

# Truthmaking is not Necessitation

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## Abstract

I present a three-fold argument against truthmaker necessitarianism, the view that all and only truthmakers necessitate the truth of propositions. I argue first that David Armstrong’s argument for necessitarianism is ill-motivated and establishes only a weaker thesis – truthmaker internalism, that truthmaking is an internal relation in David Lewis’ sense. I then argue that necessitation is not sufficient for truthmaking. The argument for its non-necessity examines first Armstrong’s particular version of necessitarianism, truthmaking by states of affairs. Some of the considerations against it are then generalised to make the broader non-necessity claim plausible. I conclude that truthmaking is not a modal notion: it is a species of dependence.

How is it that by fixing our gaze on “there are no arctic penguins” we may learn something about the animal life of some distant geographical region? A popular approach has it that the question divides into two: how do we understand what truth is expressed by these marks? and: what makes this truth true? Subdividing the question, we take on an obligation to relate its answers: the theories of propositions and of truthmakers will have to be developed in parallel (cf. Heil 2003: 65). One of the morals of this article is that this is harder than it might seem.

The truthmaker question has a much wider application than to penguins. It may generally be asked to determine the entities and categories of entities in the existence of which someone believes.<sup>1</sup> This is of particular use in metaphysics, and I agree with Armstrong that asking the truthmaker question is a promising way to regiment metaphysical enquiry (Armstrong 2004: 4). In particular, I agree with him that “continually to raise the truthmaker question about properties makes for ontological honesty” (2004: 43) – answering this question commits us to an ontology of sparse properties, “in terms of which the world’s work is done” (2004: 17), and that this due to the fact that, intuitively speaking, we do not need the whole of the particular to make non-relational predications true (2004: 41). I also agree with Armstrong that we should start off as truthmaker maximalists, i.e. only give up on our quest for truthmakers once its irredeemability in some particular case or area has been demonstrated.<sup>2</sup>

The regimentation metaphysical enquiry receives from asking and answering truthmaker questions depends on what the truthmaking relation is taken to be. It is commonly assumed that truthmaking is necessitation<sup>3</sup>, which is the thesis I will criticise in the following:

**T** (Truthmaker Necessitarianism). *The determining of a truth by a truthmaker is an absolute necessitation.* (Armstrong 2004: 5).

Truthmaker necessitarianism is one of Armstrong’s reasons for believing in states of affairs. Because the truthmaker for the contingently true predication “*Fa*” must necessitate its truth, it cannot be *F* or *a* alone, nor their fusion, for all the three of them could exist without “*Fa*”’s being true. Hence it is the state of affairs *a*’s being *F*:

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

<sup>1</sup>Entities of every ontological category countenanced will serve as truthmakers for the claim that such things exist. Ontological pluralists will therefore have to live with truthmakers of more than one category (cf. Lewis 2001a).

<sup>2</sup>As it is in the case of what is expressed by “This sentence has no truthmaker” (cf. Milne 2005)

<sup>3</sup>E.g. by Mulligan et al. (1984: 305), Fox (1987: 189), Bigelow (1988: 125,130), Lewis (1998: 217), Smith (1999: 276), Forrest and Khlentzos (2000: 3) and Robinson (2000: 145).

be supplemented in some way. A contingently sufficient truthmaker will be true only *in circumstances that obtain in this world*. But then these circumstances, whatever they are, must be added to give the full truthmaker. (Armstrong 1997: 116, cf. also 1989b: 88)

While there are other arguments for truthmaker necessitarianism, it is this ‘sufficiency argument’ that provides the strongest motivation for believing that truthmaking is necessitation.<sup>4</sup>

The sufficiency argument, as Armstrong (1997: 115) says, establishes that the truthmaking relation is internal. This brings out a viable intuition: whether or not the truthmaking relation obtains between two items, does not depend on facts about other things. Truthmaking is in this sense self-grounded: its relata themselves make it obtain. If *T* makes it true that *p*, nothing else than *T* and *p* has, or could have, a bearing on whether or not the truthmaking relation holds between them. If the truthmaking would depend on something outside *T* and *p*, this additional circumstance would have to be brought into *T*, as Armstrong says. The sufficiency argument establishes the following:

**2** (Truthmaker internalism). *Truthmaking is an internal relation.*

Another reason for internalism is that external, but not internal relations are ontological additions to their terms. If truthmaking was an external relation, it would be an addition to the “ontology of the situation” (Armstrong 2004: 9) – it itself would have to be brought into the truthmaker, creating an infinite regress.

Whether we get truthmaker necessitarianism out of truthmaker internalism, of course, depends on what we mean by “internal relation”, a notoriously ambiguous term. Armstrong (1978b: 85) defined an internal relation as follows: Two or more particulars are internally related if and only if they have properties necessitating that the relation holds. They are externally related if and only if there are no properties which necessitate the relation or any part of it (cf. also Armstrong 1989a: 105). The context makes it clear that the properties in question are intrinsic. This is how I’ll use “internal relation” in the following:

**3** (Internal relations). *A relation is internal iff it supervenes on the intrinsic properties of its relata*<sup>5</sup>

Armstrong (1997: 12, 87, 115) says that a relation is internal if and only if it is possible that its terms exist together but impossible that they exist without the relation holding between them, and adds that “to fall under our definition of internal relations, the particulars involved must be taken as having their non-relational properties” (Armstrong 1997: 88). In other words, they are to be thought of as “thick particulars”, particulars ‘taken together’ with their intrinsic properties.

