

NEGATIVE TRUTHS FROM POSITIVE FACTS

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Abstract

According to the truthmaker theory that we favour, all contingent truths are made true by existing facts or states of affairs. But if that is so, then it appears that we must accept the existence of the negative facts that are required to make negative truths (such as "There is no hippopotamus in the room.") true. We deny the existence of negative facts, show how negative truths are made true by positive facts, point out where the (reluctant) advocates of negative facts (Russell, Armstrong, et. al.) went wrong, and demonstrate the superiority of our solution to the alternatives.

1. The Problem

We are truthmaker freaks. We believe that true claims are true because they are *made* true. Further, we believe that the truthmakers of true claims are existing states of affairs or facts. There is a long-standing problem for a theory such as ours. It appears to imply that negative facts are required to make negative claims true, and negative facts are very dubious entities.

In his posthumous paper 'Truthmakers for Negative Truths', George Molnar [2000] presents the problem by setting out four propositions.

- (M.i) The world is everything that exists.
- (M.ii) Everything that exists is positive.
- (M.iii) Some negative claims about the world are true.
- (M.iv) Every true claim about the world is made true by something that exists.

Though individually plausible, they lead to the apparently false conclusion that negative truths have positive truthmakers. Hence although they are severally plausible they may not be co-tenable. First, a word or two about the plausible quartet and then the apparent falsehood.

(Mi) is an Aussie variant of Wittgenstein's proposition T.1: 'The world is all that is the case' [Wittgenstein 1961: 5]. We take it that Molnar does not consider *his* proposition (M.i) to be inconsistent with what Wittgenstein goes on to say at T.1.1, that 'the world is the totality of facts not of things.' The reason is that in his view there are no such things as bare particulars, so that existing things are always *things possessing properties or things standing in certain relations*. And *things possessing properties or things standing in certain relations* are indistinguishable from facts or states of affairs [Armstrong 1978a:114]. (M.ii) puts a positive spin on the thesis that there are no negative facts. Presumably Molnar chose to accentuate the positive in order to avoid the risk of self-refutation inherent in the claim that there is an absence of absences or a lack of lacks. Thesis (M.iii) seems uncontroversial though it has been controverted. There may be flies on some of you guys but there ain't no flies on us. If indeed there are no flies on us, then presumably it is *true* that there are no flies on us, in which case there is at least one true negative claim about the world, namely that we are a fly-free zone. (M.iv) is the Truthmaker Thesis itself in its maximal or imperialistic form. We will not mount a full defence of that thesis here, though we do defend it against a more modest variant in §11.

It follows from Molnar's Quartet that:

(NP) All negative claims about the world are made true by positive existents.

Why is (NP) apparently false? Consider the claim that there is no hippopotamus in the room.¹ It is most likely true of the circumstances that the reader currently enjoys.² The claim was certainly true when it was made in Room S223 on the 4th of July 2005³. Thus:

(NH) There is no hippopotamus in the room

(where the time and place of the claim is the aforementioned) is a true negative claim about the world. But what makes it true? Presumably some fact that rules out the hippo. And what kind of fact could that be? Either the straightforwardly negative fact that there is *an absence of hippos in the room* or the fact that everything in the room is a non-hippo. But this latter fact won't do. A list of all the items in the room that are non-hippos will not rule out the presence of a hippo unless we add the further (negative) fact that there are no other items in the room. *Prima facie*, if (NH) requires a fact to make it true, that fact is wholly or partly negative.

The problem then is this: Molnar's Quartet implies (NP) but (NP) appears to be false. Yet the members of the Quartet are both jointly and individually plausible. According to Molnar, they 'form the backbone of what is perhaps the only coherent realist metaphysics of truth' [2000: 85]. So what are we to do? Must we modify the Quartet thus breaking the backbone of 'perhaps the only coherent realist metaphysics of truth' or can we defuse this Hippo Argument for the inevitability of negative facts? What compounds the problem is that (M.iv), perhaps the most important bone in the back of 'the realist metaphysics of truth', plays a crucial role in

¹ In 1911 Wittgenstein refused to agree with Russell that there was no rhinoceros in the room, perhaps because he feared that an absent rhinoceros would commit him to negative facts [Monk 1990: 39-40]. Later on the absent beast metamorphosed into a hippopotamus [Russell 1956a: 214; 1986a: 189; 1997: 178].

² Excepting those readers who like to take their philosophy out-of-doors, in corridors, at the zoo, etc.

³ When we read this paper at the Australasian Association of Philosophy Conference 2005, University of Sydney.

the Hippo argument. It is because the truth *that there are no more items in the room* requires a truthmaker, that we must apparently postulate a corresponding negative fact.

