its truth on Kim (or anyone else, for that matter) being in the state of knowing that the rose exists. The truth of  $\langle$  the rose exists $\rangle$ depends simply on the rose. Similarly with respect to the problem imposed by irrelevant additions. Unlike grounding, necessitation is a monotonic relation. The joint existence of the rose and the Eiffel Tower necessitates the truth of the proposition that the rose exists; yet we would not want to say that the truth of the proposition is grounded in their joint existence. The reason for this is that the proposition does not depend for its truth on the rose and the Eiffel Tower. Its truth depends on the rose simpliciter. And this is the raison

<sup>&</sup>lt;sup>25</sup> Ruben (1990: pp. 209–211).

*d'être* of truthmaker theory. It is the idea that truth depends on being in that it has its basis in what exists. But this, we have seen, ought not to yield anything like Truthmaker Necessitarianism. In fact, if what has been said is correct and grounding is a dependency relation, then grounded truths need not even be determined by what there is.

To see this; consider the way in which dependency, unlike determination, applies to indeterministic phenomena. Take some discrete system of states consisting of two immediately preceding states  $S_1$  and  $S_2$ . Assume that the laws of the system are such that under the actual circumstances the chance of  $S_2$  occurring without  $S_1$  is 0, yet  $S_2$  succeeds  $S_1$  with a chance of less than 1 (but higher than 0).  $S_2$  will then depend upon  $S_1$  insofar as  $S_2$  has no chance of occurring without  $S_1$  occurring first. Still  $S_2$  is not determined by  $S_1$ , since there is the chance that  $S_1$  occurs without  $S_2$ . In other words, for y to be determined by x, it is necessary that x is sufficient for y—x need not be necessary, but it must at least be sufficient. On the other hand, for y to be dependent upon x, x must be necessary for y—x need not be sufficient, but it must at least be necessary.<sup>26</sup>

Indeterministic physics provides a way to refute the requirement that effects are determined by their causes. Various publications on the theory of counterfactuals suggest an analogous way to refute the claim that truth is determined by the existence of that which grounds its truth.<sup>27</sup> The idea is that Lewis's framework for providing truth-conditions for counterfactual claims in terms of the similarity relations obtaining between possible worlds is mistaken, and that our position in modal space is not determined by the actual facts. In discussing the semantics of counterfactual claims in indeterministic contexts, John Hawthorne suggests that we need to repaint the traditional picture. His own preference is for a position according to which, for any world w and possibility that P, there is a unique closest world to w where it is true that P.<sup>28</sup> But now consider a case in which it is assumed to be true of a certain 1 kg object that had it been dropped, it would have fallen to the ground. Let us furthermore assume that the counterfactual is made true by the object having the power to attract masses in proportion to its size. If we accept interpretations of quantum mechanics according to which the wave function for a system allows for irreducible probabilities of location, there is in the mundane course of things an extremely small objective probability of some bizarre events unfolding. The object being dropped may approximate a deterministic system but never fully reach it. Although it is an extremely small chance, there is the chance that the object, when dropped, will never fall to the ground-it might turn into dust, vaporize, hover in

<sup>&</sup>lt;sup>26</sup> The characterization is to be found in Grimes (1991).

<sup>&</sup>lt;sup>27</sup> See e.g. McDermott (1999) and Hawthorne (2005).

<sup>&</sup>lt;sup>28</sup> Hawthorne (2005: p. 404). A similar view is to be found in Stalnaker (1968).

mid-fall or fly off sideways. Suppose that the object is *not* dropped. If the closest world in which the object is dropped is also a world where the object falls to the ground, the counterfactual is true. Otherwise it is false. There is nothing in the actual world to tell us which of these two worlds is closest: no totality fact-no nothing. Consequently, indeterministic contexts allow for indiscernible worlds that differ with respect to what is true in them. But this just goes to show that in determining what is to be the case the actual world does not suffice. If the object is not dropped and the world is irreducibly probabilistic, there is, under the actual circumstances, a minute chance that it would fail to be the case that were the object to be dropped, it would have fallen to the ground. This cannot be ruled out. However, it does not follow from this that the counterfactual is true *in*dependently of what reality is like. For when it is true, the counterfactual will depend for its truth on the object having the power to attract other masses in the way specified by Newton's Law of Gravity. This is what grounds its truth and that which explains why the object falls upon being dropped.