In response to the criticism of Devitt (1980: 98) that his account renders exemplification obscure, Armstrong (1980a: 109–110) claimed that while we can distinguish the bare or ‘thin’ particular from its properties and the unexemplified universal from its exemplifications in ‘thick’ particulars, neither can exist without the other. The thin particular is the “thing taken in abstraction from all its properties” (1978a: 114), the particular “taken apart from its properties” (1989b: 95), it is “the particularity of a particular, abstracted from its properties” (2004: 105).<sup>6</sup> The thick particular, on the other hand, is

<sup>4</sup>Cf. also Bigelow (1988: 126). Rodríguez Pereyra (2002: 32) takes “sufficiency” and “necessitation” to be terminological variants: “The truthmaker thus suffices for the truth of the sentence in question. [...] We can also say that the truthmakers necessitate the truth they make.”

<sup>5</sup>Lewis (1986: 62) calls an internal relation “intrinsic to its relata” (cf. also Lewis 1983: 26, n. 16).

<sup>6</sup>Armstrong (1997: 109) says it is “the particular abstracted in thought from its non-relational properties”, but then later makes it clear that he means all properties (1997: 123). Armstrong (1989b: 95) and Armstrong (1989a: 52) say that the thin particular still has some properties: though thin, it is still clothed and not bare. It is not clear, however, what these properties might be. They are not the essential properties, for the thin particular ‘taken together with’ its essential properties is intermediate between the thin and the thick particular (1997: 124). Presumably, the thin particular has just its formal properties, like *being a particular*. If we arrive at our concepts of thin particulars by ‘partial consideration’ (1997: 109), then their properties would be those we cannot subtract even in thought – which makes their nature dependent on our powers of abstraction.

the “particular taken along with all and only the particular’s non-relational properties” (1997: 124). It is the state of affairs of the (thin!) particular’s having all its non-relational properties ‘unfolded within’ it (1989b: 95), the particular “with all [its] (non-relational) properties upon [it]” (1997: 176). It is the thin particulars that stand in internal relations, but only their thick counterparts necessitate them. Armstrong, however, also holds that internal relations are necessitated by the existence of their *relata*:

I mean by calling a relation internal that, given just the terms of the relation, the relation between them is necessitated. (Armstrong 2004: 9, but cf. also p. 116)<sup>7</sup>

This, I think, is a mistake, because it turns truthmaker internalism into the claim that truthmakers, being ‘thick’, have *all* their intrinsic properties essentially.<sup>8</sup> The individual horses are minimal truthmakers for the truth that at least one horse exists (2004: 55) only if every horse is essentially a horse.<sup>9</sup> This applies quite generally: the ‘non-relational tie’ of exemplification between a particular and its intrinsic properties, for example, has to hold “given just the terms of the relation”, i.e. given the particular and the property.<sup>10</sup>

Armstrong’s identification of internal with essential relations not only makes exemplification problematic, but also gives us necessitation at too cheap a price: ‘thick’ particulars are “conceived as already possessing its properties” (Armstrong 1978a: 114) and thus have *all* their (non-relational) properties necessarily (Armstrong 1997: 125).<sup>11</sup>

Truthmaker internalism brings out the sense of sufficiency we are after in our quest for truthmakers, for it means that what truthbearers are made true by some thing is a matter uniquely of how that thing is itself. We only have chosen our truthmaker inclusive enough if its truthmaking ties do not depend on anything ‘outside’ it, i.e. cannot be made to vary by variation in the intrinsic properties of things disjoint of our truthmaker in question. Such a relation, however, may still be contingent. This is why we should stick with our account of internal relations as supervenient on intrinsic properties of their *relata*, and not require them to be necessitated by their existence alone.<sup>12</sup>

Even though the sufficiency argument does not privilege truthmaker necessitarianism over truthmaker internalism, the former may be held to be independently plausible. How could something be

<sup>7</sup>David (2005: 144), in spite of the many quotes given above, only finds this notion of “internal relation” in Armstrong and calls it “a bit non-standard”.

<sup>8</sup>It also means that Armstrong (2004: 23) is wrong to claim that “for every truthmaker  $T$ , the truth  $\langle T \text{ exists} \rangle$  has  $T$  as its unique minimal truthmaker”. Only ‘thin’- $T$  is minimal with respect to this “simplest of all truthmaking relations” (Armstrong 2004: 6). ‘Thin’- $T$ , however, is a mere abstraction from states of affairs, not itself a state of affairs: if the world is a world of states of affairs, ‘thin’- $T$  does not exist.