2. Putative Solutions

To date, most philosophers have argued for backbreaking solutions that deny or modify one member of the Quartet. Russell and Armstrong posit negative facts, thus denying (M.ii) [Russell 1956a: 211-16; 1986a: 187-91, 207-08, 1986b: 279-81; Armstrong 2004: chs. 5-6]. But negative facts are mysterious and metaphysically weird entities. This includes so-called totality or limiting facts of the ‘there-are-no-more-facts’ variety. Positing their existence is to be avoided if at all possible. According to Russell, ‘there is implanted in the human breast an almost unquenchable desire to find some way of avoiding the admission that negative facts are as ultimate as those that are positive.’ [1956b: 287; 1986b: 280]. And whether or not this is true of human breasts generally, it is certainly true of ours. We shall therefore contend that the arguments that quenched this desire in the breasts of Russell and Armstrong are all of them fallacious.

Others have argued that there are no negative truths, thus denying (M.iii). Mumford [2006] attempts to do this by insisting that although it is false that there *is* a hippopotamus in the room, it is not true that there is not. Surely, a desperate remedy.

Other philosophers, such as Raphael Demos [1917], have claimed that, in spite of appearances, (NH) is actually a positive truth, but a truth which is incompatible with the claim that there *is* a hippopotamus in the room.⁴ Unfortunately, this amounts to the claim that (NH) itself, contrary to appearances, is an incompatibility claim, which is semantically implausible. Furthermore, the claim of incompatibility – that it is *not* possible for two propositions to both be true – appears to be itself a negative claim, which (given M.iv) requires us to posit a negative fact or face a

⁴ Demos’s solution is discussed in Russell [1956a: 212-15; 1956b: 287-89; 1986a: 187-89; 1986b: 280-81].

regress. However, we do think that the incompatibilists are on the right track. But rather than denying the negativity of (NH), we shall argue that (NH) has a positive truthmaker, one that does its job of making true by necessitating the truth of (NH).

To deny (M.iv) would appear to be a renunciation of the Truthmaker Thesis. But not necessarily so. Even if you are sympathetic to the general idea of a truthmaker principle you may still think that (M.iv) goes a tad too far. A weaker, and perhaps more plausible, alternative suggests itself:

(M.iv') *Positive* true claims about the world are made true by something that exists.

Molnar's Quartet modified accordingly does not imply that negative truths require positive truthmakers and our problem is solved. Perhaps (M.iv') has a certain surface plausibility. If we are claiming that unicorns do *not* exist it seems odd to suppose that something *else* – some fact, whether positive or negative – must exist to make that claim true. But what then can be said about negative truths? That they are just *primitively* true? If primitive truth is good enough for negative truths, why won't it do for positive truths? (M.iv') looks suspiciously *ad hoc*. However, even if we set those suspicions aside, the (M.iv') solution faces serious difficulties that ours does not. We discuss this in §11.

3. Just the Facts

Rather than deny any of Molnar's four theses, we shall defend their co-tenability by giving an account of how positive facts (the only sort of facts that there are) may successfully make negative truths true. The focus of our attention will be on *contingent* negative truths. How one accounts for non-contingent negative truths will depend on one's account of truthmakers for non-contingent truths in general, and that will depend, in turn, on one's account of modality. Our hope is that our account of truthmakers may be adapted to any (reasonable) theory of modality, but to

explore these issues here would take us too far afield. Besides, the problem cases prominent in the literature that we shall discuss, all concern contingent truths.

First, though, a few words about facts. Facts are best thought of as actual (hence, existing) states of affairs. The term 'fact' is ambiguous. It is often used to mean 'true proposition'. But propositions are linguistic entities and the things that we have in mind are non-linguistic. We would prefer the expression 'actual state of affairs', except that (i) it is rather long and (ii) much of the relevant literature talks of facts.

As noted above, we subscribe to the Tractarian view that what exists in the world are not bare particulars but things possessing properties or things standing in certain relations, i.e. facts. For example, Colin's favourite cat is called 'Bijou' and Bijou is calico-coloured. So *Bijou's being calico-coloured* is a fact. Facts can be more complex. When Colin observes Bijou asleep, then *Bijou's being calico-coloured, asleep and observed by Colin* is a fact. More complex still is Bijou's current state of health or even Bijou's complete physical state. Here we are not so much describing a fact as naming it. We cannot describe it because we are ignorant of many of the details. Nevertheless, we successfully refer to it by naming it. We can also refer to facts by ostension. If, in the presence of Bijou, Charles points at her and says, 'That animal', he refers, not to a bare particular, but to Bijou as she actually is, together with her properties, whether observable or unobservable.

Facts are 'bits of the world', they are not (generally) linguistic items. Insofar as non-linguistic facts are structured, theirs is not a linguistic structure. Nor (and this is important) do we assume that their structure matches, reflects or is analogous to any linguistic structure. A heavy-duty correspondence theory of truth or a Picture Theory of Meaning is no part of our theory of truthmakers. (On the other hand, we do not and need not deny that there may be *some* correspondence between facts and language. But the structure of a true proposition is, at best, a *guide* to the structure of the fact that makes it true, and often not even that.)

