

A World of Truthmakers

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Abstract

I will present and criticise the two theories of truthmaking David Armstrong offers us in *Truth and Truthmakers* (Armstrong 2004), show to what extent they are incompatible and identify troublemakers for both of them, a notorious – Factualism, the view that the world is a world of states of affairs – and a more recent one – the view that every predication is necessary. Factualism, combined with truthmaker necessitarianism – ‘truthmaking is necessitation’ – leads Armstrong to an all-embracing totality state of affairs that necessitates not only everything that is the case but also everything else – that which is not the case, that which is merely possible or even impossible. All the things so dear to realists – rocks, natural properties, real persons – become mere abstractions from this ontological monster. The view that every predication is necessary does in some sense the opposite: it does away with totality states of affairs and, arguably, also with states of affairs. We have particulars and universals, partially identical and necessarily connected to everything else. Just by the existence of anything, everything is necessitated – the whole world mirrored in every monad. Faced with the choice between these two equally unappealing alternatives, I suggest returning to Armstrong’s more empiricist past: the world is not an all-inclusive One, nor necessitated by every single particular and every single universal, but a plurality of particulars and universals, interconnected by a contingent and internal relation of exemplification. While a close variant, truthmaker essentialism, can perhaps be saved, this means giving up on truthmaker necessitarianism. This, I think, what it takes to steer a clear empiricist course between the Scylla of Spinozist general factness and the Charybdis of a Leibnizian overdose of brute necessities.

0. Introduction

As realists, we hold that truth depends on the world. What we hold true, we would like to be able to say, commits us to certain views about what exists and what does not. As serious metaphysicians, we should be prepared to pay the ontological bill of what we assert. But how are we to determine the price? A venerable method, championed by Quine, is to look at the domain of quantification of the variables occurring in (some regimentation of) what we are asserting. In his early work, David Armstrong (1978, 1978a) pointed out that this is not always satisfactory: the ontological ground of

our alleged truths does not only consist of things, but of their properties as well: we need an ontologically robust account of properties in virtue of which the alleged truths are true. In recent years, truthmaker realism has seen something of a *renaissance* and it is its recent defence in *Truth and Truthmakers* (Armstrong 2004) I mostly want to discuss in the following.

First of all, let me emphasise the high degree of agreement I have with Armstrong's views. I agree with him that asking the truthmaker question is a promising way to regiment metaphysical enquiry (Armstrong 2004: 4), that, in particular, "continually to raise the truthmaker question about properties makes for ontological honesty" (2004: 43) and that there is, "in the general case, no cheap and easy way to determine the truth-makers even of simple descriptive sentences via linguistic transformations" (Mulligan et al. 1984: 300, cf. Armstrong 2004: 16). I agree that "philosophy is not meant to be easy" (Armstrong 2004: 117) and that part of its difficulty comes from thinking metaphysics through from a truthmaker perspective. I also think that answering the truthmaker question commits us to an ontology of sparse properties, "in terms of which the world's work is done" (2004: 17), and that this is motivated by the fact that, intuitively speaking, we do not need the whole of the particular to make non-relational predications true (2004: 41).

I also think that the cash value of truthmaking is most visible in its critical use, e.g. as against ungrounded phenomenalist counterfactuals about unobserved objects or Rylean unactualised dispositions to behaviour. In these uses, the truthmaker intuition consists in roughly the following two tenets:

- Truth is relational: being true is being *made* true by something. It is then a further question whether the things in virtue of which truthbearers are true are states of affairs, some objects or ways they are.
- Truth is grounded: true truthbearers are true *because* the world is how it is; truth is not brute. It is a further question whether some truthbearers may ground themselves and what the grounding in question comes to.

These rough intuitions, of course, do not amount to a theory. There are different ways to flesh them out, three of which, all at some time put forward by Armstrong, I will discuss in the following. The first theory, advocated

by him in 1978 and a variant of which I would myself like to advocate, holds that the world is a world of particulars and universals, which are connected by a relation of exemplification. Armstrong never says much about this relation,¹ except that universals are "immanent", i.e. are "constituents" of things and "part of [their] internal structure" (1989: 77),² that exemplification is a 'non-relational tie' (1978: 109) making for an identity in nature of particulars that is "literally inexplicable":

"I take it that the Realist ought to allow that two 'numerically diverse' particulars which have the same property are not wholly diverse. They are partially identical in nature and so are partially identical." (Armstrong 1978: 112)

Both David Lewis³ and Keith Campbell⁴ have interpreted Armstrong as holding that universals are non-spatiotemporal parts of the particulars exemplifying them and this is the view I want to defend in section 4.

¹ Of exemplification, he 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." (Armstrong 1978: 67) It is equally interesting, but somewhat saddening, that the same can be said of *the* great contemporary defender of universals.

² Armstrong characterises the alternative position, transcendentalism, as the view that "put[s] properties 'outside' their particulars": "A theory that has particulars instantiating transcendent universals seems to put properties 'outside' their particulars. It offends against the original insight that the thing itself should serve as truthmaker, even if not as minimal truthmaker, for truths that particulars have certain (non-relational) properties. A theory of immanent universals is required if the truthmaker for a non-relational property of a particular is to be found 'within the particular'." (2004: 42)

³ "A universal is supposed to be wholly present wherever it is instantiated. It is a constituent part (though not a spatiotemporal part) of each particular that has it. [...] Things that share a universal have not just joined a single class. They literally have something in common. They are not entirely distinct. They overlap." (1983: 10-11). Cf. also Lewis (1986a: 80): "Whenever it [a universal] is instantiated, it is a nonspatio-temporal part of the particular that instantiates it"; "[The universal of charge] is located there, just as the particle itself is. Indeed, it is part of the particle. It is not a spatiotemporal part....[...] I reserve the word 'universal' strictly for the things, if such there be, that are wholly present as non-spatio-temporal parts in each of the things that instantiate some perfectly natural property." (1986: 64, 67, cf. also 204-205)

⁴ "[This [Armstrong's] view requires us to acknowledge that there can be parts other than spatio-temporal parts." (Campbell 1990: 39); "The most promising reply to [the 'Third Man' argument] is that the substance *substantium* of Socrates neither contains nor resembles humanity, while the complete substance Socrates does contain humanity (has humanity inhering in him) and in that way resembles humanity. It is a one-sided

Although Armstrong introduced them already in 1978,⁵ non-supervenient states of affairs 'officially' entered his ontology via another truthmaker argument, providing entities 'encapsulating' the fundamental tie of exemplification and *necessitating* the corresponding predications: 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 three of them could exist without "*Fa*"'s being true. Hence it is the state of affairs *a*'s being *F* (cf. 1989: 88, 1997: 115), which, by necessity, exists if and only if *a* is *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 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)

By this 'sufficiency argument', as I will call it, we arrive at the following:

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

1. Truthmaking by thick particulars

Truthmaker necessitarianism, coupled with the view that every truth has a truthmaker ('truthmaker maximalism'), populates the world with entities that, by necessity, exist only if some corresponding truthbearer is true. If these two categories of entities do not overlap, truthmaker necessitarianism violates combinatorialism, the view that there are no necessary connections between distinct existents.⁶ Truthmakers and truthbearers, while different, stand in the truthmaking relation in every world in which the former exists, thereby ruling out combinations of both without the truthmaking relation

case of partial identity (a non-spatio-temporal part of Socrates is identical with humanity)." (1990: 42)

⁵ At the time, he did not take them as basic: "I do not think that the recognition of states of affairs involves introducing a new entity." (Armstrong 1978: 80)

⁶ I use "combinatorialism" for what Armstrong (1989a: 116, 2004: 71) calls the "Distinct-Existence Principle", that each of any two wholly distinct things may exist in the absence of any part of the other, which follows from his combinatorial theory of possibility. In (1997: 139), he calls it "Independence".

holding between them.⁷ If the truth of truthbearers requires the existence of the things they are about and if these things are not mereological parts of the respective truthmakers, combinatorialism is even doubly violated: for then not only the truthbearer but also the things it is about are necessitated by the truthmaker.⁸ If this truthmaker is a state of affairs *a*'s being *F*, then it necessitates not just that "*Fa*" is true, but also that *a* and *F* exist and are related by the exemplification relation.

⁷ Armstrong has a peculiar account of truthbearers: to fit propositions into his naturalistic world-view, he identifies them with equivalence classes of actual and possible states of mind (1997: 131, cf. also 2004: 13). Unexpressed propositions are (merely possible sets of) "merely possible mental or statement tokens" (1997: 131) or properties of merely possible mental states (2004: 13). This view has at least two problems: What could justify our belief in the existence of such merely possible propositions? On Armstrong's actualist views, the merely possible cannot stand in any external relation to the actual: "Given this absence of external relation, in particular causal relation of the merely possible to the actual, it becomes very hard to see how we could know or even have any reason to believe in the existence of merely possible entities. Our beliefs have causes." (1997: 149) A merely possible proposition, prior to its being believed or known, cannot have any influence on the believer. The second problem is that the distinction between expressed and unexpressed propositions imports a radical asymmetry into the account of truthmaking: unexpressed propositions are not exemplified. Unexemplified properties are analysed as mere possibilities of the exemplification of such properties (2004: 15-16). Hence the truthmaker of an unexpressed proposition (which necessitates its existence) is a truthmaker for the claim that it could be expressed, i.e. for the claim that it is not actually expressed (1997: 91). This will be a totality state of affairs: that, at some time, some propositions are all that have been expressed. How can this state of affairs make true the (hitherto unexpressed) proposition that no atom bomb exploded in Sydney on January 5, 2007? And how can it be explained that its truthmaker *now*, as the proposition became expressed, no longer involves any mental states and propositions, but just what happened some time ago in Sydney? Whatever the virtues of this two-tiered account of propositions, merely possible mental states are in any case wholly distinct from their truthmakers: while the latter actually exist, the former do not.

⁸ This has been pointed out by Fox (1987: 196-197). Lewis has advanced both recombinatorialism (1998: 219) and reluctance to accept (and inability to understand) non-mereological composition (1986b: 109) as reasons to reject the truthmaker principle, where the complaint about non-mereological modes of composition is subsumed by the worry about necessary connection between distinct existences (2001: 611).

⁹ If Lewis' charge is taken to concern just the necessary connection between the state of affairs and its components, then it is not a problem for truthmaking in general but rather for truthmaking by states of affairs, as Daly (2000: 96) rightly points out. There is another necessary connection, however, between the truthmaker, the truth and its ontological commitment. *Contra* Daly (2000: 97), *this* necessary connection is not

This is a considerable price to pay. Combinatorialism underlies both Armstrong's and Lewis' recombinatory theories of possibility and is our best handle on what possibilities there are. It seems worthwhile, therefore, to reconsider the argument why it is that, whenever a makes it true that p , it has to do so in all worlds in which it exists. The sufficiency argument for this claim is that if there were a world where a would not make it true that p , say w , then the question what it is that makes it true that p was (partly) the question what distinguishes our world from w .¹⁰ Because that difference not only concerns a but also something else, this something else has to be 'brought into' the truthmaker. The property of making it true that p , in other words, has to be an *intrinsic* property of the truthmaker.

The sufficiency argument, as Armstrong (1997: 115) says, establishes that the truthmaking relation is internal. This brings out a viable intuition: the truthmaking relation cannot depend on facts about things outside the items it relates. If a makes it true that p , nothing else than a and p have a bearing on whether the truthmaking relation holds. If the truthmaking would depend on something outside of them, this additional circumstance would have to be brought into a , as Armstrong says. Another reason to take the truthmaking relation to be internal is the following: external, but not internal relations are ontological additions to their terms. If truthmaking were 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 (the thesis that truthmaking is an internal relation), however, depends on what we mean by "internal".

"Internal relation" is a notoriously ambiguous term. Bradley (1893: 392) used it to characterise relations that "essentially penetrate [...] the being of [their] terms". Moore (1919-20: 291) for relations that supervene on monadic foundations which are critical to the identity of their terms in the sense that without them, they would not be what they are, and Wittgenstein in the *Tractatus* for relations the relata of which are inconceivable without them (1921: §4.123). Armstrong (1978a: 85) said that two or more particu-

avoided by truthmaking by tropes: the F -ness trope that makes it true that a is F is necessarily connected to a , if " Fa " could not be true if a did not exist.

¹⁰ Bigelow (1988: 126) gives essentially the same argument: "... unless the existence of a thing does entail a truth, *that thing* cannot be an adequate or complete truthmaker for that truth."

lars are internally related if and only if there exist properties of the particulars that logically necessitate that the relation holds. They are externally related if and only if there are no properties that necessitate the relation or a part of it. As the context of the passage makes clear, the properties in question must be understood as intrinsic properties. We thus get the standard account of internal relations:

Internal relations: *A relation is internal if and only if it supervenes on the intrinsic properties of its relata.*¹¹

Armstrong also characterises internal relations somewhat differently:

"I mean by calling a relation internal that, given just the terms of the relation, the relation between them is necessitated." (Armstrong 2004: 9)

This turns truthmaker internalism into truthmaker necessitarianism. How is such a transition to be justified? Armstrong (1997: 12, 87, 115) says that a relation is internal if and only if it is impossible that its terms should exist and the relation not exist, where the joint existence of the terms is possible. He adds that "to fall under our definition of internal relations, the particulars involved must be taken as having their non-relational properties" (1997: 88). The terms necessitating the internal relations are "thick particulars", particulars 'taken together' with their intrinsic properties.¹²

The thesis that truthmaking is internal in the sense of supervening on intrinsic properties of truthmaker and truthbearer is at least *prima facie* different from necessitarianism because it can be reasonably doubted whether all intrinsic properties are "given just the terms of the relation". It may well be that some intrinsic properties of some truthmaker are not essential to it, i.e. such that the truthmaker could exist without them.¹³ This is reason enough to distinguish truthmaker internalism from necessitarianism.