<sup>9</sup>Cf. Fox (1987: 194), Restall (1996: 332) and Lewis (1998). This essentialism about intrinsic properties has to be extended to merely possible entities: If the minimal truthmaker for “there are no unicorns” is the totality state of affairs that all ‘horse-like creatures’ lack ‘unicorn-making characteristics’ (Armstrong 2004: 36,76), then merely possible unicorns are essentially horse-like and essentially have the ‘unicorn-making characteristics’ (the horn, presumably).

<sup>10</sup>Of exemplification, Armstrong said in 1978 that “it is interesting, but somewhat saddening, to notice that the great modern defenders of transcendent universals, Moore and Russell, do not even consider this problem of the nature of the relation between particulars and Forms to which Plato gave such close attention.” (1978a: 67) It is interesting, but somewhat saddening, that the same can be said of the great contemporary defender of universals: if we distinguish, with Sider (1995: 368), the relation of ‘thick instantiation’ (the relation ‘thick’- $a$  has to  $F$  iff “ $Fa$ ” is true) and ‘thin instantiation’, neither of them can play the role of a contingent tie between  $a$  and  $F$ . The first holds necessarily if it holds at all, i.e. it does not allow for contingently true “ $Fa$ ”. The second is a “cross-categorical unity”, “the most puzzling unity of all” (Armstrong 2004: 267), which makes for a unity in diversity which is “literally inexplicable” (Armstrong 1978a: 109).

<sup>11</sup>Cf. also Armstrong (1989a: 52). Strictly speaking, however, the ‘thick’ particular does not exemplify *any* of its (first-order) properties (except perhaps its relational properties). It is, so to say, already ‘saturated’ (the terminology is from Armstrong (1980b: 109)); properties exemplified by it would be second-degree properties. Second-degree properties, however, would give us second-degree states of affairs, which are (perhaps even necessarily) different from first-degree ones.

<sup>12</sup>It is one thing to say that the truthmakers for the obtaining of an internal relation are just the terms of the relation (Armstrong 2004: 92,98,104,139) and that internal relations are ontologically innocent (2004: 104). It is another thing to take this to entail necessitarianism.

sufficient for the truth that  $p$  even if it could exist without its being true that  $p$ ? There is a strong tendency to identify sufficiency quite generally with necessitation.<sup>13</sup> I will argue, against such tendencies, that necessitation is neither necessary nor sufficient for truthmaking, and then explore what conceptual space there is for contingently sufficient truthmakers.

## Necessitation is not sufficient for truthmaking

Let me start with the non-sufficiency claim. This is the easier part of the argument, as many of the relevant points have already been made in the literature. Following Smith (1999: 278), I will call entities that necessitate truths that they do not make true ‘malignant necessitators’. There are at least three areas where malignant necessitators may be found: truthmakers for necessary truths, for predications of extrinsic essential properties and for predications of necessary but non-essential properties.

If necessary truths are necessitated by every truth and necessitation is transitive, every truthmaker necessitates every necessary truth, which “gives logic a certain grandeur” (Restall 1996: 333, n. 3). If we think some of these necessitators are malignant, we may follow Restall (1996) in adopting a relevantist account. Revisions of our logic, however, are costly, and should be adopted only as a last resort.<sup>14</sup> In any case, going relevant would solve only part of the problem: if we accept that necessitators of conjunctions necessitate their conjuncts and that contingent truths have only contingent truthmakers, then all necessary truths will have contingent truthmakers. But even if we learn to live with necessary truths being made true by anything at all, we have to restrict the disjunction thesis, i.e. that the necessitators of disjunctions make true one of the disjuncts. For otherwise it follows, for any  $p$ , that any  $s$  necessitating that  $p \vee \neg p$  makes either one of them true. Any true proposition is thus made true by every truthmaker – ‘truthmaker monism’ (Read 2000b).

If some truthmaker necessitates a disjunction without making true either one of the disjuncts, there is some further circumstance that settles in virtue of which disjunct the disjunction is true: if  $a$  necessitates that  $p \vee q$ , what makes it true that  $p$  (say) may well be different from  $a$ : in a horse race, the local conditions may make it necessary that one of two horses wins, without making it true that either one wins (Read 2000a: 74). Read concludes that a truthmaker of a disjunction does not have to make either of the disjuncts true, but I think he underdescribes his example: the necessitator of “ $p \vee q$ ” does indeed not make it true that  $p$  nor make it true that  $q$  – but precisely for this reason it is a malignant necessitator for “ $p \vee q$ ”. Even if the conditions necessitate the victory of either Valentine or Epitaph, the truth of the counterfactual “if Valentine did not win, Epitaph would” must be grounded in something about either of them – the local conditions, if they make the disjunction true, must not let the counterfactual ‘hang in the air’, which is “the ultimate sin in metaphysics” (Armstrong 2002a: 29). The necessitator of the disjunction is also a truthmaker for it only if it grounds its truth in the truth of one of its disjuncts. Because this is not always the case, it is sometimes malignant.