It should also be noted that facts are not abstract entities, or, at least, the facts that constitute the furniture of the physical universe and serve as the truthmakers for contingent truths are not abstract. For all we know, there may be abstract facts, but we do not appeal to the existence of such strange entities for the purposes of this paper.

How do such facts make truths true? Simply by existing. Consider the contingent truth:

(B) Bijou is calico-coloured

Now Bijou existing as she actually does necessitates the truth of (B), since it is impossible that she exist as she actually does and (B) be false. If (B) were false, then Bijou as she actually is would not exist. So the big fact or complex state of affairs that is *Bijou as she actually is* constitutes a truthmaker for (B). Of course, Bijou might have been different in some way and (B) still be true. The state, or even the existence of, Bijou's tail or tongue or liver play no essential role (we presume) in making (B) true. So there are smaller facts than Bijou (as she is) that can also serve as truthmakers for (B). Any fact that includes or involves *Bijou's being calico-coloured* will suffice.

Is there a fact that consists of no more than Bijou's being calico-coloured, as we suggested above? We need not commit ourselves to the existence of such a minimal fact. (M.iv) asserts only that every truth is made true by an existent, and we have shown how (B) is made true by an existent, namely, Bijou as she actually is. Either minimal facts such as *Bijou's being calico-coloured* do exist, or an appeal to such a fact may be regarded as a *façon de parler* for the claim that at least one fact involving Bijou's being calico-coloured exists.

We now turn to the problem cases and the arguments that have convinced many philosophers that at least *some* negative facts are unavoidable. In the main we follow Armstrong in his book *Truth and Truthmakers* [2004], though Armstrong himself harks back to a tradition of debate that goes back at least to Russell and in one case to Plato's *Theaetetus*. All of the arguments presuppose the principle that if

the *description* of a fact **F** does not entail a proposition **P**, then the fact itself cannot serve as the truthmaker for proposition **P**. We shall be arguing that this presupposition is false. Once this principle is given up, we can explain how positive facts can make negative truths true. We do so by providing a truthmaker for the four cases which truthmaker theorists have found particularly perplexing.

4. The Case of the Absent Hippopotamus.

Let us start with (NH) the true claim that there is no hippopotamus in Room S223. Suppose that we were to list all the positive facts involving the room. Suppose too that each positive room-involving fact, such as the fact that *David is sitting in a chair in the room*, excludes the hippopotamus from the relevant part of the room (since a hippopotamus cannot be sitting wherever David is sitting). Suppose, to be more precise, that each positive fact about the room *makes it true* that there is no hippopotamus part in the relevant part of the room. Would the conjunction of these facts make it true that there was no hippopotamus in the room? Apparently not. For a collection of facts **F** to function as the truthmaker for a statement **S**, the collection **F** must *necessitate* the statement **S**: it must be *impossible* for the collection of facts **F** to exist and for **S** to be false. But it seems that this is not the case with respect to the room. For the set of *propositions* **P** which describes the facts in **F**, does not entail the statement (NH): There is no hippopotamus in the room. For **P** to entail (NH), it seems we must add a further proposition which specifies that *these are all the [first-*

order]⁵ facts that there are with respect to the room. We must have what Gale would call a ‘Porky-the-Pig’ or a ‘Th-th-that’s all f-f-folks!’ clause⁶, what Molnar and Mumford would call a *totality* proposition and what Armstrong would call a *limit* or *no more facts* proposition. Now if we add this new proposition T to P, yielding P*, we get a set of premises which does indeed entail (NH). And since *ex hypothesi* we have a complete listing of all the first-order facts involving the room, it follows that T is true. But if T is true, then by (M.iv) it must have a truthmaker. And this is the fact that there are no more first-order room-involving facts. Which is obviously a negative fact (though a general one). Thus we cannot assert the truth (NH) without owning up to at least one negative fact⁷.

If this argument is sound then it appears that negative facts can be minimized but not done away with. If we wish to retain (M.i), (that *the world is everything that exists*), (M.iii), (that *some negative claims about the world are true*) and (M.iv) in its imperialistic variant, (that *every true claim about the world is made true by something that exists*) then it seems we must abandon (M.ii) (that *everything that exists is positive*).

⁵ First-order facts are roughly those facts that do not involve *semantic* relations. Thus *being accurately described by (NH)* is a fact about Room S223 but it is not a first order fact. Unless we specify that the totality proposition T refers to first-order facts the very existence of proposition T would falsify T itself. If T were of the form

‘Propositions $A_1 \dots A_n$ describe all the positive facts involving S223 on 4/7/05 that there are’

then there would be another fact about Room S223, not listed in $A_1 \dots A_n$, namely the fact that *Room S223 is described by T*. Suppose that the corresponding proposition T_1 ‘Room S223 is described by T’ were included in the propositions $A_1 \dots A_n$. Then there would be a further fact about Room S223 not described by the propositions $A_1 \dots A_n$ namely the fact that *Room S223 is described by T_1* . And so ad infinitum. Thus we must stick to first-order facts if totality propositions about lecture rooms are not to be self-refuting.