¹¹ Lewis (1986: 62) calls an internal relation in this sense "intrinsic to its relata" (cf. also 1983: 26, fn. 16). An intrinsic relation that is not internal is called "intrinsic to its pairs" by Lewis (1983: 26, fn. 16) and "external" by Lewis and Langton (1998: 129).

¹² This matches Armstrong's other definition (1989a: 105): particulars having certain properties are internally related by a relation R iff in each possible world which contains them and where they have these properties, they are related by R . Similarly, Armstrong (2004: 116) says: "Where a pair stands in a fixed relation, one that is fixed, that is, necessitated, by the nature of the pair, there we have an internal relation." *Being n meter tall* is an intrinsic, but not an essential property of mine. Armstrong (1997: 92) himself warned against the confusion of intrinsic and essential properties.

Truthmaker internalism: Truthmaking is an internal relation.

Truthmaker internalism brings out the sense of sufficiency we are after in our quest for truthmakers, for it means that the truthmaking powers of something are a matter of how this thing is itself. We only have chosen our truthmaker inclusive enough if its truthmaking ties do not depend on anything 'outside' of it, i.e. if they cannot be made to vary by variation in the intrinsic properties of things disjoint of it. Such a relation, however, may still be contingent. It is one thing to say that what makes it true that an internal relation obtains are just the terms of the relation (Armstrong 2004: 92, 98, 104, 139) and that internal relations are ontologically innocent (2004: 104). It is quite another thing to take this to entail necessitarianism.

Why does Armstrong link internalism and necessitarianism so closely? To understand his reasons to do so, we must discuss his distinction between thick and thin particulars, which, I think, has done a lot of damage to his metaphysical system. The paradigms of truthbearers in need of truthmakers are singular existentials, claims to the effect that such and such an entity exists. In such cases, it seems incontestable that the entity in question, iff it exists, makes the corresponding claim true.¹⁴ But how is this compatible with the world's being one (solely) of states of affairs? John's existence, after all, is not a state of affairs (Armstrong 2004: 6). But perhaps John is?

John is a non-mereological component of the state of affairs of John's being human, which makes it true that John is human and hence, by the Entailment Principle (truthmaking distributes over entailment),¹⁵ also that at least one human being exists (2004: 21). Is John's being human a minimal truthmaker? Could not the remainder of the state of affairs be abstracted, leaving us just with John? Armstrong says it can: "*Minimal* (or at least close to minimal) truthmakers for this existential truth [\langle at least one horse exists \rangle] will be each individual horse" (2004: 55). Though every state of affairs involving humans is a truthmaker for the truth that at least one human exists, only the individual human beings are minimal truthmakers. But

¹⁴ Cf. e.g. Mulligan et al. 1984: 300. Armstrong (2004: 6) calls the relation between John and the proposition that John exists "the simplest of all truthmaking relations".
¹⁵ Armstrong (2004: 11) restricts the Entailment Principle to "purely contingent truths", i.e. truths that do not contain any necessary conjunct on any level of analysis. If "John is human" entails John's existence, then it is clearly contingent.

are they necessitating it? Only, it seems,¹⁶ if they are essentially human beings, i.e. cannot exist as non-humans. But let this be assumed.¹⁷ In some sense, then, John is more minimal a truthmaker than John's being human.

Sometimes, however, the (non-mereological) inclusion relation goes in the other direction: while the mereological fusion of Venus and Mars makes it true that Venus is greater in size than Mars, it is not a minimal truthmaker:

"For this truth, it seems that we do not need all the properties of the two objects, or even all their non-relational properties. It is enough that Venus is a certain particular size, and that Mars is a certain particular size. These are states of affairs. The minimal truthmaker appears to be the mereological fusion of these two states of affairs. The other properties of Venus and Mars seem irrelevant." (Armstrong 2004: 50)¹⁸

Here, the inclusion goes the other way round: *Venus's being of size m + Mars's being of size n* is here said to be more minimal than *Venus + Mars*.

A distinction is needed. In response to the criticism of Devitt (1980: 98) that his account renders exemplification obscure, Armstrong (1980: 109-110) claims that while we can distinguish the bare or 'thin' particular from its properties and the 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" (1978: 114),¹⁹ the particular "taken apart from its properties" (1989: 95), it is "the particularity of a par-

¹⁶ Cf. Fox (1987: 194), Restall (1996: 332) and Lewis (1998: 218).

¹⁷ Armstrong extends this account to merely possible entities. He says that the minimal truthmaker for the truth that there are no arctic penguins is the totality state of affairs that some fusion comprises all the arctic animals (2004: 75-76). He then continues: "In the same way, if we work with the totality of all birds, we eliminate the phoenix" (2004: 76) This presupposes that the phoenix, if it existed, would be essentially a bird. In the same spirit, the minimal truthmaker for "there are no unicorns" is said to be the totality state of affairs that all 'horse-like creatures' lack 'unicorn-making characteristics' (2004: 36, 76) – but for this to *exclude* unicorns, it has to be assumed that unicorns are essentially horse-like and essentially have their unicorn-making characteristics. But if the possibility of unicorns is conceded, then why not also the possibility of unicorns that lost their horn or some other of their 'unicorn-making characteristics'?

¹⁸ In the same vein, Armstrong (2002: 34) says that *O* itself is a truthmaker of " $\sim C$ has a mass of five kilograms", albeit not a minimal one.

¹⁹ In (1978: 118), Armstrong identifies the thin particular with its total spatio-temporal position, though he seems to have retracted this claim.

ticular, abstracted from its properties" (2004: 105).²⁰ It is the thin particular John that is contained, as a proper but non-merological part, within the state of affairs of John's being human.

The thick particular, on the other hand, is the "particular taken along with all and only the particular's non-relational properties" (Armstrong 1997: 124). It is the state of affairs of the (thin!) particular's having all its non-relational properties (1989: 95), the particular "with all [its] (non-relational) properties upon [it]" (1997: 176).²¹ These properties are said to be "contained within it" (the scare quotes are Armstrong's) and it "enfolds" these properties "within itself" (1989: 95). It is in the fusion of the thick particulars that *Venus's being of size m* and *Mars's being of size n* are contained.

Here we have a third violation of combinatorialism: the thick particular depends on the thin and the thin on the thick. They are 'wholly distinct' in the sense that they do not overlap in a mereological part. The thick particular could not exist without a 'hook'; it is not a mere bundle of properties. The thin particular, however, is a mere abstraction, which does not enjoy independent existence: though there is no thick particular of which is must be a component, it must be a component of at least one (Armstrong 1989a: 52).

It is an equivocation between thin and thick particulars, I think, that made Armstrong infer necessitarianism and not just internalism from the sufficiency argument. If truthmakers are to be sufficient for the truthmaking they do, this just means that their standing in the truthmaking relation to certain truthbearers cannot depend on anything external to them, i.e. that it supervenes on their intrinsic properties. Only if these intrinsic properties

²⁰ Armstrong (1997: 109) says it is "the particular abstracted in thought from its non-relational properties", but then makes it clear later that he means all properties (1997: 123). Sometimes, e.g. in (1989: 95) and (1989a: 52), Armstrong says that the thin particular has some properties: though it is thin, it is still clothed and not bare. It is not clear, however, which properties these might be. They are not its essential properties, for the thin particular 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* (cf. Hochberg 1999: 68). If we arrive at our concept of thin particulars by 'partial consideration' (Armstrong 1997: 109), then their properties would be those we cannot subtract even in thought.

²¹ That thick particulars *are* states of affairs (cf. Armstrong 1978: 113, 1997: 125) is overlooked in Rissler's discussion of the need for states of affairs in Armstrong's later theory (2006: 200, fn. 4).

are 'enfolded' within thick particulars is the truthmaking relation itself *incassitated* by the mere existence of the truthmaker. Thin particulars, or more generally particulars having not all their intrinsic properties essentially, can be 'sufficient' for their truthmaking job without being so of necessity.

This is most apparent in the case of singular existentials: if John is to make "John exists" true, then the thick particular John cannot be its only possible truthmaker. For thick John could fail to exist (i.e. John could have different intrinsic properties) and it still be true that John exists. A transworldly permanent truthmaker would have to be thin John. But thin particulars are mere abstractions in Armstrong's ontology.²² The "cross-categorical unity" of thin particulars and universals indeed comes to appear as "the most puzzling unity of all" (2004: 267).²³ But it is not just puzzling what it is, but even how it can be possible at all. Exemplification between a 'thin' particular and some properties, it seems, is an external relation, connecting the particular with something outside itself.²⁴ The sufficiency argument then requires us to bring this external relation into the truthmaker –

²² It is even doubtful whether thin particulars can make true the statement that there are thin particulars. For if the world is a world of states of affairs and truthmaker theory is our guide to ontology, then, as Armstrong repeatedly argues, all truthmakers are states of affairs, i.e. what thin particulars precisely are not. This reflects a general problem for all necessary relations: whenever two things are 'internally' (essentially) related, Armstrong says repeatedly, any statement to this effect is made true just by the two things themselves (cf. e.g. 1997: 2-3, 89 and 2004: 50, 121). Because the things could not both exist without standing in that relation, their joint existence itself makes it true that they do so. But if there are internal relations between universals, like resemblance, parthood and identity, then at least some truthmakers are not states of affairs.

²³ As Armstrong recognises, the puzzlement is not avoided by speaking of a non-relational tie. This is just to label the problem: "One's first response to this is naturally extremely negative: are there two constituents involved or not? If so, how can they fail to be distinct terms? If they are distinct terms, how can they be 'tied' together except by a relation? It is no good simply *talking* about non-relational ties: or, to put it another way, one philosopher's solution is another philosopher's problem." (Campbell 1990: 15) "A non-relational tie between distinct things is pretty mysterious. Secondly, if the things are distinct then the tie is a relation. If the tie is not a relation then they are not distinct. So a non-relational tie could hold between distinct things only if they are not distinct." (Baxter 2001: 449)

²⁴ Numbering relations, e.g., would be external if they held between properties and thin particulars (Armstrong 1997: 176).

requires us to bring this external relation into the truthmaker – ontological explosion through Bradley's regress is the dire consequence.²⁵

Exemplification, however, is no less mysterious when considered a relation between the thick particular and its properties (cf. Aune 1984: 165). The 'thick' particular "is conceived as already possessing its properties" (Armstrong 1978: 114) and thus does not need to exemplify them. Armstrong (1989a: 52, 1997: 125) says that the 'thick' particular has its properties *necessarily*. But not only contingent properties are problematic: strictly speaking, the 'thick' particular does not exemplify *any* of its (first-order) properties (except perhaps its relational properties). It is, so to say, already 'saturated' (Armstrong 1980: 109); properties exemplified by it are second-degree properties. Second-degree properties, however, would give us second-degree states of affairs, which are different from first-degree ones.

It seems mysterious, then, how either the thin or the thick particular could have any properties. But even if they can, they do not exemplify them in a way that helps us in our quest for truthmakers for contingent predications. The thin particular, even in conjunction with its properties, does not necessitate any contingent truths about it. The thick particular does necessitate these truths, but only because it necessarily has the property attributed to it. Factualism thus is incompatible with necessitarian truthmaking of contingent predications by ordinary particulars.²⁶

²⁵ In reply to Aune (1984), who presses him on this point, Armstrong seems to agree: "The particularity of a first-order particular, in abstraction from all properties and relations, the mere thinness of a thing as a Scottist would put it, can have no properties. It is a bare principle of numerical difference." (1984: 254)

²⁶ This means that states of affairs do not *explain* the relation of exemplification, *contra*, e.g., Linsky: "The notion of a fact is introduced precisely to provide an explanation where others just provide truth conditions. Facts are deemed necessary in order to show what it is for an object to have a property." (1994: 193) Armstrong is much more cautious: he says that we need states of affairs because something "is needed to weld [universals and particulars] together" (1997: 114-115) and that "we may think that some ontological connection between subjects and predicates is required, and thus, perhaps, be led to postulate *facts* or *states of affairs* among our truthmakers" (2002: 33). States of affairs presuppose that we can *already* make sense of particulars and universals combining into entities that exist if and only if a proposition is true. They do not, *contra* Armstrong (2004: 24) provide the "ontological connection between subjects and predicates" but presuppose that such a connection has already been made.