One is perfectly free, for all that has been said, to deny Hawthorne's semantics for counterfactual claims. My intention has merely been to draw attention to the fact that grounding, like causation, is not a deterministic relation, and in effect, that grounds are not necessarily sufficient for the truths they ground. In particular, if e's existence grounds the truth of  $\langle P \rangle$ , it does not follow that if  $\langle P \rangle$  had not been true, e would not have existed. In indeterministic contexts it suffices that e raises the chance of  $\langle P \rangle$  being true. That is, the chance of  $\langle P \rangle$  being true must be higher than it would be had e not existed. But this lack of sufficiency does not pose a problem for truthmaker theory; for truth will still depend on being. If causal indeterminism has a bearing on grounding, this merely goes to show that some truths are not determined by being, in that their truth-value is not held fixed by what exists. Each counterfactual, whether it is about the outcome of unactualized deterministic or indeterministic processes will still depend for its truth upon that which grounds its truth. And the relevant notion of grounding that is in play here is the notion of a dependency relation. It is, as Rodriguez-Pereyra puts it, the notion that truth depends on being, in that it is grounded on being—being is the ground of truth.<sup>29</sup>

## 3. Concluding Remarks

This, of course, raises the important question of what this notion of dependency amounts to. Perhaps it is further analysable, perhaps it is a primitive. I will not pursue this matter here. Nor will I discuss the different kinds of

<sup>&</sup>lt;sup>29</sup> Rodriguez-Pereyra (2002: p. 33).

truths there are, and the ways in which they depend on being.<sup>30</sup> Suffice it for present purposes to say that by giving up on necessitarianism we are entitled to hold on to maximalism without having to postulate negative or higher-order states of affairs, thus resolving the aforementioned dilemma.

Recall that the complete enumeration of mortal men only makes it true that all men are mortal in circumstances that obtain in the actual world where  $a_1, a_2, \dots a_n$  are all the men there are. If Armstrong is correct, these circumstances must somehow be brought into the conjunction of individual facts about each man being mortal; yielding a 'complete' truthmaker necessitating the truth of the proposition that all men are mortal. Not only does this assume the point that Armstrong is trying to make; but the question of whether to add these circumstances should never have arisen in the first place. All it takes to make it true that all men are mortal are the biological dispositions that make each and every one of us mortal. Of course, these entities could quite easily be accompanied by humans with biological functions which make them immortal. This, however, does not mean that the truth of the proposition is left 'hanging in the air'. For even if the complete enumeration of mortal men only makes it true that all men are mortal in worlds like the actual where it is true that  $a_1, a_2, \dots a_n$  are all the men there are, there is no requirement that we also include the truthmaker for the latter proposition into the truthmaker for the former. Whatever makes it true that there are no men in addition to  $a_1, a_2, \dots a_n$  may vary from one world to another. And if so, the relation that obtains between the individual facts about each man being mortal and the proposition that all men are mortal is not dependent upon that which actually makes it true that there are no men other than the ones enumerated. The truthmaking relation will therefore only depend on the truth of the proposition that these are all the men there are. This is not to say that nothing makes this proposition true. We are, after all, assuming Truthmaker Maximalism. However, we are not committed to the further requirement that what makes true (nothing is a man other than  $a_1, a_2, \dots, a_n$  be brought into the truthmaker. Truthmaking is a matter of

<sup>30</sup> It is reasonable to assume that the groundedness of truth will be a variegated phenomenon wherein different kinds of truths stand in different kinds of dependency relations to being. Thus for example, a truth like (there are roses) is highly overdetermined in that the existence of each individual rose suffices to ground its truth. But we would not say that the truth of the proposition is dependent upon the existence of any rose in particular. Typically, general existential truths of the form 'there are Fs' are *generically dependent* on the existence of some thing or other of type F, rather than on a particular F. By contrast, singular existential truths of the form '*a* exists' are *strictly dependent* on that which grounds their truth. The proposition that the rose exists depends for its truth on the existence of a particular rose. We would similarly expect the atomic truths to differ in dependence from various truth-functional (e.g. negations and disjunctions) and non-truth-functional complexes (e.g. counterfactuals). See Stenwall (2010) for a discussion on what I take negative truths to depend on. dependency, and dependency relations do not entail patterns of modal covariation in the sense depicted by Truthmaker Necessitarianism. There is thus no need to appeal to negative or higher-order states of affairs. What make true generalisations about the mortality of men are the first-order facts that contribute to the causal order of the world.