⁶ After Porky the Pig’s once famous valediction at the end of Loony-Toons cartoons. See Gale [1976: 43], but note that Gale mistakenly attributes the cartoons to Disney.

⁷ According to Russell, ‘If I say “There is not a hippopotamus in this room”, it is quite clear that there is some way of interpreting that statement according to which there is a corresponding fact, and the fact cannot merely be that every part of this room is filled up with something that is not a hippopotamus. You would come back to the necessity for some kind or other of fact of the sort we have been trying to avoid.’ [Russell 1956a: 213-14; 1986a: 189].

Some things exist that are negative, namely ‘Porky-the-Pig’ facts or negative totality facts. This is the position of David Armstrong. (‘Limits, if not absences, are ontological realities.’ [2004: 82]). Bertrand Russell also believed something of the sort, though he added absences to the list of negative facts.

Let us take a look at the hippopotamus that is not in the room. Is there a negative fact lurking in the neighbourhood to account for the absence of hippopotami? We think not. Consider the great big positive fact (or collection of facts) *S223 as it (actually) was on 4/7/05*. Note that we have *named* this fact and not described it (something Russell believed to have been impossible). As eye-witnesses of (and indeed participants in) this big fact, we can attest that the local relations in which the objects in the room stood were relations to things other than hippopotamus parts. Now our claim is that the existence of *this* fact – *S223 as it (actually) was on 4/7/05* – necessitates or *makes true* the proposition that there was no hippopotamus in the room. For (necessarily) if there had been a hippopotamus in the room, this fact – *S223 as it (actually) was on 4/7/05* – would not have existed. Instead there would have been some other hippopotamus-involving fact. Conversely, it is impossible, given the existence of this fact – *S223 as it (actually) was* – that the proposition that there was no hippopotamus in the room could be *false*. Thus the big fact, *S223 as it (actually) was on 4/7/05*, makes it true that there was no hippopotamus in the room – and it makes it true *even if* the set of (first-order) propositions describing *S223 as it was on 4/7/05* does *not* entail that there was no hippopotamus. There is no need to posit a totality *proposition* for the entailment to follow through, since that entailment is not required, hence there is no need to posit a totality *fact* to make the totality proposition true. Though it is indeed true that there was no hippopotamus in the room, this does not commit us to a negative totality fact even if we accept (M.iv).

The fundamental error lying behind the argument is the idea that if a relation of necessitation holds between a fact and (the truth of) a proposition, this has to be mirrored by a relationship of necessitation between the propositions *describing* the

fact and the proposition that the fact necessitates. Believing there to be such a relationship, we posit the extra propositions needed to sustain the inference. We then read off the structure of reality from the structure of the propositions that are needed to describe it, in this case positing an extra, negative fact. The temptation to read off the structure of reality from the structure of the language that describes it is a temptation to which philosophers too readily succumb. It was, perhaps, the besetting sin of 20th century philosophy. Heather Dyke, who makes much of this propensity, calls it the Representational Fallacy [Dyke unpubl.]. It is a large part of what Devitt and Sterelny complain of when they lament the fact that the philosophy of language has gotten 'too big for its boots' [1999: 3]. But the philosopher who comes closest to anticipating our argument is John Heil.

The imagined need for special 'that's all facts' stems, I contend, from a tacit allegiance to the Picture Theory, more particularly from the assumption that truthmaking is entailment ... We note that 'There are five coins' does not entail that there are not more than five coins ... and so conclude that something more is required: a 'that's all fact'.

[Heil 2003: 71]

But if we dismiss the Picture Theory and with it the assumption that truthmaking is entailment, the need for this 'something more' - this 'that's all fact' - evaporates.⁸

We have argued that in the case of the absent hippo we do not need to posit a totality *fact*, since we do not need to posit a totality *truth*. But there may still be a problem, since there might be such a totality truth *anyway*. And if there might be such a truth then by (M.iv), it requires a truthmaker, and wouldn't that truthmaker have to be a negative totality fact? It is, we think, safe to say that no tongue has

⁸ It is Heil's belief that the same fallacy leads to other philosophical mistakes specifically the postulation of 'levels of reality'. Because 'Gus has neurological condition X' does not entail 'Gus is in pain', *Gus's being in neurological condition X* cannot be the truthmaker for 'Gus is in pain' and we must postulate some higher-order property possessed by Gus, whose statement *does* entail that Gus is in pain. Thus confusing the truthmaker relation with entailment leads to ontological inflation all round. See Heil [2003: 65-66].

uttered, no pen has written nor any mind conceived a true proposition of the following form:

- (T) Propositions $A_1 \dots A_n$ describe all the positive first-order facts involving S223 on 4/7/05 that there are.