2. *Allness*

But perhaps the very project of rescuing a notion of particulars from factualism is ill-conceived. Perhaps adopting factualism is a one-way street: we just have to accept states of affairs as primitive particulars; while they are, in some sense, 'composed' out of (ordinary) particulars and universals, these are not retrievable from them other than as bloodless abstractions. So let us take this leap of faith and pretend we understand what states of affairs are. Let us suppose that the world is a world only of states of affairs and that they are the only truthmakers there are. Will the first-order states of affairs give us truthmakers for all the truths? No, says Armstrong: to make it true that it is a law of nature that all *F*s are *G*s, for example, we need a further, non-supervenient and higher-order truthmaker, i.e. the state of affairs that *F*-ness necessitates *G*-ness (1983: ch. 6). If it is a nomically contingent fact that a certain number of states of affairs are all there are, then we need also another type of higher-order state of affairs.²⁷

"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)

Before pointing out the several intricate problems presented by totality states of affairs, let us first note that this argument in their favour is not quite compelling: it is not true in general that any necessary condition for a truth must somehow be "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.²⁸

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

²⁷ The qualification is important: if it is a law of nature that some totality of states of affairs exhausts all there is, then this truth is made true by the laws of nature themselves, without any help from any other higher-order states of affairs.

²⁸ The argument is easily generalised: every necessary truth is a necessary condition for everything else, but there are, I hope, at least some truths the truthmakers of which do not contain all (truthmakers of) necessary truths.

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: every fusion of states of affairs which are of the same 'sort' F is an object which may stand in a contingent and external relation to some 'unit-property' G that Armstrong calls "alling" or "totalling" and which he takes to be a universal (cf. 1989a: 93, 1997: 199, 2004: 73). The sort of the fused states of affairs F and the 'unit-property' G , on the other hand, are normally non-fundamental, 'second-' or even 'third-degree' properties. The mereological fusion of the black swans on the lake now (the thick swans, including their properties), for example, totals the "distinctively second-rate property" (*being a black swan on the lake now* (Armstrong 2004: 72)).

Totality states of affairs violate combinatorialism in yet another, fourth way.²⁹ The all-inclusive totality state of affairs makes it true that there are no unicorns by *ruling out* the existence of unicorns. The absence of unicorns entails the existence of some unicorn-free totality state of affairs.³⁰ By their very nature, totality states of affairs constrain what lower-level states of affairs there can be.

Armstrong takes the damage done to combinatorialism to be quite limited. For he thinks that there is just one totality state of affairs that suffices as truthmaker for all negative and general truths:

"These states of affairs [i.e. the fusion of all states of affairs totalling both *being a state of affairs* and its totalling *being any existent at all*, which Armstrong takes to be the same state of affairs] are the biggest states of affairs of all. Given these huge states of affairs, each positive, all the lesser totality or limit states of affairs are also given. In the great catalogue of being, as it were,

²⁹ The other three were the connections between truthmakers and truthbearers, truthmakers and what their truthbearers are about and between thick and thin particulars.

³⁰ Lewis (2001: 610) has called such things "unicorn-replacements", complaining that they are necessarily incompatible with unicorns while being wholly distinct from them. Armstrong (2004: 71) disagrees, pointing out that the totality state of affairs of everything being different from a unicorn contains the big molecular state of affairs which is the 'conjunction' (fusion) of all first-order states of affairs as a non-mereological part. But Lewis' worry concerned the connection between some merely possible unicorn and its this-worldly replacement – and the merely possible unicorn is not a constituent or part of the fusion of all states of affairs.

you need neither have any of the lesser *allings* nor, I have claimed, any other negative state of affairs." (Armstrong 2004: 74)³¹

The biggest totality state of affairs – which Armstrong calls "limit state of affairs" (2004: 71) and I will call "Porky", following Forrest and Khlentzos (2000: 7) – "fixes" all the negative facts (1989a: 96), all negative facts supervene on it (1997: 200) and it is a truthmaker for all the lesser totalities (2004: 59): "Once you have set the limits, the absences will take care of themselves" (2004c).³² It is not a minimal truthmaker, however, for the totality of the properties of some swan's plumage will do as truthmaker for it's not being white and the totality of the arctic animals makes it true that there are no arctic penguins (2004: 75-76).

But in what sense does Porky 'include' these more minimal truthmakers? We already met three ways in which truthmakers can be 'more minimal' than or included in others. They can involve only the thin, in contrast to the thick particular, only mereologically proper parts of either the particular or the universal component of the other, or they can be predications of more or less properties (where the 'inclusion' of F within the conjunctive universal $F&G$ is non-mereological (Armstrong 1989a: xi)). But in none of these senses are lesser allnesses included in the limit state of affairs. Take some lesser allness, e.g. the state of affairs of some fusion of properties comprising all of Theaetetus' properties – what Armstrong proposes as truthmaker for "Theaetetus is not flying". In what sense can Theo, as we may call this state of affairs, be said to be "given by" or "contained in" Porky? Only the positive states of affairs about Theaetetus are totalled in

³¹ Even within this passage, it is not clear whether Armstrong really claims that they are positive. In response to Molnar's worry (2000: 81) that they are negative after all, because "The G s are the only F s" is equivalent to " $\neg\exists x(Fx \& \neg Gx)$ ", he (2004: 70) agrees that "[t]here is no getting away from negativity altogether". He goes on, as cited above, to invoke a dubious principle of economy, which concerns the need for only *some*, but not all, of the (epistemically possible) negative facts (cf. also 1997: 200). It is this concern about theoretical economy in the "gross tonnage sense", a phrase Armstrong (2006b: 229) takes from Keith Campbell, that I address in the following.

³² The same ontological economy is allegedly achieved also at the level of states of affairs involving one and the same individual, say Theaetetus: "We get rid of the ontological nightmare of either a huge number of negative properties or a huge number of negative states of affairs, and substitute for them a single *all* state of affairs. It is a state of affairs (admittedly, a pretty large state of affairs, subsuming innumerable lesser allnesses), one that will serve as a truthmaker for the huge number of negative *truths* about Theaetetus among other particulars." (Armstrong 2004: 57)

Porky. Porky, however, makes Theo redundant: for the totality of properties F , G etc. of Theaetetus, Porky entails that Theaetetus is F , that he is G etc. and that he has no other property. Porky is a truthmaker for the truth that Theaetetus is not flying, and it will also be a minimal truthmaker if, as Armstrong says, the limit state of affairs contains only positive states of affairs. Porky contains, by definition, all the states of affairs there are, and therefore *excludes*, rather than 'includes', the lesser allnesses – a fifth violation of combinatorialism.

But perhaps Theo nevertheless exists, and is part of the fusion totalling *being any existent at all*. Even then, however, Theo would only in a trivial sense be included in Porky, in the same way in which it is 'contained in' the truthmaker of "Theo and Porky are Armstrong's favourite states of affairs". If this truthbearer is true, it has a truthmaker, part of which is a state of affairs ascribing to Theo the property *being one of Armstrong's favourite states of affairs*. Theo is 'contained' in this higher-order state of affairs in the same way it is 'contained' in Porky. It must exist if either of them does, but it does not exist *because* they do. We have a Eutypbro dilemma here: Theo does not exist because Porky does, but rather it is because Theaetetus has only these properties that Theo is an available candidate for being Armstrong's favourite and included in Porky: we must acknowledge its existence *prior* to encapsulating it in further higher-order states of affairs.

Besides their promise of ontological economy, another motivation for totality states of affairs is that they are needed to provide truthmakers for modal truths. While Armstrong (1989: 88) restricted the truthmaker principle to contingent truths, he came to think that their lack of truthmakers would be "an enormous and implausible disvaluing of modal truths" (1997: 149), proposing that the "truthmakers for a particular modal truth will make that truth true in virtue of nothing more than relations of *identity* (strict identity) and *difference* between the constituents of the truthmakers" (1997: 150). As these are internal relations, the mereological sum of the constituents themselves will make the modal truth true.

To secure the supervenience of the modal on the actual, Armstrong (2004: 83–85) appeals to what he calls the "Possibility Principle": that truthmakers for contingent truths are also truthmakers for the possibility of their contradictions. Hence Theo makes it true not just that Theaetetus is not flying, but also that he might fly. Armstrong (2000: 155, 2004: 84, 2006c: 247)

argued for the Possibility Principle using the Entailment Principle and the claim that, for any contingent truth p , p entails "it is possible that $\neg p$ ".³³ Even if we grant him the Entailment Principle,³⁴ the minor premise is highly questionable: Even if "it is of the essence of contingency that the contradictory of a contingent truth be a possibility", the connection between contingency and the possibility of the contradictory is analytic and "holds in virtue of what we mean by the phrase 'contingent proposition'" (2004: 84), this does not show that p entails "it is possible that $\neg p$ " *given* that p is contingent: even if being unmarried is of the essence of bachelorhood, we cannot say that "Sam is happy" entails "Sam is happy and unmarried" *given* that Sam is a bachelor. We also need a truthmaker for the claim that Sam is a bachelor (and for the claim that p is contingent).

In earlier and better versions of the argument (2000: 155, 2002: 35), the claim that p is contingent was enlisted as an explicit premise (rather than a 'presupposition'): the truthmaker for "it is possible that $\neg p$ " will then be at least the sum of a truthmaker for p – call it " a " – and a truthmaker of the claim that p is contingent. An appeal to the Entailment Principle is then no longer necessary: if it is true that p is contingent, there is, by maximalism, a truthmaker b for it. If " p is contingent" is equivalent to "it is possible that p and it is possible that $\neg p$ " (2004: 83), we need much weaker principles than the Entailment Principle to conclude that b makes it true that it is possible that $\neg p$: distribution of truthmaking over necessary (or even analytic) equivalence (2004: 25) and conjunction will suffice. Now a will no longer do any work – the truthmaker for "it is possible that $\neg p$ " will just be one for " p is contingent". This is more perspicuous in the argument Armstrong gives in (2004: 111 and 2005: 271) for the Possibility Principle:

- (i) Suppose p is a contingent truth.
- (ii) Hence it has a truthmaker, a .
- (iii) By truthmaker necessitarianism, a is contingent.
- (iv) a is the truthmaker not only for " a exists" but also for "it is possible that a does not exist".
- (v) Hence a is the truthmaker for "It is possible that $\neg p$ ".

³³ As stated by Armstrong (2004: 10), the Entailment Principle is inapplicable (cf. in. 15) since he takes "it is possible that p and possible that $\neg p$ " to be necessary for contingent truths p (2004: 85). He says that "it is possible that $\neg p$ " is very tightly linked to the truth [p], and that the principle can therefore nevertheless be applied (2004: 84).

³⁴ Simons (2005: 254) points out that it is relevantly invalid.

Aside from premise (iv),³⁵ the crucial step is from (iv) to (v). Armstrong does not do much more than state that it is obvious.³⁶ But it is not: even if *a* is the truthmaker for *p*, “*a* exists” and “*a* might not have existed”, it does not follow that it is also the truthmaker for “it is possible that ¬*p*” – that there is a world without *a* does not show that there is a world where *p* is false, for *p* might be made true by something else in that world.

Armstrong produces something that sounds like a transcendental argument:

“If [*a*] is the only minimal truthmaker that *p* has, then the possible non-existence of [*a*] must be reflected at the level of propositions by it not being that case that *p* is true. Hence [*a*] will be truthmaker for <it is possible that not-*p*>, which is what is being argued for.” (Armstrong 2005: 272)

It is a pivotal principle of Armstrongian truthmaking, however, that it does not have to be one-one, i.e. that there may be many different (and many different minimal) truthmakers for one truth. Whenever this is the case, the ‘possible non-existence of [*a*]’, the actual truthmaker, is *not* ‘reflected’ by the possible falsity of *p* – in worlds where I do not exist, someone else may still make it true that there are humans. Armstrong (2005: 272) seems to think that this can be remedied by taking the mereological sum of all minimal truthmakers. This will not do, however, for the worry concerns not just actual, but also merely possible non-uniqueness of minimal truthmakers: Suppose Theo makes it true that Theaetetus is not a poached egg and is a minimal truthmaker for this truth. But its possible non-existence (e.g. in worlds where Theaetetus is flying) does not reflect the possibility that Theaetetus might be a poached egg: it might still be impossible that Theaetetus is a poached egg.³⁷ Necessary truths may have contingent truthmakers: If truthmaking distributes over disjunction introduction (Arm-

³⁵ I think that it may be granted that contingency is a feature of the nature of the things to which it applies (cf. Almg 1996: 423–424). (iv) only requires in addition that it is intrinsic, a matter of “what [the contingent being] is in itself” (Armstrong 2004c).

³⁶ “Whether we need a *property* of contingency *in re*, a special categorial property of the truthmaker, is a difficult question of metaphysics that I trust need not be entered into here. [...] But, however one resolves that matter, it is difficult to quarrel with the idea that any truthmaker for *p* is also the truthmaker for <*p* is contingent>.” (2003: 15) “Given that [*a*] is contingent, it necessitates the possibility of *p*.” (2004: 111)

³⁷ Taking the mereological sum of possible unique truthmakers will not do either, for that sum is not contingent. Armstrong (2004c) explicitly assumes that any contingent truth has a purely contingent truthmaker (every part of which is contingent).

strong 2004: 21), Sam is a truthmaker for “either Sam is human or he is not” – a unique minimal truthmaker that is contingent but makes its truthbearer true without making it contingent (because it is not).