I think it is independently plausible that different necessary truths and different necessarily equivalent truths may have different truthmakers. Aside from theoretical prejudice, few will claim that all three of Goldbach’s conjecture, “water = H<sub>2</sub>O” and modal realism have, if they are true at all, the same truthmaker. As all three of them are necessary if true, however, it is difficult to see how a

<sup>13</sup>The tendency is not universal, however: many advocates of supervenience theses take them to hold contingently. Contextualism may be seen as another attempt to spell out conditions sufficient *under certain circumstances*, without turning the obtaining of these circumstances into yet another sufficiency condition.

<sup>14</sup>On numerous occasions, (2000: 155, 2002a: 32, 2002b: 494–496, 2003: 13 and 2004: 10–11), Armstrong restricts the transitivity of necessitation to truths no conjunct of which is necessary – but he never gives an independent, i.e. non ad-hoc motivation for this. Moreover, such a restriction is in tension with Armstrong’s view that supervenient entities are an ontological free lunch (cf. Lewis 1992: 203).

difference in what is necessitating them could account for the different ways in which they or their negations are grounded in being. The same holds for pairs of different, but necessarily equivalent, truths, like “Socrates is wise” and “Wisdom is a characteristic of Socrates” – intuitively, it seems that the truthmaker of the latter involves wisdom in a way the truthmaker of the former does not (but cf. Ramsey 1925).

Within the second category of malignant necessitators fall the truths allegedly decreed by God. According to Smith (1999: 278), a Malebranchian God could will, and thereby necessitate, that John kiss Mary now. According to Forrest and Khlentzos (2000: 9), God’s knowledge that  $p$  entails that  $p$  but is no truthmaker for it. Other examples in this category are extrinsic essential properties (cf. Yablo 1999: 486). Smith (1999: 280), e.g., argues that it is an essential and extrinsic property of John’s funeral to occur after John’s death. If John’s funeral takes place, his death must have happened. We do not want to say, however, that his funeral makes it true that John is dead. The same holds for many familiar essentialist theses: while I could not exist without some particular zygote having existed, it seems implausible to say that I make (or made?) it true that some particular sperm and some particular egg cell got together.<sup>15</sup>

Let us call ‘accidental necessities’ properties that  $a$  has necessarily if it exists, but not in virtue of its essence. In his critique of modal accounts of essence, Kit Fine (1994: 4) has argued that there are accidental necessities: while every thing necessarily exists iff its singleton does (or any other set containing it), the singleton is essentially the singleton of its member but the member not essentially a member of its singleton. If we identify the essence of  $x$  with exactly those propositions that are true in virtue of the nature (or: the identity) of  $x$  – which is plausible whether or not the latter notion is taken as “an unanalyzed relation between an object and a proposition” (Fine 1995: 273) –, then (the exemplifications of) all accidental necessities are malignantly necessitated: while  $a$  necessitates the truth that it is a member of  $\{a\}$ , it does not make it true.

I think these three types of examples suffice to make it plausible that necessitation is not discriminating enough to suffice for truthmaking. Like truth-in-virtue-of-essence, it “performs a similar function [than necessity] but with a finer mesh” (Fine 1994: 3). But is necessitation at least necessary for truthmaking? In the next section, I will argue that maximalists should think it is not. In the last section, I then explore how we can make sense of contingent truthmaking independently of maximalism.

## **Necessitation is not necessary for truthmaking**

This half of the argument is harder. I will proceed in a somehow piecemeal fashion and, in the next section, draw only tentative conclusions. In this section, I first examine Armstrong’s account of truthmaking by states of affairs, then try to generalise my criticism of it to other maximalist accounts and end with some considerations that speak against the necessitation requirement for truthmaking in general, maximalist or not.

Let us first consider Armstrong’s factualist theory of truthmaking. Let us suppose that the world is a world of states of affairs – will the first-order states of affairs give us truthmakers enough for all the truths? No, says Armstrong, following Russell: Because it is a contingent fact that a certain number of states of affairs are all the states of affairs there are, we need also another type of higher-order state of affairs, the “Porky the Pig fact” (“That’s all folks”) (Forrest and Khlentzos 2000: 7).<sup>16</sup>

<sup>15</sup>For necessitarians, truthmaker theory itself provides other examples of necessary extrinsics: if the truthmaking relation between some truthmaker and some truthbearer holds by necessity and necessitation is sufficient for truthmaking, everything that makes anything true at all makes it also true that at least one truthbearer exists.

<sup>16</sup>To make it true that it is a law of nature that all  $F$ s are  $G$ s we also need a further, non-supervenient and higher-order

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. (Armstrong 1997: 198)

This argument is not quite compelling: it is not in general true that any necessary condition for a truth must be somehow ‘brought into’ its truthmaker. It is, e.g., a necessary condition for it’s being true that  $2+2=4$  that at least one truthbearer exists, but no truthbearer has to be brought into the truthmaker of this arithmetical fact. Armstrong’s real motivation for totality states of affairs, I presume, is not that truthmakers must include all necessary conditions for some truthbearer’s being true, but his construal of truthmaking as an internal relation – it is because it is an *extrinsic* property of the big conjunction that it is all there is that there must be something else to make this true, something that *intrinsically* is all there is. This is some totality state of affairs.