And this is an omission that is unlikely to be rectified in future. But such a truth is surely possible, and the very possibility of such a truth suggests the need for a corresponding fact. (When Molnar claims that every true claim about the world is made true by something that exists, this is not supposed to be an accidental generalization applying only to those truths that happen to atemporally exist – it is supposed to apply not only to all *actual* truths but to all *possible* truths too!).

However, if there were such a totality proposition, it would be made true by a positive fact. Consider a claim similar to (T) that might be true of S223:

- (T') Tom, Dick and Harry between them like all the girls in S223 on 4/7/05 that there are.

Suppose (T') to be true. Then there would exist a large, complex fact consisting of each man's liking those girls in the room that he does like, plus the room as it was. This fact would necessitate the truth of (T'), since (T') could not be false unless at least one of the constituents of that complex fact did not exist. For had there been girls in the room *not* liked by Tom, Dick or Harry then either their likings would have had to have been different (which requires the substitution of a different fact) or S223 *as it actually was on 4/7/05* would *not* have existed and instead we would have had S223 *as it might have been* [e.g. with more girls]. Thus to make (T') false a different collection of facts would have had to exist.

Similarly for (T). Suppose it to be true. Then there would exist a large complex fact consisting of each proposition describing some fact about the room, plus the

room as it was. Could this big fact exist and (T) not be true? No. For (T) to be false there would have to be facts involving *S223 as it was* that were either *not* described or misdescribed by $A_1 \dots A_n$. In which case, at least *one* of the constituents of the great big truthmaking fact would not have existed. So the big fact *would* make (T) true. Thus if a truth of the form (T) is *possible* – a very moot point in our opinion – it could get by with the aid of positive facts alone.

The Russellian argument is a failure. The absent hippopotamus does not force us to posit a totality fact in order to exclude it from the room, nor is there a totality *truth* that requires us to posit a negative totality *fact*. We can keep exotic livestock such as rhinos and hippos out of rooms, without the aid of absences or limits.

We now briefly consider three other cases that have perplexed truthmaker theorists.

5. The Case of the Non-Existent Unicorns

Consider the claim:

(NU) There are no unicorns

If, like Armstrong, we are one-world realists, this amounts to the claim that there are no unicorns in the universe. Just as there is no hippopotamus in the room there is no unicorn in the universe. And just as the absent hippopotamus seemed to require a totality fact about the room, so the non-existent unicorns seem to require a totality fact about the universe. A complete listing describing all the positive first-order facts involving every point in the universe would not entail that there were no unicorns, unless we added the further premise that these were all the positive first-order facts that there were. This new premise would presumably be true, and being true, it would require a corresponding totality fact to make it true. Hence the need for a negative totality fact.

The fallacy in this argument lies in the assumption that if a fact is to be the truthmaker for a claim, a *description* of that fact (or a description of the constituents of that fact) must *entail* that claim. This assumption is false with respect to rooms and there is no reason to think it true with respect to universes.

Our answer is that *the (first-order) way the universe actually is* (a very large and complex fact, but a positive fact nonetheless) *makes it true* that there are no unicorns. For (on the assumption that there are no unicorns) the universe would have to be a different way for unicorns to exist. Thus the *way the universe actually is* would *not* exist and some other way the universe might have been *would* exist (namely a way which involved existing unicorns). In other words, for it to be *false* that there are no unicorns, it is necessary for the actual configuration of the universe not to exist. Conversely, the existence of the actual configuration of the universe necessitates *or makes true* the proposition that there are no unicorns. Thus the truth of the thesis that unicorns *do not* exist does not depend upon the negative fact that a stupendously large collection of first-order positive facts contains all the facts that there are. The negative truth that there are no unicorns requires only positive facts to make it true. But the positive fact in question is very large – the entire universe as it actually is. It seems that there is a great deal more to the non-existence of unicorns than meets the untrained philosophic eye, though what there is has an agreeably positive tone!

But again an objection arises. To be sure, we don't need to posit a totality truth - that some unimaginably large set of propositions describes all the first-order facts that there are - to entail the proposition that there are no unicorns. Hence there is no need for a negative truthmaker to make it true. But perhaps there *could* be such a truth anyway. And if there *could* be such a truth, then modalized (M.iv) bids us posit a truthmaker to make it true. But such a truthmaker would presumably be negative, thus contradicting (M.ii).