For the step from (iv) to (v) to go through, we need a reason to think that the truthmaker of “*p* is contingent” cannot have any other truthmaker than the one *p* actually has. The truthmaker of *p*, if *p* is contingent, must be a contingent existent. So there is a world where it does not exist and hence is unavailable to make it true that *p* is contingent – which is, given **S5**, if true, necessarily true.³⁸ Hence something else must make it true in that world.³⁹ The Possibility Principle and **S5** are incompatible.⁴⁰

Given **S5**, the truthmakers for both ‘statements of mere possibility’ and the possibility of aliens are the truthmakers for the *necessary* statements that some proposition or some state of affairs is contingent and hence do not ‘reflect’ this contingency.⁴¹ For necessary truths quite generally, Arm-

³⁸ Cf. 2000: 155, 2004: 84. Armstrong (2002: 35) uses this claim to support premise (iv). The necessity of contingency follows from the claim that **S5** is the logic of metaphysical necessity, an idea Armstrong (1997: 171, 2003: 14, 2004: 84–85) finds appealing. Recently, however, Armstrong seems to have given up **S5** (cf. fn. 40 below).

³⁹ This worry cannot be countered by the claim that we are looking for truthmakers not in other worlds but only in this one, which is the only one that exists. Armstrong (2004: 91) relies on this claim to counter the objection that an empty world lacks unicorns and this truth has to be made true even there, in the absence of any totality states of affairs (Lewis 2001: 611). Given **S5**, if *p* is contingent, it is necessarily so. Hence the necessity, not just its possibility is in need of a truthmaker.

⁴⁰ It is not clear whether Armstrong really accepts **S5**. Armstrong (2003: 18, 2004: 90) argues from the Possibility Principle to the claim that any contingent existent makes it true that there might be nothing, a claim which he (1989a: 24–25) thought “attractive [only] at a shallow level of reflection”, which he later (2000: 158) still doubted and about which he is again (2004a: 144) “deeply uncertain”. To argue that it is true, Armstrong (2003: 18) needs to assume that it is possible that there is nothing, but it is not necessary that it is possible that there is nothing – which rules out **S5** (and makes the existence of necessary beings incompatible with the existence of any of the actual existents). Armstrong (2004: 90) provides an argument that seemingly does not rely on this premise – but this is only because he forgets to enlist the contingency of “there is at least one contingent being” as a premise. For the Entailment Principle to be applicable to it, “it is possible that there is nothing” has to be a contingent truth (cf. fn. 15).

⁴¹ While Armstrong (1989a: 21) thought that he would need a realistic theory of possibilities to provide truthmakers for the claim that he would need a realistic theory of possibilities, he then (1997: 165) accepted them in the ‘outer sphere of possibility’, in particular to provide possible exemplifiers for mathematical properties (1997: 181) and to

strong (2002: 36) expressed the hope that they “set up an internal relation between entities” which will then themselves serve as truthmakers for it.⁴² As we have seen, however, more than just the truthmaker of *p* is required to make “it is contingent that *p*” true. It seems that the *proposition p* itself has to be brought into the truthmaker of the contingency claim. In this case, the propositions *themselves* would make it true that they are contingent – no special work for totality states of affairs here.

This is fortunate, for totality states of affairs suffer from a serious problem: they are impossible, and demonstrably so.⁴³ If there were any, some truthbearer of the form “These are all the totality states of affairs there are” would be true. If some such truthbearer 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

keep S5 as his logic of metaphysical possibility (1997: 170). The truthmaker for “there could be alien particulars and properties” are the “actual constituents [of the maximal state of affairs *H*] and their [internal] relations of mutual difference” (1997: 167, but cf. in. 48 below). For any alien particular *a*, this state of affairs makes “*a* is possible” true. If the latter truth is necessary, however, it will be possible that it is made true by many different maximal states of affairs.

⁴² Cf. 2000: 156, 2003: 21 and also: “Consider the truth $\neg 7$ is a prime number. Given the number 7 and the property of *being prime*, then the truth is necessitated. This entity and this property, then, can serve as truthmakers for the truth. A predicative *it* is not required. All we need are truthmakers for the existence of the number and the property.” (2004: 99)

⁴³ 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. 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 predecessors in the regress means that all we have is a regress of truths sharing as their truthmaker the totality state of affairs of the lowest order (cf. Armstrong 1989a: 94, 1997: 198, 2004: 78, but cf. 2006d: 246). Even if this answer is generally acceptable (and we will return to this on p. ??), however, it needs some finetuning: there are, Armstrong (2004: 74) says, at least two most inclusive second-order states of affairs, the totalling of *being a state of affairs* (or rather: *being a first-order state of affairs*) and the totalling of *being any existent at all*. If naturalism is true, then there is also a third one, the totalling of *being in space-time*. Naturalism, i.e. the doctrine that the world of space and time is all there is, is a contingent thesis (Armstrong 1997: 35, 2004: 112). Hence the state of affairs that there are three most-inclusive second-order states of affairs is itself contingent, i.e. not necessitated by the second-order states of affairs. The regress therefore stops at the second stage at the earliest.

“These are all the totality states of affairs” would not total *all* the totality states of affairs; hence it would not total any.

Assume, again, for *reductio* that there are totality states of affairs and that totalling is a universal, 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 them: “The Tot relation is to be found even where there is just one object of a certain sort.” (Armstrong 2004: 73). Call “Total” the totalling relation’s holding between the fusion of all totality states of affairs and the (second- or third-grade) property *being a totality state of affairs*. Total is impossible: if the totalling relation holds, then the fusion has to be the fusion of *all* states of affairs. The fusion, however, cannot contain Total itself, because it is a proper part of Total (Armstrong 2004: 56, 71).⁴⁴ Could some other property than *being a totality state of affairs* be totalled in Total? No, it seems, if Total really is the totality of all totality states of affairs. Could the totalling relation fail to hold? Only, it seems, 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 Total would not be the totality of totality states of affairs, contrary to what we assumed.

There are other paradoxes in the vicinity.⁴⁵ We have seen that 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 of the black swans on the lake, the totalled property, though second-rate, occurs as a ‘predicative component’ in the states of affairs (thick particulars) fused into the aggregate totalling it.⁴⁶ 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 predicative component of the first-order states of affairs (all states of affairs of which it is 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: let us call such states of affairs “non-predicative”. Some such states of affairs exist, for example Theo (for *being a property of Theaetetus* is not a property of Theaetetus). This means that there is a totality, call it “Russell”, of all and only the non-predicative total-

⁴⁴ That totality states of affairs are ‘ampliative’ follows from, but does not imply, Armstrong’s earlier assertion that the totalling relation is external (1997: 199).

⁴⁵ The following Russell-type paradox has independently been noted by Greg O’Hair.

⁴⁶ This is also the case for the (many!) numbering relations (Armstrong 2004: 116).

ity states of affairs. With respect to Russell, we may now ask whether the property that is totalled in it, the property of being a non-self-predicative state of affairs, is a component of any of the states of affairs totalling it. We may ask, in other words, of Russell, 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 totalling fusion. So it is the property totalled by at least one of the states 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 Russell would contain itself as a proper part. But it cannot be any other fusion: the fusion totalling the property of being a non-self-predicative state of affairs must be the fusion of all the non-self-predicative states of affairs. If Russell is not self-predicative, on the other hand, then it 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. Hence Russell is neither self-predicative nor non-self-predicative.

Faced with these paradoxes, none of the familiar options seems plausible. Given unrestricted composition, we cannot deny that there is a fusion of all totality states of affairs or of all non-self-predicative totality states of affairs, as long as at least one of them exists. 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 leave us with no index for the totalling of the fusion of all totality states of affairs. We could adopt a limitation of size principle, but this would break the connection between generality and negation. For 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 one order higher up.

Could we say that the totality of all totality states of affairs supervenes on them? Suppose, the earlier arguments notwithstanding, that there is just one totality state of affairs. Would it not necessitate the state of affairs of its being the only one? The problem with this reply is that it undermines the motivation to introduce totality states of affairs in the first place.⁴⁷

...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

⁴⁷ Thanks to Frank Jackson for drawing this passage to my attention.

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)

What holds for states of affairs holds for totality states of affairs. Suppose there is just one state of affairs, *a*'s being *F*.⁴⁸ Why add the totality state of affairs of *a*'s totalling *F*? No world can differ *just* with respect to it. The reason it is necessary, Armstrong says, is to distinguish the first world not from a 'complete' world (where completeness is 'written into the description of the case'), but from an (*a*-centred) 'sub-world' of a world where *a* is *F* and another *b* is also *F*. An exactly parallel argument shows the non-supervenience of totality states of affairs: Suppose there is a world with just one totality state of affairs, *a*'s totalling *F*. How can a world differ from it just with respect to this totality of one totality state of affairs? This does seem impossible only if we forget about sub-worlds, e.g. the *F*-sub-world of *a*'s being *F*, *a*'s totalling *F*, and *a*'s being *G*. The only difference between them is that without *a*'s being *G*, there is just one totality. To suppose otherwise is to 'write [completeness] into the description of the case'.

If, as Armstrong says (1989a: 88, 1997: 196, 2004: 75), totality states of affairs are not supervenient, his only option at this point, I think, is to withdraw his claim that totalling is a universal and may be a component of states of affairs.⁴⁹ What makes it true that some totality is all there is just this totality itself – all there is, even if there might be something more. Giving up necessitarianism for general truths seems a viable option then.

⁴⁸ This is problematic for the reasons mentioned on p. ??: it would have to be a totality state of affairs and hence contain itself as a proper part. Another argument for this does not rely on (totality) states of affairs being 'ampliative': If there is a totality state of affairs, some property is 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. If the property is *being something positive*, as Armstrong (2004c) proposes, it clearly cannot be exemplified by the limit totality state of affairs.

⁴⁹ Could Armstrong give up the ampliativity of states of affairs? He cannot, if he wants to stay realist about them and does not want to accept, as parts of the natural world of space-time, things that may contain themselves as proper parts.

It still leaves us, however, with states of affairs, and hence with their fusion, which Armstrong (2004: 122-123) calls " W ", the whole world, the whole that contains absolutely every thing that exists", that "greater than which nothing exists". It cannot be part of any state of affairs:

"States of affairs are ampliative, that is, they embed their subjects in something further. But if W really is everything, then there is nothing further, not just no further particulars, but no further properties or relations or anything else." (Armstrong 2004: 123)

But if W cannot be put into any state of affairs, then it cannot have any property and cannot stand in any relation. So, in particular, it cannot stand in the totalling relation to the property *being a state of affairs*. If it were everything, it would need to do so, and also to stand in the totalling relation to *being an existent* and, perhaps, also to *being in space-time*, hence be a proper part of (at least) one other thing, namely Porky. Even if Porky is (somehow) not an 'ontological addition' to W , it certainly exists: it is required as the actual truthmaker of all truths asserting the possibility of something non-actual⁵⁰ and it may also occur in merely possible states of affairs, e.g. its singleton.⁵¹

⁵⁰ Armstrong gives two conflicting accounts of the situation: he says, on the one hand, that " W is the totality of being" is a contingent truth, having W as its truthmaker. By the Possibility Principle, W is also the truthmaker for "it is possible that W is not the totality of being" (2004: 123, 1997: 167; but cf. fn. 41 above). The latter truth, on the other hand, is equivalent to "it is possible that there are alien particulars or properties" and this truth, Armstrong (2004: 88, 2000: 156, 2002: 36, 2003: 17) says, is made true not by W but by Porky, the totality state of affairs that W is all there is.

⁵¹ Cf. Armstrong (1997: 194-195, 2004: 123). There is some doubt, however, that $\{W\}$ is possible. Armstrong (1997: 193) distinguishes between empirical (existing) and non-empirical (merely possible) singletons and holds that $\{W\}$ is merely possible (1997: 194, 2004: 123). But all the things exemplifying unit-properties have empirical singletons and it seems that all these singletons will themselves exemplify unit-properties: for take a , and some unit-property *being an F* . Hence a exemplifies *having some first-order unit-determining property* and this state of affairs is $\{a\}$. But then it seems that $\{a\}$ cannot fail to exemplify *being the exemplification of some unit-property by a* . There will normally be more than just one state of affairs exemplifying this property, and they are countable; hence, *being the exemplification of some unit-property by a* is a unit-property and its exemplification by $\{a\}$ is the state of affairs $\{\{a\}\}$. Given that unit-properties may be second-class (Armstrong 1997: 190), disjunctions and universal quantifications of unit-properties are unit-properties. Hence the procedure may be applied to arbitrary sets: the unit-property of $\{a,b\}$, for example, is *being either the exemplification of some unit-property by a or the exemplification of*

W , this thickest of all particulars, 'enfolds' all properties and particulars there are and makes true every truth, including that Theaetetus is not flying. How it accomplishes this difficult task, however, must be left unexplained: no property can be (truly) attributed to it and it cannot (truly) be said to stand in any relation. We cannot even truly say of it that it is all there is. If there is no totalling universal, moreover, there is no relation holding between Theaetetus' positive properties and *being a property of Theaetetus* – W is then the unique minimal truthmaker for the truth that Theaetetus is not flying! If it is true that "the candidates for unique minimal truthmakers that a particular philosopher upholds take us into the heart of that thinker's metaphysical position" (Armstrong 2004: 22), then this Spinozist One should give us pause.

It is fortunate, therefore, that Armstrong has another, and different, theory of truthmaking to offer.