Armstrong’s account is quite general: every fusion of states of affairs which are of the same ‘sort’ *F* may stand in a contingent and external relation *T* to some ‘unit-property’ *G* that Armstrong calls “alling” or “totalling” and which he takes to be a universal.<sup>17</sup> The ‘sort’ *F* and the ‘unit-property’ *G* are in general non-basic, ‘second-’ or even ‘third-degree’ properties. The mereological fusion of the black swans on the lake now (the ‘thick’ swans, ‘enfolding’ their properties), e.g., totals the “distinctively second-rate property” *black swan on the lake now* (2004: 72).

Totality states of affairs are paradoxical, however, and hence do not exist.<sup>18</sup> Here is why: If there were any totality states of affairs, it would be true that they are all the totality states of affairs there are. If it were true, it would be made true by some totality state of affairs. This totality state of affairs, however, cannot be one of the totality states of affairs in the totalling fusion. So it would have to be some other totality state of affairs. But then the truthmaker of the truth that [insert their list] are all the totality states of affairs would not total *all* the totality states of affairs – hence it would not total anything at all.

Let us make this a bit more precise and suppose, for *reductio*, that there are totality states of affairs and that totalling is a universal (Armstrong 2004: 73), which occurs as predicative component in each and every totality state of affairs. If there are totality states of affairs, there is a totality of totality states of affairs: “The Tot relation is to be found even where there is just one object of a certain sort.” (Armstrong 2004: 73). Call it the ‘limit totality’. In the limit totality, the totalling relation holds between the fusion of all totality states of affairs and the (second-degree) property *being a totality state of affairs*. But this is impossible: if it holds between them, then the fusion has to be the fusion of *all* states of affairs. The fusion, however, cannot contain the limit totality itself, because it is a

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truthmaker, i.e. the state of affairs that *F* stands in some relation *N* to *G* (Armstrong 1983: ch. 6). I leave this complication aside in what follows.

<sup>17</sup>Cf. 1989a: 93, 1997: 199 and 2004: 73.

<sup>18</sup>The paradox to be discussed is not the one raised by Cox (1997: 56) and anticipated by Armstrong (1997: 198-199) concerning a regress of higher- and higher-order states of affairs: if the Porky the Pig fact exists, then it forms some totality with the states of affairs it is totalling, which again forms a totality with Porky and the lower degree states of affairs etc. Cox’s paradox can, but I think mine cannot, be met by turning the tables on the regress and suggesting that the very fact that the higher-order states of affairs are necessitated by their immediate predecessors in the regress means that all we have is a regress of truths sharing as their truthmaker the Porky fact, the totality state of affairs of the lowest order (cf. 1989a: 94, 1997: 198 and 2004: 78). Even if it is acceptable in principle, however, this answer needs some fine-tuning: there are, Armstrong (2004: 74) says, at least two most inclusive second-order states of affairs, one the totalling of *being a state of affairs* (or rather: *being a first-order state of affairs*), the other one the totalling of *being any existent at all*. If naturalism is true, there is also a third ‘Porky fact’, the totalling of *being in space and time*. Naturalism, defined in Armstrong (1997: 35) and Armstrong (2004: 112) as the doctrine that the world of space and time is all there is, is a contingent thesis (Armstrong 2004: 112). So the state of affairs that there are three most-inclusive second-order states of affairs is itself contingent. So it is not necessitated by any one or the fusion of the second-order states of affairs. So the regress stops on the second level at the earliest.

proper part of this limit totality (Armstrong 2004: 56, 71).<sup>19</sup> Could some other property than *being a totality state of affair* be totalled in the limit totality? Not, it seems, if the limit totality is the totality of all totality states of affairs. Could the totalling relation fail to hold? The only way it could fail to hold is if the fusion were not the totality of all totality states of affairs. But then there would be some other totality state of affairs not contained in it, and the limit totality would not be the totality of totality states of affairs, contrary to what we assumed. Hence, if there are totality states of affairs, then there is at least one totality claim they do not make true.

There are other paradoxes in the vicinity.<sup>20</sup> A totality state of affairs is the obtaining of the totalling relation between some fusion of states of affairs and some ‘unit-property’. There is an important distinction between two types of totality states of affairs. In cases like the one involving the black swans on the lake, the ‘unit-property’, though second-rate, occurs as a ‘predicative component’ in the states of affairs (‘thick’ particulars) fused into the aggregate totalling it. In some other cases, however, this is not the case: the property of being a first-order state of affairs, for example, is not itself a component of the first-order states of affairs (all states of affairs of which it is a component are at least second-order). It is a state-of-affairs type that cannot be obtained by abstraction from the states of affairs of which it is the type.<sup>21</sup> Some such states of affairs exist, for example the totalling of *being a property of Theatetus* by Theatetus’ positive properties. This means that there is a totality  $X$  of all the totality states of affairs in which the property totalled does not also occur as the predicative component of any of the states of affairs in the fusion totalling the property (call these ‘non-self-predicative’ states of affairs). With respect to this totality state of affairs  $X$ , we may ask whether the property that is totalled, the property of being a non-self-predicative state of affairs, is a component of any of the states of affairs fused together. We may ask, in other words, of  $X$  whether it is self-predicative. If it is self-predicative, then the property of being a non-self-predicative state of affairs occurs in some state of affairs in the fusion that is totalled by  $X$ . So it is the property totalled by at least one of the state of affairs in this fusion. But what fusion is totalling it? It cannot be the fusion of all the non-self-predicative states of affairs, for otherwise  $X$  would contain itself as a proper part. So we have a contradiction: some fusion is totalling the property of being a non-self-predicative state of affairs that is not the fusion of all the non-self-predicative states of affairs. If  $X$  is not self-predicative, however, then this state of affairs  $X$  belongs to the fusion totalling the property, so the property of being a non-self-predicative state of affairs is a component of a state of affairs in the fusion. So it is self-predicative after all.