The proposition in question would be of the following form:

- (U) Propositions $A_1 \dots A_{\text{what?}}$ describe all the positive first-order facts that there are.⁹

Would (U) require a totality fact to make it true and hence a negative truthmaker? We think not. The Tom, Dick and Harry solution will work for (U) just as it worked for (T). Suppose that (U) is true. Then there would exist a large complex fact consisting of each proposition describing some fact about the universe, plus the universe as it is. If such a fact existed then, the proposition (U) would be true. For (U) to be false there would have to be facts involving the universe that were either *not* described or misdescribed by $A_1 \dots A_{\text{what?}}$. On the admittedly bizarre assumption that a complete listing of the (first order) facts involving the universe is possible, (U) could only be false if the propositions $A_1 \dots A_{\text{what?}}$ were other than they are (perhaps bearing different semantic relations to the facts) or if the universe were other than it is (if, say, if it contained extra objects). In other words, the facts which (on this supposition) *do* exist would have to be replaced by other facts which don't. Thus if there were such a truth as (U), there would be no need for a totality fact to make it true. Positive facts (or facts which we have no reason to suppose *not* to be positive) would suffice.

6. The Case of the Non-Flying Theaetetus

What about Theaetetus who can truly be said not to be flying?

- (NT) Theaetetus is not flying

Armstrong argues that for this to be true, there must be a negative totality fact. There are a number of positive facts about Theaetetus, such as that *he is sitting*, that *he is snub-nosed* and that *he is talking to Socrates*. Some of these facts, we would have

⁹ The subscripted 'what?' is a gesture to the idea that the number of propositions in this list would be of a very high cardinality and, very likely, transfinite.

thought, make it true that Theaetetus is not flying, but Armstrong asks us to pretend that this is not so. Suppose that Theaetetus' positive properties are all compatible with flight. What makes it true that he is not flying? Why, the fact that the positive first-order facts about him are all the first order facts that there are. Again a negative totality fact does the job. But Armstrong's argument relies on the conceit that Theaetetus' positive properties are not incompatible with flying. And this is surely false. It is true that Theaetetus could be flying *and* sitting (if he were seated in an aeroplane or on a magic carpet for instance), but he could not be sitting *as he is* – on the ground or a bench in earnest conversation with Socrates – and be flying at the same time. His ground-bound activities are inconsistent with aerial adventures. Thus the big fact (or collection of facts) that we can roughly characterize as *Theaetetus as he actually is* necessitates the truth of (NT). For if Theaetetus *were* flying this fact would not exist. Thus positive facts constituting what Theaetetus *is* doing necessitate negative truths about what he is *not* doing. There is thus no call whatsoever for a negative totality fact.

7. Tom, Dick and Harry: the Case of the Mortal Men.

Truthmaker theorists have also worried that generalizations such as

(MM) All men are mortal

must include negative totality facts in their truthmakers. Suppose that Tom, Dick and Harry are all the men there are and that they are all mortal. Now, the big fact consisting of Tom Dick and Harry together with whatever features make for their mortality, cannot constitute the truthmaker for (MM). For Tom, Dick and Harry together with those features might exist and 'All men are mortal' might be false if there were other men (such as Nicholas Flamel) who were *not* mortal. But if we add to this sum of facts the further fact that these are all the men there are, then it seems we now have a collection of facts which necessitates that all men are mortal, since its

very existence makes (MM) *true*. But the fact that these are all the men that there are is a negative fact. Tom, Dick and Harry may be three fine men but it seems that even with their mortality, they cannot do the business without the aid of the Porky-the-Pig fact that *there are no men besides Tom, Dick and Harry*.

Notice that in this case the argument does *not* rely on the principle that if the *description* of a fact F does not entail a proposition P, then the corresponding fact F cannot serve as the truthmaker for P. Instead it relies on the principle that a fact F cannot constitute the truthmaker for a proposition P unless the *existence* of F *necessitates* the truth of P; a principle that we have appealed to in support of our solution to the previous cases.

So do we have to posit a negative fact to make it true that all men are mortal? No. What makes it true that there are no men besides Tom, Dick and Harry in our imaginary world is precisely what makes it true that there are no unicorns in the actual world – the total state of the universe. This, though large, is a positive fact. If indeed there are no men besides Tom Dick and Harry, then a different configuration of the universe would have to exist in order for there to be more men (mortal or otherwise). Thus the configuration of the universe – a positive fact – makes it the case that there are no men besides Tom, Dick and Harry, and since (*ex hypothesi*) this configuration includes that fact that Tom, Dick and Harry are mortal, it also makes it the case that all men are mortal.

8. Are We Incompatibilists?

Are we incompatibilists? Yes, in a sense. For what we are saying is that the existence of certain *positive* states of affairs – some relatively small and some unimaginably large – is incompatible with the *falsehood* of certain negative propositions. If the facts or states of affairs exist then the propositions cannot be false. But notice that we are *unlike* earlier incompatibilists. For us the incompatibility relation holds between (the existence of) certain *facts* and the *falsehood* of certain propositions. It is not a relation of incompatibility *between* propositions. Contrast, for example Raphael Demos.