3. *Aspectual truthmaking*

According to the factualist account of truthmakers for contingent intrinsic predications, the truthmakers of " Fa " are required to necessitate that a is F . We discussed some difficulties for this account: the minimal truthmaker cannot be the thin particular a , which does not necessitate " Fa ", nor can it be the thick particular, which necessarily exemplifies all properties 'contained' within it. Because the thin particular is not a truthmaker and the thick is not a minimal one, the minimal truthmaker must be an 'intermediate' entity, a 's being F , which 'enfolds' just F . This 'intermediate' entity is itself a particular and depends on F : it could not be the entity it is without having F as its predicative component. But it also contains a , and it also does so essentially, creating a necessary connection between a and F . This connection is not symmetrical, however: while the thick particular necessitates the universal, the universal only generically depends upon it.

some unit-property by b . But this means that a union of sets having empirical singletons will have itself an empirical singleton. If $\{W\}$ is possible, it would be the union of all empirical singletons, hence itself empirical (this also follows directly from Lewis' 2001 analysis of union as fusion which Armstrong accepts). Armstrong (1997: 195) says that the fusion of all empirical singletons "would seem to be W ", and certainly cannot be anything more". So if $\{W\}$ is empirical, then it is a (proper or improper) part of W , which violates, again, the ampliativity of states of affairs.

The thick particular could not be what it is without unfolding F , but F could be what it is without being enfolded in this thick particular.

On this account the “identities [that] run across the states of affairs” are “somehow mysterious” (Armstrong 1997: 265). a ’s being F and b ’s being F , while sharing their predicative component, are non-identical, mereologically disjoint and capable of independent existence. *Contra* Armstrong (1997: 265), the same does not seem to be true of the states of affairs of a ’s being F and a ’s being G – these literally share a component, namely the thin particular a , that in turn depends on the thick particular which enfolds both F and G . The same asymmetry shows up in other places as well: While Armstrong always rejected the identity of indiscernible particulars (cf. e.g. 1978: 95), he held indiscernible universals to be identical.⁵² Particulars, on this conception, are something over and above the states of affairs in which they occur: they can differ by “bare numerical difference” (1997: 109). Universals, on the other hand, can be reconstructed as “states-of-affairs types”.⁵³ The identities running through the states of affairs, then, are indeed mysterious: universals, but not particulars, depend on them.

This is an unstable position: being a *a posteriori* realist about universals, it is unclear what resources Armstrong can draw on to *a priori* exclude the possibility of a universal that, by necessity, is had by at most one particular, say a . In such a case, however, generic dependence becomes specific: whether or not a exists determines whether such an F exists (cf. Armstrong 2005: 274). Another source of instability is the ampliative nature of states of affairs: if both particulars and universals are components of states of affairs, why is it, we may ask, that only the latter can be retrieved from them

⁵² Armstrong expresses this by saying that universals are wholly ‘qualitative’: there is nothing that could distinguish two universals sharing all the qualitative features they bestow (cf. 1978a: 110 and 1989: 106). For his later change of mind, cf. p. ?? below.

⁵³ Cf.: “The universal is a gutted state of affairs: it is everything that is left in the state of affairs after the particular particulars involved in the state of affairs have been abstracted away in thought.” (1997: 29) I am not sure how this abstractionist conception allows Armstrong to maintain his realism about universals. Would universals still exist if no one ever had ‘abstracted’ them from their states of affairs? If universals are states-of-affairs types, they are rather like functions from particulars (individuals) to particulars (states of affairs). Why should we not then identify them with sets of pairs of such particulars? And even if we grant an independent ontological status to functions, they seem to be particulars.

as ‘states-of-affairs types’? Would not a similar process of abstraction yield the particulars?

If the link between a and F were itself necessary, the necessary connection would be symmetrical: not only would the particulars and universals be fixed given the states of affairs, but the states of affairs would be fixed given the particulars and universals (Armstrong 2004: 84). No need then to postulate them as truthmakers: they come for free as a supervenient lunch. While Armstrong (1997: 267) thought this would go against “the contingency of states of affairs [which] cannot be abandoned”, he “now [has] sympathy with the view that predications are necessary truths” (2004: 51, cf. also 126). I will call this view ‘Leibnizianism’ in the following.⁵⁴

“What is contingent might not have existed. Suppose a to be F , with F a universal. If this state of affairs is contingent, then it might not have existed. Suppose it had not existed. The particular a , the particular with all its non-relational properties, what I have in the past called the ‘thick particular’, would not then have existed. Something quite like it could have existed instead: a particular with all of a ’s properties except F . But that would have been only a *close counterpart* of a , because the intersection with F ; the partial identity with F , would be lacking. *Equally, it now seems to me, the universal F would not have existed.* A universal very like F could have existed: a universal that had the same instantiations as F except for instantiating a . But that would have only been a close counterpart of F , because the intersection with a , the partial identity with a , would not have existed. So, strictly, if a and F exist, then they *must* ‘intersect’. They themselves can be, and I think are, contingent beings. But if a exists and F exists, then a must be F : a necessary connection between contingent beings.” (Armstrong 2004: 47, his italics)

Here we have another, and even more radical, abandon of combinatorialism: both particulars and universals are now conceived of as ‘thick’ – they overlap in states of affairs (Armstrong 2004: 47, fn. 6), they necessitate them because they have the states of affairs ‘built into them’:

⁵⁴ Cf. Armstrong 2004a: 142. In the meantime, Armstrong has given up Leibnizianism: “Partial identity’, I now think, is a somewhat misleading phrase. Particulars enfold their universals – and that is a sort of partial identity – but universals do not enfold their particulars. In the envisaged ‘deleting’ [of the a that is F], the universal continues to exist identically in other particulars, unless, indeed, a is the only particular to instantiate the universal.” (2005: 274) I will argue in the following that he did so for the wrong reasons – giving up on ‘thick universals’, while retaining the ‘thick particulars’.

"Given a and given F , as opposed to mere counterparts of this particular and this universal, then the state of affairs of a 's being F is automatically there. It is built into the two constituents of the state of affairs." (2004: 49)⁵⁵

The way in which a 's being F is built into both a and F is not mereological, however. Even though Armstrong (2004: 103) characterises partial identity as a relation "where one entity contains another with something to spare, or else where entities overlap each other", partial identity is *not* identity of a part:

"...what is involved in a particular instantiating a property-universal is a partial identity of the particular and universal involved. It is not a mere mereological overlap, as when two streets intersect, but it is a partial identity." (Armstrong 2004: 47)⁵⁶

How are we to understand this 'partial identity' of particulars and universals? Armstrong (2004: 47) refers to Donald Baxter's "Instantiation as Partial Identity" (2001), so perhaps this is where elucidation can be found.

Baxter (2001) has provided a new answer to the empiricist worry about universals having multiple locations, saying that even if it begs the question by assuming that if something is at one location, it is at no separate location, we are left with the task of explaining its attractiveness. According to Baxter, it resides in its having a close and true variant, namely:

⁵⁵ In other passages, Armstrong does not draw this radical conclusion, claiming e.g. that even on the 'predication is necessary' view, external relations can be distinguished from internal ones by "demand[ing] states of affairs" (2004: 52). He does not say that Leibnizianism entails that there are *no* external relations, though it entails, e.g., that causation is a necessary connection *in re* (2004: 126) and hence internal (2004: 52).
⁵⁶ The relation discussed under the label of 'partial identity' by Armstrong (1997: §2.3.2) should not be confused with the partial identity involved in Leibnizianism, for the first, but not the latter is strictly mereological: "These cases [like the identity of the morning and the evening star] tempt us to overlook such a case as that of Australia and its state of New South Wales and also that of two adjoining terrace or town houses that have a wall in common. These are partial identities. One is whole/part, the other is overlap. Mereology which deals with these notions, may be thought of as an extended logic of identity, extended to deal with such cases of partial identity." (1997: 18) It is therefore highly misleading for Armstrong to provide mereological models, even only 'rough' ones: "The particular and the universal intersect. Consider a cross that has been cut out of a single piece of wood. The intersection of the vertical position of the cross (which models the particular) and the horizontal portion (which models the universal) gives a rough, but perhaps helpful, model for a 's being F ." (2004a: 141)

"A universal insofar as it is in one location, is not in another. Insofar as it is in one location, it is separate from (spatially discontinuous from) itself insofar as it is in the other." (Baxter 2001: 451)

The explication of "insofar as" leads Baxter to an 'aspect' theory of universals, according to which universals are aspects of particulars and only formally or 'loosely' distinct from them:

"...to take many things to be a single thing is to take them to be aspects of a single thing, in my sense of "aspect". (Baxter 2001: 600, fn. 14)

The universal insofar as it is there and the universal insofar as it is here are 'loosely' identical with just one universal, of which they are aspects. Baxter's aspect-theory is therefore rather different from Armstrong's 'loose identity': whereas the latter is a matter of equivalence classes,⁵⁷ the first is a conceptualist substitute for real identity (numerical identity of aspects).⁵⁸

Baxter explains the difference between strict and loose identity in terms of different ways of counting. His 'partial' identity (what he calls "many-one identity" in 1988: 577 and 1988a: 193) is identity across different counts:

[It is a kind of identity] "that holds between distinct things (counted on a strict standard) and a single thing (counted on a looser standard). It is identity because the several things (counting strictly) are identical with each other (counting loosely)." (1988: 576)

Partial identity is not overlap (in neither a mereological nor a non-mereological sense), because *each* of the – strictly counted – many things (and not only the fusion of all of them) is not numerically distinct from the – loosely counted – one thing, as a proper part or a state-of-affairs compo-

⁵⁷ Armstrong calls particulars 'loosely identical' if they exhibit "sameness of type in the absence of identity of the universals involved" (1997: 15).
⁵⁸ Baxter's theory can be formulated as a reinterpretation of the attribution of properties: A predication is contradictory only if it ascribes some property to something under some aspect and denies it from it under the same aspect; and this holds even though the aspects of a property are numerically identical with it (2001: 449). The universal is located here under some aspect (insofar as it is exemplified by one particular), but located there under some other aspect (insofar as it is exemplified by a different particular). Even if a and b are identical, there might be an aspect x of a and an aspect y of b such that a as x is discernible from b as y . (Baxter 1989: 130).

ment would be (1988: 578-9). Aspects are not proper parts of the things of which they are aspects, but numerically identical with it.⁵⁹

This may explain the appeal of the multiple location objection, but does it explain exemplification? It does, Baxter thinks, if we “think of a particular as like a universal in having aspects” (2001a: 453). Baxter gives rather enigmatic advice on how to accomplish this:

“Here is the proposal in brief: the non-relational tie is the identity of an aspect of a universal with an aspect of a particular. If you think of aspects as parts, then the non-relational tie is the ‘partial identity’ of particular and universal. That’s putting it Armstrong’s suggestive way [making reference to 1997: 17]. The aspect is the part they have in common.” (Baxter 2001: 453)

Mentioning ‘partial identity’ in this respect is very misleading, even if Baxter immediately goes on to stress that it means “think[ing] of aspects in the count in which the whole counts as one” and that his notion of partial identity is like the one of Bradley and unlike the one of Brentano, which, he says, is closer to Armstrong’s.

The loosely identical particulars are the exemplifications of one universal of which they are aspects. The loosely identical universals, however, are not, as they were in Armstrong’s reconstruction of the empiricist worry (1997: 15), a strictly identical universal ‘wholly present’ in different locations, but the strictly different universals exemplified by the one particular of which they are aspects. We count the similar particulars strictly as many and loosely as one. When we count them loosely as one, we have the universal. We count the properties of one and the same particular strictly as many and loosely as one – when we count them loosely, we have the particular. If a particular exemplifies a universal, it is an aspect of it. The universal exemplified by the particular is then an aspect of the particular. The aspect of the universal is numerically identical with the universal, the aspect of the particular numerically identical with the particular. If both aspects are identical, then so are the universal and the particular. This is why such “identity in difference” (Baxter 2001: 453) has nothing to do with the mereological notion of partial identity discussed by Armstrong (1997: 17).

⁵⁹ Even granted that composition is identity. I think it is hopeless to think of aspects as parts: “On standard conceptions, the [proper] parts are all numerically distinct from each other, and each is numerically distinct from the whole they compose. Aspects aren’t like this. They are numerically identical with each other and the whole. Think of parts likewise.” (Baxter 2001: 453) I am sorry to say that I failed.

It is also why it is understating the radicalism of his proposal when Baxter gives the following example:

“Suppose Hume is a particular. Benevolence is a universal, and Hume is benevolent. Then Hume has an aspect, Hume insofar as he is benevolent. Also Benevolence has an aspect, Benevolence insofar as Hume has it. These are the same aspect – Hume’s benevolence.” (Baxter 2001: 454)

It is, of course, tempting to take the shared aspect, Hume’s benevolence, to be a state of affairs. According to Baxter, however, both Hume and Hume insofar as he is benevolent are numerically identical and so are Benevolence and Benevolence insofar as Hume has it. So Hume’s benevolence is both numerically identical to Hume and to Benevolence! But Benevolence, if it is multiply exemplifiable, is not just numerically identical to Hume, but also, say, to Mill. If Mill and Hume are not numerically identical, then Benevolence is numerically distinct from itself. This, according to Baxter, is “Boethius problem[,] the deep problem [...] underlying the multiple location problem” (2001: 454). Baxter’s solution is to bite the bullet: Hume and Mill are identical insofar as they are the same universal. Benevolence (2001: 455). There are two particulars in one count, one universal in another, where the counts compete but are equally strict.