Faced with these paradoxes, none of the familiar options seems plausible. We could, perhaps, replace the totalling universal with an infinite family of totalling relations, each indexed to one order in the hierarchy. But this would not only rid us of truthmakers for truths such as “These are all and only the first- and second-order states of affairs” but also leave us with no index for the relation totalling the fusion of all totality states of affairs. We could, perhaps, deny unrestricted composition and adopt a limitation of size principle, but this would break the connection between generality and negation. If we were to deny, for example, that all the totality states of affairs or all the non-self-predicative totality states of affairs form totalities, it would still be true that there is some definitive (perhaps infinite) number of them. But if there are, say,  $\kappa$  totality states of affairs, it is true that there are not more than  $\kappa$ . This negative truth needs a truthmaker, and none of the  $\kappa$  totality states of affairs is suited for this job. Moreover, any totality state of any order has countless negative properties (for example, *not being a black swan*), and to account for these, we need another totality state of affairs

<sup>19</sup>That totality states of affairs are ampliative follows from, but does not imply, Armstrong’s assertion that the totalling relation is external (Armstrong 1997: 199). Ampliativity is a general feature of states of affairs: “[s]tates of affairs are ampliative, that is, they *embed* their subjects in something further.” (Armstrong 2004: 123)

<sup>20</sup>The following Russell-type paradox has independently been noted by Greg O’Hair.

<sup>21</sup>This is the difference between the totalling relation and the (many!) numbering relations: in the latter case, the property with respect to which a fusion is numbered is always exemplified within this fusion (cf. Armstrong 2004: 116), but in the former it is not.

one order higher up. Even if there is no totality of totality states of affairs, something must make *this* truth true – what else than the totality of totality states of affairs could it make true that there are no other ones?

Could we adopt Armstrong's solution to Cox's paradox and say that the totality of all totality states of affairs supervenes on them, that we have a regress of truths, but not of truthmakers? Suppose, for simplicity, that there were just one totality state of affairs.<sup>22</sup> Would it not necessitate the state of affairs of its being the only one? The problem with this line of reply is that it undermines the very motivation Armstrong gave to introduce totality states of affairs in the first place:

...David Lewis has raised with me the question whether the fact of totality is in fact, as Russell claims, non-supervenient. [...] How, asks Lewis, could two worlds be exactly alike in all lower-order states of affairs, yet differ in this higher-order state of affairs? The answer, of course, is that the two worlds could not differ. But I claim that this is so only because a totality state of affairs has already been written into the description of the case. Suppose we had a list of the states of affairs in the two worlds, but with no totality condition given. It would not be the case that every world that contained those states of affairs was the same world. You get that result only if you add that the worlds contain *just* those states of affairs, that is, those states of affairs *and nothing more*. The 'nothing more' must have a truth-maker. I claim that that truth-maker is a totality fact or state of affairs, having the form I have tried to describe. (Armstrong 1989a: 94)

Armstrong's argument, as I understand it, is the following. Suppose there is just one state of affairs, *a*'s being *F*. Why add the totality state of affairs of *a*'s being the only *F*? No world, after all, can differ *just* with respect to it. The reason it is necessary, Armstrong says, is to distinguish the first world not from another, 'complete' world (whose completeness is 'written into the description of the case') but from the *a*-is-*F* 'sub-world' of a world where something else, *b*, is also *F*.

An exactly parallel argument shows the non-supervenience of higher-order totality states of affairs: Suppose there is a world with just three totality state of affairs (this would have to be a perfectly uniform world, where there is just one thing, *a*, with just one property *F* (incompatible with every other property), where *a* totals *F* and the property of being an existent at all and these two totalities total the property of being a totality state of affairs). How can a world differ from it just with respect to this totality of totality states of affairs? This seems impossible, Armstrong would have to say, only if we forget about sub-worlds, e.g. the first three states of affairs of a world where *a* is *F*, *a* totals *F* and *being an existent*, but *a* is also *G* and totals *G* and these *three* totalities total the property of being a totality states of affairs. The only difference between the first complete world and the second sub-world is that with *a*'s being *G*, the *a* totals three and not just two properties. To suppose otherwise is to 'write [completeness] into the description of the case'.<sup>23</sup>

The 'regress of truths but not of truthmakers' answer to Cox's paradox seemed plausible, to the extent it did, because there is nothing outside the 'Porky the Pig' fact that could ground the higher-order totalities. The 'Porky' fact necessitates *all* the states of affairs. The totality of totality states of affairs, however, does not: additional lower-level states of affairs are not precluded by it. Armstrong's only option at this point, I think, is to retract the claim that totalling is a universal and can be a component

<sup>22</sup>This is actually impossible: suppose there is only one thing *a* having no properties whatsoever. It would total the property (if it is one) of being a positive (or first-order) existent, thereby giving rise to one totality state of affairs *b*. The fact that *a* does not have properties, however, would still need a truthmaker.