Demos was one of the Harvard students who were nearly provoked to riot in 1914 when Bertrand Russell had the temerity to argue for negative facts. Peaceful counsels prevailed however, and, instead of rioting, he wrote an article for *Mind*, in which he endeavoured to prove that there were no such things as negative facts. 'Granting that there are no negative facts, then, in so far as a negative proposition is asserted as a fact at all, the term of reference must be the world of positive facts.' [Demos 1917: 189]. Thus far this is music to our ears, except for the fact that Demos might have anticipated us. But the next sentence makes it clear that he did not. 'Hence appearances must be discarded and a *special interpretation* given to negative propositions which shall allow of such [positive] reference.' In other words, in order to show that negative truths do not require us to posit negative facts, negative propositions must be given a positive interpretation. The problem must be solved at the level of semantics not of metaphysics. Thus for Demos 'not-P' is equivalent to 'There is a true, positive proposition Q with which P incompatible'. (For further discussion, see Russell [1986a: 187-189; 1986b 280-81]; Gale [1976: 11, 20]; and Armstrong [2004: 60].)

Demos's solution suffers from at least two defects. Firstly, it is obviously false. Whatever we may mean by 'James Hird does not play for the Sydney Swans', we do not mean that there is a true proposition incompatible with James Hird's playing for the Swans. Secondly, it is not at all clear that Demos has done away with the need for negative facts. For what can it mean to say that two propositions are 'contrary', 'opposite' or 'incompatible' except that it is not or cannot be the case that they are both true? And if that is what it means, then if we accept the principle that Demos seems to presuppose – that negative truths require negative truthmakers unless they can be shown to be secretly positive – it seems that we are stuck with negative

incompatibility facts.¹⁰ Demos tries to get around this by claiming, in effect that the incompatibility relation between propositions is both primitive and positive, which is not a very convincing reply. Where he goes wrong, in our opinion, is precisely in his assumption that unless the negativity of a negative proposition can be analyzed away, it requires a negative fact to make it true.

9. Does Size Matter?

You may be thinking that some of our truthmakers are improbably large. According to us it takes the whole universe as it is to make all men mortal or to underpin the truth that there are no unicorns. The whole universe is indeed very large. But we do not think it is improbably large for the job it has to do. A unicorn-free universe must be such that every part of it is free of unicorns. So the impact of the truthmaker for the proposition that there are no unicorns must be very widespread. Consider Russell's alternative suggestion that the appropriate truthmaker is an absence of unicorns. How big is that? You might think that an absence would not take up any space at all. We are not so sure. Absences are 'weird' entities and, although we are not experts on their dimensions (who is?), it seems to us that if such things are to be effective truthmakers then their impact must be widespread. The impact of an absence of hippos in the room must be as wide as the room, and the impact of an absence of unicorns as wide as the whole universe. So, just how big is an absence? Likewise, the dimensions of Armstrong's totality or Porky-the-Pig facts appear to be very large.

What about the proposition that all men are mortal? As we have seen, for this to be made true, merely ensuring that each individual man is mortal is not enough.

¹⁰ We note that incompatibility truths would seem to be non-contingent, and that we have put to one side the issue of truthmakers for non-contingent truths. It may be that the correct account of non-contingent truthmaking would fortuitously make good Demos's second defect. In the meantime, the first defect is serious and the second is a hostage to fortune. Our solution, on the other hand, suffers from neither defect.

Any putative truthmaker must also ensure that there are no more men lurking about in the universe. Presumably, a job for a truthmaker with a universe-wide impact.

We see no reason to apologize for the size of our truthmakers. But even so, you may protest that it is still more ontologically economical to go for negative facts, since, despite their enormous impact, they have no spatial dimensions. No size, but huge impact! How economical is that?

Unfortunately, this extravagant claim to metaphysical power does nothing to dispel our distaste for negative facts. If anything, it increases it. Given the choice between size and ‘weirdness’, we opt for size. After all, we know that the universe as it is, in all its immensity and splendour, already exists. So why not allow it to perform the honorable task of making truths true?