Armstrong’s Leibnizianism is different from Baxter’s aspect theory. Rather than a theory of partial identity, it is one of entanglement: the natures and essences of both particulars and universals are tied up with each other.⁶⁰ Rather than ‘following’ from partial identity,⁶¹ the doctrine that ‘predica-

⁶⁰ Already Armstrong (1997: 268) said that if predication were necessary, “[t]hen we shall have to say that particulars and universals are not “distinct existences” but that their identities are in some way entangled with each other”.

⁶¹ This is how Armstrong puts it: “I find the partial identity very attractive, but it seems to me that partial identity, like any identity, brings necessity with it. If a universal is partially identical with a certain particular, then to try to consider that very universal without it being instantiated by that particular is to consider a mere counterpart of the universal in question.” (2004: 80) This is thirdly misleading: first, because the ‘partial identity’ is not *mereological* overlap, second, because even if it were, we would need mereological essentialism as a further premise, and third, because the ‘partial identity’ among states of affairs having the same constituents does *not* add up to identity (in contrast to how Armstrong (1997: 18) characterises partial identity): as Lewis (1986a) pointed out, and Armstrong (1989: 90, 1997: 120) acknowledges, *Fa&Gb* and *Ga&Fb* have the same constituents, but are not identical states of affairs, let alone necessarily so (Armstrong (1989a: 59) calls this position ‘weak Haecceitism’).

tion' is necessary is better taken as a substantive claim about the *nature* of universals and particulars: "The property *F* must have all its instances and it cannot have any others" (Armstrong 2004: 80-81), "because the instantiations of any universal are part of what that universal is" (2004: 136).⁶²

Leibnizianism restores the symmetry in Armstrong's theory. He already had thick particulars, enfolding their properties. But these properties were only generically dependent on particulars. So he needed states of affairs to provide necessitating truthmakers. Leibnizianism now gives him thick universals, enfolding their particulars. States of affairs are no longer needed – they are the intersections of thick particulars and thick universals and come in as a free lunch.

Leibnizianism is not a consequence of the adoption of thick universals alone. Baxter has a simple explanation why some predications are contingent: if the aspect of the particular exists, then it is numerically identical with the particular and necessarily so – but if it does not exist, then the particular might still exist and perhaps be necessarily numerically identical with other aspects (2001: 458). Aspects are contingent beings and their contingent existence makes the propositions they make true contingent. In this respect, aspects are rather like tropes.⁶³

Armstrong's universals are rather different: even if they depend on all their particulars, they are still 'ones over many', wholly present in numerically distinct particulars. If both *a* and *F* exist, *a* is necessarily *F*. But the exist-

⁶² This is also how Armstrong reports Baxter's claim: "Baxter's suggestion is that particulars really do participate in their universals (as the young Socrates suggests to Parmenides and Zeno in Plato's *Parmenides*)." (2004a: 140)

⁶³ Armstrong thinks that advocates of non-transferable tropes are equally committed to Leibnizianism about predication: "The idea is that the mass is held to be the mass of this stone *by necessity*. It is an identity condition for the property. Every property then becomes an essential property." (2004: 46. cf. also 2004a: 144) This is a misunderstanding of non-transferability, as Simons (2005: 259) points out: while being part of its subject is essential to the trope, it is not essential to the subject to have the trope among its parts. Even if the mass trope is non-transferable, it can still be held that it is only contingently the mass trope of this stone. While it could not have been the mass trope of another stone, it is itself a contingent being and could not have existed. If the stone has it, the trope exists and could not be the mass trope of any other stone. But just given the stone, the existence of the mass trope and hence the predication is not necessitated. The situation is asymmetrical: while the trope depends on the stone, the stone does not depend on the trope.

tence of *F* is sufficient for the *F*-ness of many other particulars beside *a*. If *a* is *F*, many other things (i.e. all the *F*s) are *bound* to be *F* too. Conversely, if *a* ceases to be *F*, all these other particulars cease to be *F* too, for *F* then ceases to exist (Armstrong 2004a: 144). This is the fatal stab to combinatorialism. If *a* and *b* are wholly distinct existences and both *F* then if *a* ceases to be *F*, *b* ceases to be *F* too: for both *a* and *F* will cease to exist, and hence so does *b* – if only one thing changes, all things sharing a property with it pop out of existence.

Another crucial difference between Baxter and Armstrong is ontological. Even though Baxter (2001: 455) calls his view "realism", it is realism *vis-à-vis* about universals *or* about particulars, or rather realism about something else of which both universals and particulars are aspects. No need to have entities of both categories if you can just count differently the entities in one to get those in the other. Armstrong, however, needs *both* thick particulars and thick universals. Only if they *both* exist, their intersection is necessitated.⁶⁴ Armstrong has necessary predications because he conditionalises them both on the existence of the particular *and* of the universal.⁶⁵

While he is an eliminativist about contingency,⁶⁶ Armstrong says he can offer counterparts for it:

"I re-emphasize that such a theory can supply a *substitute* for contingency by offering counterparts. That *a* is *F* is necessary, but contingent *a* might not have existed and an *a*-like object that is not *a* might have existed that is not *F*. The situation is much the same as David Lewis's counterpart theory. For Lewis, an *a* that is an *F* strictly cannot exist in 'another possible world' without property

⁶⁴ This conditional is also true if *F* is a non-transferable trope – the difference lies in the respective existence conditions of universals and tropes. Since 2004, Armstrong has possibly changed his view on this matter: "As I now see it, universals are to be thought of as a special sort of part of the particulars that instantiate them." (2005: 274) This would, I think, make a rather big difference to the 2004 theory (cf. sect. 4 below). In particular, it may, but does not have to be, conjoined with mereological essentialism about these 'universal' parts.

⁶⁵ It may still be true that both the totality of thick particulars and of thick universals singly constitute the whole of reality (Armstrong 2004: 143). But only if both are given, states of affairs (minimal truthmakers) are yielded as their intersections.

⁶⁶ This is how he characterises the eliminativist strategy: "Eliminativists usually provide what one might think of as 'counterpart' truth that correspond to a degree to the propositions that they hold to be false." (2004: 33) It is false, 'strictly speaking', to say that *a* might not be *F*, but it is true that something quite like *a* (except for being *F*) might exemplify something quite like *F* (except for being a property of *a*).

F. All that can exist in the other world is a more or less close counterpart of *a*. He seems to be prepared to call this 'contingency': but it is contingency in only a *loose* sense. Strictly, I think, he is (or he should be) a *necessitarian* about predication." (Armstrong 2004: 48, cf. also 2004a: 144-145)

But Lewis is not. If *a* is contingently *F*, this means that *F*, the very same *F*, can fail to be a property of some otherworldly counterpart of *a*. While *a* does not exist in other worlds, *F* does. This is real contingency, not a counterpart for it: given just (world-bound) *a* and (trans-world) *F*, it is still open whether all or only some of *a*'s counterparts are *F*. Armstrong's new picture is relevantly different: given just the truth that *a* is *F*, we have the thick particular *a* and the thick universal *F*. Given them, we have their intersection, hence the minimal truthmaker necessitating the truth. There is a 'royal road' to truthmakers after all.

If we have not only thick particulars, but also thick universals, no other states of affairs than their intersections are needed; in particular, no totality states of affairs are needed to make true general truths:

"...the conjunction of states of affairs *a*'s being *F* & *b*'s being *F*... will serve as truthmaker for the truth <this conjunction is all the *F*'s>. *Allness* will supervene in this situation. A Russellian general fact or state of affairs will not be needed in addition. General facts seemed needed only because <this conjunction is all the *F*'s> was taken to be contingent." (Armstrong 2004: 81)⁶⁷

Even if restricted to states of affairs where the property totalled is the common predicative component of the states of affairs fused together ('self-predicative' totality states of affairs in the terminology introduced earlier),⁶⁸ this is misleading. We do not need the conjunction, every single state of affairs will serve as the truthmaker: given just *a*'s being *F*, we have both *a* and *F* and the latter could not exist without being exemplified by the conjunction of all the particulars that (as we would say) happen to be *F*.

⁶⁷ Armstrong (2004a: 148) calls this a "notable ontological economy".

⁶⁸ The solution will not work, for example, for the truth that such-and-such a collection comprises all the first-order states of affairs. For the states of affairs in the fusion totalising the property *being a first-order state of affairs* do *not* contain the property of being a first-order state of affairs (else they would be second-order). We can still say, of course, that *being a first-order state of affairs*, like any other property, has all its particulars essentially – given the property, the first-order states of affairs are fixed. But this shows that what is doing the work is the thick second-order universal, not the first-order necessary states of affairs.

This is important for the truthmaking of negative truths, where we now have a vast abundance of truthmakers. That Theaetetus is not flying, e.g., is made true just by Theaetetus: Theaetetus, the thick particular, could not exist and fly. It is also made true by the property of flying, for it could not exist and be exemplified by Theaetetus. It is also made true by the second-order property *being a property of Theaetetus*, which could not be exemplified by flying. In a similar way, every single black raven makes it true that there are no white ravens, and so will *being a raven, being black, being white, being a property of a raven, being co-exemplified with blackness* and so on: an indefinite multiplicity of truthmakers and no way of singling out one of them as the 'minimal' one.

Surprisingly, Armstrong thinks Leibnizians still need at least one totality state of affairs:

"...there seems to be need for at least one totality state of affairs. For even if it is *extensionally* correct to say, for instance, that reality is exhausted by states of affairs having particulars and universals as their constituents, it seems not to be a necessary truth that this is so. If this is correct, then the further truth that <and this is all> will require a further truthmaker, a totality state of affairs as I have argued." (Armstrong 2004: 81)

This seems, however, to underestimate the power of thick universals. If *being an existent, being a state of affairs* and *being in space-time* are properties, then they too have their particulars essentially. Instead of a super-thick particular, the totalisation of the fusion of all states of affairs to which no other particular or universal may be added, we now have a super-thick universal, exemplified by everything there is. Given just this property, everything else is fixed.⁶⁹ There never was a richer free lunch, if only we could stomach it.

This is a very Leibnizian picture indeed: Suppose there exists some thing, say *a*. Then the truth that *a* exists will be necessitated by some state of affairs. This state of affairs is or contains the intersection of the thick particular *a* with the super-thick universal exemplified by everything there is.⁷⁰

⁶⁹ Simons (2005: 259-260) says that if there are enough external relations, then on Armstrong's Leibnizian theory, the falsity of any simple predication entails the non-existence of large parts or even of the whole of the universe. I think that external relations are not needed to derive this undesirable result.

⁷⁰ I am not assuming what Armstrong (2003: 23, 2004: 6) denies, namely that *a*'s existing is a state of affairs, but only that it is made true by some state of affairs. Arm-

The existence of every single thing, then, gives us the state of affairs making it true that it exists, containing the super-thick universal, which, in turn, gives us everything else. Anything makes true everything; the whole world is mirrored in every single monad.

4. *The riddle of exemplification*

I take both positions reached to be somehow uncomfortable. The classical, states-of-affairs theory forces us into the infelicitous dichotomy of thin and thick particulars and gives us paradoxical totality states of affairs. The new theory eliminates contingency and leads to truthmaker monism. In this section, I argue that we should step back and return to the 1978 theory.

I do not think Leibnizianism is to blame for our difficulties – it has, even apart from guaranteeing truthmaker necessitarianism, obvious advantages. Shedding some light on the relation of exemplification, it removes the need for a non-mereological mode of composition of states of affairs: the argument that a 's being F cannot be the fusion of a and F (because they could both coexist with a 's being $\neg F$) no longer goes through. The existence of the fusion gives us its parts; the parts, in turn, necessitate the truth. Leibnizianism also fits well with the one-over-many argument for universals: universals, after all, were introduced to account for the Moorean fact that different particulars were "identical in nature" (Armstrong 1978: xiii). Partial identity is an obvious explanation and, I think, a plausible one.

The symmetry introduced by "think[ing] of a particular as like a universal in having aspects" (Baxter 2001: 453) and identifying the aspects of particulars with universals, presupposes that a prior distinction can be made between particulars and universals.⁷¹ The problem with Leibnizianism is

strong (1989a: 95) says that *being a state of affairs* "could perhaps be taken to be a universal", but this is not a premise of the argument either. The state of affairs in question could just be a 's being in space-time. In short, whatever the property that is talked in Porky, the putative limit totality state of affairs, this property is also the 'universal component' in the state of affairs making it true that a exists.