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## References

- ARMSTRONG, D.M. (1997). A World of States of Affairs, Cambridge: Cambridge University Press.
- -, (2004). Truth and Truthmakers, Cambridge: Cambridge University Press.
- BIGELOW, John (1988). The Reality of Numbers: A Physicalist's Philosophy of Mathematics, Oxford: Oxford University Press.
- BRIGGS, Rachel (2012). Truthmaking without necessitation, Synthese 189: 11–28.
- CAMERON, Ross (2005). Truthmaker Necessitarianism and Maximalism. *Logique et Analyse* 48: 43–56.
- —, (2008a). Truthmakers, Realism and Ontology, in *Being: Contemporary Developments in Metaphysics*, R. Le Poidevin, ed. Cambridge: Cambridge University Press: 107–128.
- ---, (2008b). Comments on Merricks's *Truth and Ontology*, *Philosophical Books* 49: 292–301.
- Cox, D. (1997). The Trouble with Truth-Makers, *Pacific Philosophical Quarterly* 78: 45–62.
- DODD, Julian (2007). Negative Truths and Truthmaker Principles, *Synthese* 156: 383–401.
- GRIMES, Thomas (1991). Supervenience, Determination and Dependency, *Philosophical Studies* 62: 81–92.
- HAWTHORNE, John (2005). Chance and Counterfactuals, *Philosophy and Phenomeno-logical Research* 70: 396–405.
- HEIL, John (2006). The Legacy of Linguisticism, *Australasian Journal of Philosophy* 84: 233–244.
- KELLER, Philipp (2007). A World of Truthmakers, in *Metaphysics and Truthmakers*, Jean-Maurice, Monnoyer, ed. Frankfurt/Lancaster/New Brunswik: Ontos.
- KUKSO, B. (2006). The Reality of Absences, *Australasian Journal of Philosophy* 84: 21–37.
- LIGGINS, David (2005). Truthmakers and Explanation, in *Truthmakers*, Beebee and Dodd, ed. Oxford: Oxford University Press: 105–115.
- McDERMOTT, Michael (1999). Counterfactuals and Access Points, *Mind* 108: 291–334.
- MARTIN, C.B. (1996). How it is: Entities, Absences and Voids, *Australasian Journal* of *Philosophy* 74: 57–65.

- MELLOR, D.H. (2003). Real Metaphysics: replies, in *Real Metaphysics*, Hallvard Lillehammer and Gonzalo Rodriguez-Pereyra. London and New York: Routledge.
- MERRICKS, T. (2007). Truth and Ontology. Oxford: Clarendon Press.
- MOLNAR, George (2000). Truthmakers for Negative Truths, *Australasian Journal* of *Philosophy* 78: 72–86.
- PARSONS, Josh (1999). There is no 'Truthmaker' Argument against Nominalism, Australasian Journal of Philosophy 77: 325–34.
- PENDLEBURY, Michael (1986). Facts as Truthmakers, The Monist 69: 177-88.
- RODRIGUEZ-PEREYRA, Gonzalo (2002). *Resemblance Nominalism*. Oxford: Oxford University Press.
- ---, (2005). Why Truthmakers?, in *Truthmakers*, Beebee and Dodd, ed. Oxford: Oxford University Press: 17–31.
- --, (2006). Truthmaking, Entailment, and the Conjunction Thesis, *Mind* 115: 957–982.
- RUBEN, David-Hillel (1990). *Explaining Explanation*. London and New York: Routledge.
- RUSSELL, Bertrand (1956). The Philosophy of Logical Atomism, in *Logic and Knowledge*, London: Allen and Unwin.
- SCHAFFER, Jonathan (2008). Truthmaker Commitments, *Philosophical Studies* 141: 7–19.
- STALNAKER, Robert (1968). A Theory of Conditionals, Oxford: Blackwell.
- STENWALL, Robin (2010). Causal Truthmaking, Metaphysica 11: 211–222.