<sup>23</sup>Could all there is be just one totality state of affairs? Even if we accept that it could contain itself as a proper part, some property would be totalled 'in' it. This property must be exemplified, and it must be exemplified by something else than the totality state of affairs in question; for it to be 'available' as a constituent of the totality state of affairs, it must exist prior to and independently of the latter's existence. If the property is *being something positive*, e.g., as Armstrong proposes, it clearly cannot be exemplified by the limit totality state of affairs.



of states of affairs. What makes it true that some totality is all there is just this totality itself – all there is. But this means that necessitarianism goes overboard.

Are these difficulties peculiar to totality states of affairs? I do not think so: the essential difficulty, it seems to me, is that truthmaker internalists have to provide intrinsic truthmakers for extrinsic predications. To solve this problem, necessitarianism has to be sacrificed.

## Contingent truthmaking

Reconsider truthmakers for negative truths. Because the world is everything there is, something in it – call it a ‘unicorn replacement’ (cf. Lewis 2001b: 610) – has to make it true that there are no unicorns. By truthmaker internalism, those unicorn replacement would be intrinsically different if there were unicorns. Truthmaker necessitarianism forces upon us the even stronger claim that they could not exist in the presence of unicorns.<sup>24</sup> Negative truths are extrinsic properties of worlds; the necessitarianists predicament is thus readily generalised to extrinsic properties more generally.

If  $F$  is an extrinsic property of  $a$  and  $a$  makes it true that  $a$  is  $F$ , then the truthmaking relation between  $a$  and the proposition that  $a$  is  $F$  is not internal – it does not supervene on intrinsic properties of its relata. For  $a$  could be intrinsically just as it is and fail to be  $F$ , hence fail to make it true that  $a$  is  $F$ . So if  $a$  is extrinsically  $F$ , the truthmaker for this truth is  $b$ , where  $b$  is not an intrinsic duplicate of  $a$ , and hence not identical with it.<sup>25</sup> Consider now a world in which some intrinsic duplicate of  $a$ , say  $a'$  lacks  $F$ . Truthmakers internalists have to say that  $b$ , if it existed in that world, would have to be intrinsically different. This is bad enough: whatever is the  $c$  we have to add to  $a$  to give us  $b$ , it may legitimately be asked, how can it fail to give us an intrinsic duplicate of  $b$  if (it itself or an intrinsic duplicate of it) is added to an intrinsic duplicate of  $a$ ? Internalists must allow for an extrinsic mode of composition, i.e. a mode of composition such that the composition of intrinsic duplicates does not yield compounds that are intrinsic duplicates. If  $b$  has a counterpart in the world in which  $a'$  is not  $F$ , then that counterpart cannot be an intrinsic duplicate, for it does not make it true that  $a'$  is  $F$ . We thus get an infinite regress: what makes it true that  $b'$  does not make it true that  $a$  is  $F$  is something that distinguishes it from an intrinsic duplicate, hence an extrinsic property of  $b'$ . By truthmaker internalism, it has to be brought into the truthmaker, yielding  $b''$ .

Necessitarianism reply to this by denying that  $b$  has a counterpart in the world in which  $a'$  is not  $F$ . But this makes matters worse. Necessitarianism have to claim that composition of intrinsic duplicates does not even make for counterparthood. If  $a$  is extrinsically  $F$ ,  $b$  is the truthmaker of this truth and  $a'$  is an intrinsic duplicate lacking  $F$ , then  $a+b$  and  $a'+b$  can not even be counterparts. The extrinsic difference between  $a$  and  $a'$  must rule out the existence of  $b$ . This is problematic because  $b$ 's intrinsic nature, by the preceding argument, is independent of the intrinsic natures of  $a$  and  $a'$ .  $b$ 's existence is, so to say, wholly extrinsic – there are no intrinsic properties of anything on which it depends.

Another example are the truthmakers of negative existentials. Following Lewis (2001b: 610), I will call such truthmakers ‘unicorn replacements’ in the following. For unicorn replacements have their truthmaking properties not only extrinsically, but also essentially. Unicorn replacements not only have extrinsic identity conditions, but even “maximally extrinsic” ones, as it were. They give us another reason not to think that necessitation is sufficient for truthmaking. Let  $\alpha$  be the unicorn replacement and  $\beta$  be the centaur replacement and  $W$  the rest of what there is. If  $\alpha$  and  $\beta$  were different things, then our world would be heavily overpopulated with strange entities. Thus sup-

<sup>24</sup>This rules out an identification of them with (localised) lacks, voids or spatio-temporal locations of possible unicorns.