⁷¹ This is acknowledged by Armstrong (1999: fn. 2, 2004a: 146). In (1989a: 44), he draws the distinction in terms of universals' having a definite adicity. This criterion becomes inapplicable, as Fraser MacBride (2005) has observed, if we admit multi-grade universals (which Armstrong 1978: 94, 1989: 40, 1997: 85, 2004a: 147 rejects). Baxter (2001: 461) draws the distinction in the following terms: universals can be instantiated by many particulars while particulars cannot; a particular cannot merely be

not its introduction of thick universals, but rather that they are added to thick particulars. The thick particulars, in my view, are responsible for the rationalistic flavour of the resulting ontologies.⁷²

Once we dismiss thick particulars, we may accept thick universals without turning everything into a Leibnizian monad mirroring the whole world. Particulars are just what they are, neither thick nor thin. They exemplify properties, some essentially, others intrinsically and they stand in internal and external relations to other particulars. The universals to which the exemplification relation connects them are importantly different: these are generically dependent entities, nothing but the qualitative features they bestow on their exemplifications. Universals are ways things are and their nature is exhausted by how they make things to be. Indiscernible universals, universals bestowing the same qualitative features, are just identical – there is nothing by which they could differ.⁷³

The aspects of a universal are indeed the particulars exemplifying it, loosely counted as one. The aspects of a particular, however, are not the universals it exemplifies. What we get if we loosely count as one the (strictly) different universals exemplified by one particular is not the particular, but its nature or 'type', the most inclusive property it exemplifies (Armstrong 1997: 125). Different particulars could exemplify this property, because indiscernible particulars need not be identical. We should combine Baxter's insight into the nature of universals not with Factualism – thick particulars, ampliative states of affairs – but with Armstrong's 1978 realism about particulars and universals, connected by a contingent relation

an aspect of something with other aspects. Armstrong seems to concur: "It is of the essence of particulars to be collectors (though they might collect one property only) and it is of the essence of universals to be instantiated (though they might have one instantiation only)" (2006a: 211). But this presupposes a prior understanding of how exemplification can be asymmetric.

⁷² Armstrong (1997: 183) characterizes rationalism as "providing necessities *in re* and a faculty of Reason to know these necessities".

⁷³ Armstrong (2004b: 188) suggests that in addition to 'thick' universals, which 'unfold' their properties, there are also thin universals that can differ by mere numerical difference. This is foreshadowed in Armstrong (1997: 168), where he plays with the idea of postulating quiddities for universals, letting the difference between universals of the same adicity only be identified, though not constituted by, the different causal powers they bestow. This notion of thin universals that can differ in "bare numerical identity" only (2004: 146) has to be rejected on the conception I am advocating here.

of exemplification.⁷⁴ But did Armstrong not produce arguments aiming to show that exemplification cannot be a relation? We now have to consider these.

Armstrong's main argument is based on Bradley's regress (which he also calls "relation regress"): If exemplification were a relation between, say, a particular a and a property F , and hence a universal, a further relation would be needed to connect a , F and the exemplification relation (1978: 20, 41, 54, 70). An ontologically and epistemologically vicious regress would follow.⁷⁵

This argument, however, assumes that if exemplification were a relation, it would be an external one.⁷⁶ If exemplification is an internal relation, supervening on intrinsic properties of the exemplifying particular and the exemplified universal, then the regress, I think, is as harmless as the truth-regress (if p is true, it is true that p is true etc.) of which Hochberg says:⁷⁷

⁷⁴ Armstrong (2004: 142) says of Baxter's theory that its great attraction is "that it involves nothing but the particulars and universals": "Because the suggested link between the two is partial identity, any need for a fundamental tie, a copula, or what have you, seems to be eliminated. All the trouble that this tie has caused to those of us who accept universals alongside particulars, the tie that so many others use as a major reproach against the postulation of universals, is at a stroke removed." (2004: 142) I agree that this is the main attraction of the theory that exemplification is partial identity and try to make it compatible with the contingency of predication.

⁷⁵ "It appears, then, that the Relation regress holds against *all* Relational analyses of what it is for an object to have a property or relation. If a 's being F is analyzed as a 's having R to a θ , then $Ra\theta$ is one of the situations of the sort that the theory undertakes to analyze. So it must be a matter of the ordered pair $\langle a, \theta \rangle$ having R' to a new θ -like entity: θ_1 . If R and R' are different, the same problem arises with R' and so *ad infinitum*. If R and R' are identical, then the projected analysis of $Ra\theta$ has appealed to R itself, which is circular." (Armstrong 1978: 70-71)

⁷⁶ "But in general at least and perhaps in every case, the fact that an object instantiates a certain property does not flow from the nature of the object and the nature of the universal that are involved." (Armstrong 1989: 109) In (1997: 101), he says that the "connection between things and their properties" is an external relation.

⁷⁷ The truth-regress is taken to be harmless on all sides (Armstrong 1978: 56, 1997: 119, 2004: 78-79, Hochberg 1999: 196). One could even consider it a special case of the exemplification regress (starting at its second stage): if a is F , then a exemplifies F (it is true that a is F), then *exemplification* is exemplified by a and F (it is true that it is true that a is F).

"The subsequent facts in the chain are not involved in the specification of the truth conditions for the initial statements, which is what would make the chain a vicious regress." (Hochberg 1988: 193)

While exemplification is exemplified by the particular, the universal and the exemplification relation, this fact supervenes on the particular exemplifying the universal: "the predicates may ascend, but not the reality in virtue of which they apply" (Armstrong 2004: 106).

Armstrong, even in his non-Leibnizian period, had arguments against exemplification being an internal relation. If it were, would it not then hold necessarily? This testifies to the same confusion of internal and essential relations we noted earlier. A relation is internal if it is necessitated *by the intrinsic properties* of the relata. In this sense, exemplification of intrinsic properties is an internal relation: given a particular has the properties it in fact has, it exemplifies exactly the universals it in fact exemplifies. This does not, as Armstrong seems to think,⁷⁸ imply that it does so necessarily. There is an important distinction to be drawn between intrinsic and essential properties of particulars. How 'external' vs. 'internal', when used in Armstrong's sense, becomes a false dichotomy, is particularly clear in Baxter's presentation of Armstrong's argument that exemplification, if it were a relation, could be neither internal nor external:

"If you believe in universals and particulars, and you believe that neither are simply bundles of the other, then you need to make sense of instantiation...[...] It needs to be a 'non-relational tie' [...] That is, it can be neither an internal nor an external relation, as Armstrong construes them [...] Internal relations are always necessary -- the relata can't exist without them [...] External relations are or involve additional entities..." (Baxter 2001: 449)

⁷⁸ It is difficult to find Armstrong explicitly advocating this doctrine. The argument for exemplification being external quoted in fn. 76 continues with "The connection is contingent." (1989: 109). The sufficiency argument by Armstrong (1997: 115-116) quoted on p. ?? is preceded by the following passage: "[The assumption here is that the truthmaker for a truth must necessitate that truth. [...] Using the distinction between internal and external relations [...], the truthmaking relation is an internal one. This seems evident enough if we consider for a moment the idea that the relation should be external, contingent." Armstrong (2004: 9, 50) says that the truthmaking relation is internal *because* it is necessitating and that internal relations are those that are had necessarily (cf. 2004: 105). The clearest endorsement is recent: "Will not the relation between truthmaker and truth-bearer be an internal one? It will depend on the nature of the terms involved and on them alone. If so, it will be necessary, I think." (2005: 275)

It can – and should – be accepted that exemplification is neither internal nor external in these senses, but it still can – and should – be held that exemplification is internal in the sense defined earlier, i.e. supervening on intrinsic properties of its relata. Exemplification is a relation that holds only if exemplified, but the exemplification of which does not require a further and ontologically substantial relation of exemplification, but just the two relata, together with their properties, including their relational properties of standing in the exemplification relation with respect to each other. If a exemplifies F , there is a relation holding between them – which is to say that exemplification E is exemplified by them. But we do not need a second exemplification relation E' to account for the fact that $E(F,a)$, for “ $E(F,a)$ ” is made true by what a is and by what F is.⁷⁹ The truth-conditions for “ $E(F,a)$ ” do not involve further exemplification relations, but only a and F .

If exemplification is a relation, what kind of relation is it? My answer is simple, but perhaps surprising: it is partial identity – partial identity not in the rather special sense Armstrong takes from Baxter, but ordinary mereological overlap: the universal is literally part of the particular that exemplifies it, two resembling particulars literally share a universal as their common part. If you think that only material or concrete objects can literally have parts, think of the particular as extended in more than three (or four) dimensions, as a location in quality space as it were: add a dimension for every degree of independent qualitative variation, in which it either is or is not extended (or extended to some degree in the case of quantities). Its extension in these dimensions are the universals it exemplifies.

Even if some sense can be made of properties being parts of particulars that intrinsically exemplify them, they will be contingent parts – so how could they be truthmakers? I agree that if a contingently has the intrinsic property F , it is a contingent and accidental property of a that it has an F -part – a could have lacked it and still be what it is. Even though a has its properties as parts, it does not ‘enfold’ them; it is not a thick particular having its ‘property parts’ essentially. But may a contingent part of a be a truthmaker for the intrinsic predication that a is F ?

Surprisingly, Armstrong accepts this for some lesser allnesses, claiming with respect to the ‘ordinary general proposition’ “All ravens are black”:

⁷⁹ A similar point is made by Forrest (1993: 56).

“There are, *prima facie*, two totalities: the mereological whole of the black ravens and the mereological whole of the ravens. [...] It then becomes clear that if and only if the two totalities are identical, then the proposition is true, and this one totality is its (minimal) truthmaker. If there are two distinct totalities, with the totality of the black ravens no more than a proper part of the totality of ravens, then the proposition is made false...” (Armstrong 2004: 74)

Suppose the proposition “All ravens are black” is true. Then there is some fusion, which is the fusion of all the ravens and also the fusion of all the black ravens. It is the truthmaker of the proposition that all ravens are black. But is it *necessitating* this truth? It does not seem so. The fusion of the black ravens could very well exist, and be the very same fusion, without making it true that all ravens are black (if there were, say, another white raven). It would not be, to be sure, the fusion of all the ravens – but this is not a fact of existence, but a fact about the fusion having this or that property. Armstrong might reply that the real truthmaker is not the fusion of the black ravens, but the state of affairs that the fusion of the black ravens is (identical to) the fusion of the ravens. But this, it seems, is just the fusion itself, for the truthmaker of “ $a=b$ ” is just a (2004: 39). Necessitarianism goes by the board then. But internalism does not: the fusion of the ravens is a truthmaker not just because it exists but in virtue of its internal relation of being identical with the fusion of the black ravens.⁸⁰

Generalising from strict to merely partial identity, we may say: It is in virtue of its standing in the internal, mereological relation of having an F -part that a makes it true that it is (intrinsically) F ; it is in virtue of F -part being the very same fusion than a that it makes it true that a is F . What makes it true that a is F (for intrinsic F), is just a ($= a+F$) – but it does so in virtue of how it is.⁸¹ While this view has obvious problems with which I cannot

⁸⁰ This is not the only place where Armstrong claims that totality states of affairs involve an internal relation. Cf. e.g.: “Thus, it is true Theaetetus is not flying, but the truthmaker for this, I hold, is the totality of Theaetetus’s properties, and the *difference* of each of these properties from the property of *flying*.” (2006b: 230) For “Theaetetus is not a centaur”, he gives Theaetetus himself as truthmaker, and for “No men are horses” the sums of all men and of all horses (2006b: 231).

⁸¹ Truthmaking of general truths by internal relations (and hence their terms) meshes nicely with what seems to be Armstrong’s new view: “ a might have had property F ” is made true by the mereological sum of a and F (2006d: 282).

deal here,⁸² it at least shows that there is room in logical space for accepting truthmaker internalism and rejecting truthmaker necessitarianism.

5. *Thick universals*

But still, we may have wished to do better. I think that Baxter's insight into the nature of universals – that they have their exemplifying particulars essentially – may help us here. We do not quite get truthmaker necessitarianism, but we may perhaps get something that many consider as good as it: truthmaker essentialism. Given a more plausible view of essence, however, truthmaker essentialism is weaker than truthmaker necessitarianism.⁸³ The account of essential properties I find plausible takes the characterisation of a property as essential to be independent of an account of its modal behaviour. For F to be an essential property of a , it is neither necessary nor sufficient that, necessarily, a is F if a exists.⁸⁴ I will also assume that the two

⁸² A first and obvious worry concerns the question whether it can be extended to extrinsic predications. I think it can. Whenever a is extrinsically F , a could cease to be F through variation in the outside world. Because truthmaking is internal, the circumstances on which the exemplification of F by a depends must be brought into truthmaker. What makes it true that a is extrinsically F will hence be something that is intrinsically such that it makes it true that a is F . Other obvious problems arise with asymmetric relations. What distinguishes, for an asymmetric relation R , the truthmaker for a 's being R -related to b from the truthmaker for b 's being R -related to a ? A first reply here is 'to quoque': these problems equally arise with states of affairs. Discussing his principle that the same ultimate constituents constitute different states of affairs only if they are differently organised, Armstrong (1997: 121–2) claims that (at least asymmetric) relations have a "direction", which he represents by indexing the blanks in the corresponding state-of-affairs type. It is not clear to me, however, what this 'direction' is supposed to be. It cannot be a second-degree property of the relation, for we would still not be able to explain the difference between Rab and Rba and at the same time maintain that they 'contain' the same relation. Rather, it has to be an additional, negative, state of affairs (cf. Armstrong 2004b: 193), or an ontological feature of the relation itself (an idea discussed by Armstrong (2004: 151) that Fine (2006) calls 'positionalism'). Another problem that has its parallel in the states-of-affairs case concerns the structure of complex truthmakers. The truthmaker for " $Fa \& Gb$ ", I hold, is $a \dagger b$ ($= a \dagger b \dagger F \dagger G$) – unfortunately, this is also the truthmaker for " $Fb \& Ga$ ". Hence, some coexemplification requirement is needed (Armstrong 1997: 36): the conjunction of F and G has to be structural. (Thanks to David Armstrong for pointing this out.)