<sup>25</sup>It seems plausible, however, that the truthmaker  $b$  does, in some non-merological sense, ‘contain’  $a$  – for how else could we explain that the existence of  $b$  does not only entail that  $a$  is  $F$ , but also that  $a$  exists?

pose  $\alpha = \beta$ . Because lacking centaurs is an extrinsic property of our world, it is possible that an intrinsic duplicate of  $W$  exists plus some centaurs. In such a world, however,  $\alpha$  cannot exist – even though it also lacks unicorns,  $\alpha$  would also exclude the centaurs if it existed. This means that unicorn replacements are maximally specific: they can only exist in the world where they actually do. They necessitate everything that is the case. If truthmaking is necessitation, they not only replace unicorns, but also make true everything else.

It therefore seems that extrinsic truthmaking is problematic for necessitarians. But I think there are also considerations that speak against necessitarianism with respect to intrinsic truthmaking.

Consider Max Black's two indiscernible spheres. Do they make true the same truths? This is the question whether the truthmaking relation is haecceistic in the sense of distinguishing between non-identical indiscernibles. I will try to show that neither answer is available to the necessitarian.

Let us call one of the spheres  $a$  and the other  $b$ . Because there are two of them, either one could exist without the other. The truth that  $a$  exists must therefore be different from the truth that  $b$  exists. It is also true that they have the same size, and that there are two things of exactly the same size in that world. Hence the truth that  $a$  is of size  $m$  is different from the truth that  $b$  is of size  $m$ . But do they have the same truthmaker?

Suppose, first, that they have, i.e. that the truthmaking relation is not haecceistic. If the truthmaker of " $a$  is of size  $m$ " also makes it true that  $b$  is of size  $m$  and if it does so necessarily, it must cease to exist if  $b$  becomes slightly smaller than  $a$ . But we can suppose that  $a$  would still be of the same size. If truthmaking is internal, nothing except than an intrinsic change in the truthmaker or the proposition may affect their truthmaking link. So the truthmaker must involve both  $a$  and  $b$ . But this means that neither  $a$  nor  $b$  could be of size  $m$  in the absence of the other, which is clearly absurd.

Internalists have a way out: they can say that in the world in which only  $a$ , but not  $a'$ , exists, the truthbearer that  $a'$  exists is not there to be made true. It is a singular truthbearer, and depends for its existence on  $a'$ . The truthmaking relation can fail to hold because one of its relata is missing. Necessitarians, however, do not have this option: if both of  $a$  and  $a'$  exist, then  $a$  makes it true that  $a'$  exists. So it makes it true in every world: if two indiscernibles can exist *with* each other, they could not exist *without* each other. But we clearly do not want to say that just because I could have an indiscernible twin, this twin actually exists (and that I make it true that he exists)! This not only concerns existence statements, but all truths that imply the existence of their truthmaker. If indiscernible truthmakers make the same truths true, then they cannot exist in isolation. But they clearly can. So necessitarianism, together with weak and plausible assumptions about modality, commits us to haecceistic truthmaking, which is incompatible with internalism. So we have to choose between the two.

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But even apart from the considerations in favour of truthmaker internalism, it seems very hard to defend the view that the truthmaking relation is haecceistic. How could two indiscernible objects differ in what they make true? If  $a$  makes it true that  $p$ , it seems, it does so in virtue of having the properties it has and standing in the relations it stands in. If something sharing all these qualitative aspects with  $a$  can fail to make it true that  $p$ , it seems, this must be in virtue of another feature of the ontology of the situation? But what could that be? Take the case of the two spheres again. There are two different truthmakers,  $\alpha$  and  $\beta$ , for the truths that  $a$  and  $b$  have all and only their properties.

What, however, makes it true that they are indiscernible? Nothing more than  $\alpha$  and  $\beta$  is required. But are really both needed? It seems hard to believe that there is some intrinsic property that  $\alpha$  has and  $\beta$  lacks.

To see why this problem is particularly vivid for necessitarians, recall that on their account, truthmaking of  $p$  by  $a$  does not involve  $a$ 's contingent properties. It is possible that  $a$  lacks all its contingent properties (or some subset thereof) and still makes true the same truths. Necessitarians therefore have to count the purely haecceistic respects that make for differences in truthmaking as necessary properties: not only make indiscernible objects different truths true, but they also do so by necessity. This is an unwelcome result. If  $a$  contingently has the intrinsic property  $F$ , then  $a$  is numerically distinct from the merely possible  $a'$  that lacks  $F$ . But we would still like to say that what makes it true that  $a$  has some other property, say  $G$ , is the same thing than what makes it true that  $a'$  has that property. If truthmaking is haecceistic, however, and  $a$  and  $a'$  differ in bare numerical identity, then we cannot do this. Each and every truthmaker, by necessity, can just be what it is. No wonder, then, that every truthmaker makes the same truths true in all worlds where it exists. It exists in only one world! If necessitarianism is thus trivialised, I think, we'd better not have it.

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