⁸³ I call "truthmaker essentialism" the view that if a makes it true that p , then it is essential to a to make it true. Parsons (1999: 328) uses it for truthmaking internalism.

⁸⁴ This is how Armstrong (1983: 166) defines "essence" in terms of "weak necessity". I do not have space to defend my unorthodox account here. One direction of the inde-

de-relativisations of a binary relation may differ with respect to whether or not they are exemplified essentially.⁸⁵

Baxter's insight that a universal would not be the universal it is if it had different exemplifications is best brought out in terms of possible worlds: framed in this language, the claim becomes that properties do not stand in non-trivial counterpart relations: they are strictly identical across possible worlds (Lewis 1986: 205).⁸⁶ And it is the strictly transworld-identical properties that are most aptly called "universals". To say what they are, we have to say how the particulars are like that exemplify are. But this means

pendence claim has forcefully been argued for by Fine (1994): Necessarily, if a exists, it is a member of its singleton; however, a is not essentially a member of $\{a\}$.

⁸⁵ Again, I cannot argue for this claim here in full, but just give some arguments from authority: Aquinas thought (I have been told) that it is essential to the world to have been created by God, but not essential to God to have created the world. Kripke thought that it is essential to me that I have my actual parents, while it is presumably not essential to my parents to have begotten me. Fine thinks it is essential to the set $\{a, b\}$ to have a as a member, while it is not essential to a to be a member of this set.

⁸⁶ Based on counterpart relations between particulars, we may of course introduce 'counterpart' relations for at least some extrinsic properties, e.g. one in which the property of being the biggest pig in w counts as a counterpart of being the biggest pig in v , and we may say that the first, but not the second, is exemplified by the oldest pig (in w and v respectively). However, these property nominalisations do not designate the property of being the biggest pig (whereas both "I" and "my counterpart in w " do designate me, albeit in possibly different worlds). They designate, respectively, *being the biggest pig in w* and *being the biggest pig in v* . This 'counterpart' relation does not play the role counterpart relations among particulars play in the regimentation of our modal talk. When we say that Sam, actually the oldest pig, is the biggest pig but might not have been, we do not say that Sam and his counterpart in v differ in that Sam has the first property, but his counterpart lacks the latter: rather we say of one and the same property that they differ with respect to *it*. Mark Heller (1998) defines the similarity relation making for counterparthood of properties as similarity between the roles they play in their respective worlds: "[To describe a property P 's role completely, we say 'it is such that ...', where the ellipsis is filled in with the rest of the description of the entire world: P is such that it has such-and-such a distribution among other properties P_1, P_2 , and so on, that have so-and-so distributions. Where a world is a Ramsey sentence [...], a property's role in that world would be the open sentence that results from dropping the existential quantifier that binds that property." (1998: 301–302) If 'roles' are taken to be open sentences, I do not see how properties can have similar roles that are not identical: either they satisfy the sentence, i.e. have the role, or not. If by similarity of role he means similarity in the *patterns* of property distributions (1998: 303), then he has not done away with cross-world property identity: for to be so-and-so distributed is a property that is *identical* across the respective patterns.

that, given what the property is, it could not have been exemplified by (qualitatively) different particulars: the property has a nature, a quiddity, it bestows on its particulars. By contrast, we may very well specify what a particular is without mentioning all its properties. This is the metaphysical asymmetry between universals and particulars.⁸⁷

Whenever a exemplifies F , two relational properties are exemplified by a and F respectively, namely *having F as a property* and *being a property of a* . The first of these just mimics F : it is essential to a iff F is. The latter, however, differs from F in at least one important respect, or so I want to claim: whenever it is had by a property G , it is an essential property of G .

Why should we believe this? Suppose we are modal realists and convinced by the argument from accidental intrinsics that anything having a property contingently can exist only in worlds where it has that property. This commits us to counterparts for ordinary particulars: what makes it true that a could have lacked its intrinsic property F is some $\neg F$ -counterpart a' of a in another world. But is it really F that a' lacks, not just a counterpart of it? If there were no literal identity of type among things in different possible worlds, there would be no way of saying why a' counts as a counterpart of a .⁸⁸ There must be something unifying the counterparts, and this must be a 'one over many' – genuine, not surrogate unity.

⁸⁷ I hold, *contra* Armstrong (2004a: 146, 2004b: 188), that two indiscernible universals (universals exemplified by the same possible particulars) are identical (cf. fn. 73).

⁸⁸ John Hawthorne has pointed this out in personal communication quoted in Armstrong (2004a: 145, fn. 7): "...what would ground the counterpart relation of similarity? We now see that the world without the particular named ' a ' would, strictly speaking, be a world in which none of the universals and particulars in the original grid world would exist. So what would make a property in another world a counterpart of " a "? It cannot be similarity between this world and that, construed as some kind of sharing of particulars and universals. So how does one think about the relevant notion of similarity that is to undergird the counterpart relation and in turn the "loose and popular sense" of transworld identity?" Suppose we ask whether it might be the case that some green table is not coloured. A 'counterpart' relation R exists that correlates the table with a pig, *being green* with *being pink* and *being coloured* with *flying*. Because there is a possible world where some pink pig flies, the answer will be in the affirmative. Everything turns out to be possible. How are we to argue that R is not a relation of similarity if there is no strict identity of *anything* across possible worlds?

Baxter's insight gives us a more direct route to the same conclusion: if a is F , F has the property of being exemplified by a . If Baxter is right, then this property (or 'aspect' as Baxter would call it) is part of what F is. F being what it is, it must have the property of being exemplified by a , though it lacks – if F is a contingent property of a – the property of being exemplified by x , for at least some counterpart x of a .

Here is another, somewhat less conclusive, argument that does not rely on modal realism: whether or not something could lack a property it actually has depends on whether it could exist without having that property. If we are to determine this, we hold some things constant while varying others. If the thing in question is a particular, this is a fairly simple task: we ask of *this* thing, concrete and determinate as it is, whether it would persist if stripped from some feature – we hold constant the thing and vary its properties. If the thing in question is a property, however, our task is more difficult: could the property *being red* fail to be a colour property, monadic or more similar to orange than to green? When wondering about these questions, we hold constant the property, but *thereby* also hold constant its particulars: if the colour in question really is *being red*, no other than red things can exemplify it. It could fail to be exemplified by the things that are in fact red only if these things were different, it seems. But this is a possibility for the things, not for the property.

In this respect, properties are rather like sets. Sets have their members essentially⁸⁹ – does it follow that the set of all and only the green things contains essentially some contingently green thing a ? It depends: if we are talking rigidly about the set S , which *we*, in *this* world, pick out by $S = \{x \mid x \text{ is green}\}$, the answer is yes; if we are talking about $\{x \mid x \text{ is green}\}$ *tout court*, however, the right answer seems no: we are not talking about one set in particular, but rather using a singular term whose referent varies from world to world.⁹⁰ In the case of universals, I submit, only the first reading

⁸⁹ Fine has called this feature of sets "rigidity of membership" (1981: 179).

⁹⁰ A related phenomenon has been argued for by Fine a long time ago: Think of propositions as sets of possible worlds and consider the set of *all* possible worlds. Viewed as a proposition, Fine says (1977: 141), this set exists necessarily: whatever our possible worlds, they necessarily form a set (or a proper class for that matter). Viewed as a set, however, its existence depends on the existence of each possible world. If their existence was contingent, the existence of their set would be contingent too. While the universal proposition is what it is independently of what possible worlds there are, sets depend for their existence on their members. Armstrong (1989a: 95) made the same

is available: If "being red" would pick out different properties P_1, P_2 etc. in different possible worlds w_1, w_2 , etc., we should rather say that it (rigidly) stands for the disjunctive property: *being P_1 in w_1 or being P_2 in w_2 or ...*

Properties are best characterised by what they bestow on their particulars. They are what they are *because* these (i.e. such-and-such), and not others (i.e. different), particulars exemplify them. They do not only owe their existence, but their nature to these particulars; with other particulars, the universal would not be what it is. Given that the universal is these particulars, counted loosely as identical, it could not fail to be exemplified by them.⁹¹

Thick universals give us more than just truthmaker internalism: what makes it true that a is F is just a and F , i.e. a , because F is a mereological part of it. If F is a thick universal, there is more to be said: there is something, i.e. F' , that is essentially such that a is F ; F' could not be what it is without making it true that a is F . Do thick universals bring back Leibnizianism? Suppose a is F , hence a and F both exist. Even if F essentially has the property *being exemplified by b* (for $a \neq b$), this does not mean that b has to be F : for b to be F , b also has to exist — and because the property *being exemplified by b* is 'world-specific' (i.e. is a different property than *be-*

distinction between the maximal 'fact of totality' "as a determinable" and "as a determinate": only the former supervenes on the existence of the world.

⁹¹ It might be worried that this argument, if sound, rules out contingent properties of universals: it seems possible, e.g., that the property of being the most popular property among philosophers is now exemplified by *being a bachelor*, but will be exemplified by *being a vicer* in the future. But this clearly does not show that *being a bachelor* will cease to exist in the future. "The most popular property among philosophers", however, does not rigidly designate a universal, identical across possible worlds. The fact that two properties, in different possible worlds, both are the most popular among philosophers in the respective worlds, does not entail that they are similar — because the second-level property is relational and the philosophers in question will be different in the corresponding possible worlds (at least in the perhaps unimportant respect of their property pre-dilections). But "being exemplified by a " is not relational in this way. To attribute the second-level property of exemplifying a to a universal, we have to decide on whether we mean *a-as-it-is-in-the-actual-world* or *a-as-it-would-be-in-some-counterfactual-circumstances*, in the same way as we have to decide, when specifying a set as the set of all and only the green things, which one of the actual *and* possible green things we want to include. If a merely possible particular a in w is F , then *being exemplified by a* is a property of F *already* in our actual world. There is no possible world where F lacks *this* property. So *being exemplified by a* is an essential property of F , as is *having a as a member*, for a set S that contains a .

ing exemplified by b' , where b' is a counterpart of b), just the existence of b is not enough: b has to exist just as it is, i.e. including F . Contingency is thus salvaged, but necessitarianism is lost: it is only given that a has an F part, that it makes true that a is F . If a and F both exist, but the latter is not a part of the former, no truthmaking relation holds.

What about negative and general truths? The truth that Theaetetus is not flying is not made true by Theaetetus nor by any of its parts. It is made true by the property of flying which would not be what it is if it were a property of Theaetetus. This allows for negative truths about alien particulars — Pegasus is *not* yellow in virtue of *being yellow* being what it is.⁹² What about general truths? That all ravens are black is made true by the fusion of the ravens, including the blackness and raven parts they have in common. Given that the black ravens are all and only the ravens there are, nothing else, and a fortiori nothing non-black could have been a raven. What about the all-inclusive totality, the world? The world could, of course, have contained more or less things. But *existence* would not have been the same.⁹³

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⁹² Does it allow for alien properties? It does on some relaxation of Aristotelianism. Properties may then be characterised not just by their actual, but by all their possible particulars. Hence, if they exist, provided they have possible exemplifications, they are here to make it true that they have no actual exemplifications.

⁹³ Many thanks to David Armstrong, Davor Bodrožić, Ghislain Guigon, Kevin Mulligan and Gianfranco Soldati for comments on and discussion of previous versions.

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Reply to Keller

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Philipp Keller's paper is exceedingly long, and I cannot reply to everything in it, so will have to be selective. First a complaint, and then I will take up five points. My complaint is this: Keller says at the beginning of his paper that it is my defence of truthmaker realism in my book *Truth and Truthmakers* that he wishes to discuss. Yet he freely quotes from other work of mine without much consideration of whether my views expressed there are compatible with the book he proposes to examine.

1. In his Abstract Keller describes my 'all-embracing totality states of affairs' as an 'ontological monster'. 'All the things so dear to realists – rocks, natural properties, real persons – are just abstractions from this ... monster'. The all-embracing state of affairs, as I see it, has as its subject all the lesser states of affairs, and therefore, as I claim, all being, where being is taken omni-temporally. It 'says' of this subject that it is *all* being (or all positive being, as I'd now like to say). Rocks and real persons are mereological (proper) parts of this huge object. Natural properties are parts of the objects they are properties of in some more sophisticated sense to which *some* sense of the slippery term 'abstraction' may apply. Realists can sleep soundly.

2. The early part of Keller's paper (before 2: Allness) is devoted to exposing my sins against what he calls 'combinatorialism'. This is his word for the Humean (not necessarily Hume's) principle; no necessary connection between (wholly) distinct existences. (The addition of 'wholly' is very important. If it is omitted, then the principle can be refuted rather easily.)

Here is one of his lines of thought. He notes that I maintain that the relation between John (the truthmaker) and 'John exists' (true proposition, so the truthbearer) is an instance of the simplest of all truthmaking relations. (John is a substitution instance of T, and 'John exists' an instance of 'T exists') Here being and truth are connected with the greatest perspicuity. No-