10. An Objection

Consider Charles Pigden’s left thumb-nail as it actually is. Now Charles’s left thumb-nail is related to the presidential desk in the Oval Office in the White House in that it is a certain distance from that desk. So the total fact *Charles’s left thumb-nail as it is* must include the presidential desk, for that total fact includes the distance relationship between the thumb-nail and the desk. If that desk did not exist then the thumb-nail would exist differently from the way it actually does, insofar as at least one of its relations to another part of the world would be different. Thus it would seem to follow from our account of truthmaking that the fact consisting of Charles’s left thumb-nail as it actually is a truthmaker for the claim that there is a presidential desk in the Oval Office, for so long as the thumb-nail exists as it actually does, the desk must exist. Charles Pigden’s powers may be considerable, but surely this consequence of our account is absurd?¹¹

Not so. We accept that it is a consequence of our account that the *total fact* - or the totality of facts – involving Charles’s left thumb-nail must include its relations to everything in the universe, since it is, in fact, related, however tenuously, to

¹¹ This objection was suggested by Josh Parsons.

everything that exists. Furthermore, it follows from our account that the existence of *the universe as it is* is a truthmaker for every contingent truth about the world. So there is a sense in which *Charles's left thumb-nail as it actually is* (including its relational properties) is a truthmaker for each and every contingent truth. But this is a banal consequence of our account – it is banal because it is both true and uninteresting that the universe as it is makes any contingent truth true. What is much more interesting is that according to our account much smaller facts make many truths true. For example, there is no need to bring in the thumbnail's relations to the Great Attractor (a distant and very large cosmic formation towards which we are all speeding at an alarming rate) to make it true that 'Charles's left thumbnail is neatly trimmed' or that 'Charles's left thumbnail is predominantly pink'. Other truths require very large facts (perhaps even the whole universe) as truthmakers. But big or small as the truthmakers may be, none of them are negative. And large positive facts which we need to posit anyway, are surely to be preferred to items as mysterious and counterintuitive as negative facts.

11. An Alternative Solution.

Perhaps the time has come to look for a strategy which is less risky and more cost-effective: less risky, because it neutralizes the threat of negative facts; and more cost-effective because it does not require an entire universe to sustain such mundane truths as that there are no unicorns. Suppose we replace the imperialistic:

(M.iv) *Every* true claim about the world is made true by something that exists.

with the more modest:

(M.iv') *Positive* true claims about the world are made true by something that exists.

This promises to give us a metaphysics of truth with a reasonably stiff backbone whilst keeping negative facts at bay. (M.iv') does not require us to postulate either negative or positive truthmakers for negative truths, since negative truths do not require truthmakers of any kind. Only positive truths need existent truthmakers – negative truths can do without. So why not accept the modest (M.iv') rather than the unreconstructed imperialism of (M.iv) with its attendant risks of negative facts or gigantic truthmakers?

Because (M.iv') is suspiciously *ad hoc* and requires us to believe in truths which are just primitively true – an idea which does not sit very well with the truthmaker program. Worse still, (M.iv') has the unhappy consequence either that most truths lack truthmakers or that their truthmakers could exist without making them true. Consider the true claim:

(TN) There are tables in the room, but no hippopotami.

Does (TN) have a truthmaker? According to (M.iv') it does not need one, since it is at best partly negative. Moreover, if we abandon our strategy of positing the whole room as truthmaker and eschew negative facts, then either (TN) does not have a truthmaker, or it has a truthmaker that does not suffice to make it true. Whatever contribution the tables in the room make to the truth of (TN), it is not enough to necessitate its truth. For the tables in the room could exist and (TN) be false, if, for example, there were hippopotami seated at the tables. Clearly, propositions that mix positive with negative truth cannot be made true by positive facts or entities if the negative part lacks a truthmaker. Perhaps this is no great matter. (TN) is a simple conjunction. Its positive conjunct requires, and has, a truthmaker (namely the tables in the room), while its negative conjunct neither requires nor has one. One conjunct says that some things – namely tables in the room – exist, and that conjunct requires some things (namely the tables) to exist in order to be true. The other conjunct says

that other things - namely hippos in the room - do *not* exist, and that requires no particular thing to exist in order to be true. And that, when you think about it, is exactly as it should be.

Unfortunately, mixed claims are an abundant species and many of them are not simple conjunctions. Some are positive-sounding generalizations. Consider our old friend:

(MM) All men are mortal.

In spite of its apparent positivity, it is a mixed proposition. In the toy universe we have been considering, in order for (MM) to be true it has to be true not only that Tom, Dick and Harry are mortal, but that Tom, Dick and Harry are all the men there are. Now the truthmaker for the claim that Tom, Dick and Harry are mortal consists of Tom, Dick and Harry together with their properties that make for mortality. But given (M.iv'), the proposition that Tom, Dick and Harry are all the men there are (or its equivalent that there are no men besides Tom, Dick and Harry) does not require a truthmaker. But the existence of the medium-sized Tom-Dick-and-Harry fact is compatible with the falsehood of (MM) since this fact might exist and (MM) not be true, if, for example, the immortal but human Nicholas Flamel *also* existed. So, if we accepted (M.iv'), either (MM) would lack a truthmaker or its truthmaker would not necessitate its truth. Either way, the metaphysical backbone of Truthmaker theory is seriously weakened, maybe even broken.

It is not only universal generalizations that lose truthmaking support if we adopt the modest (M.iv'). A similar fate befalls many (perhaps most) truths involving our social practices and institutions, e.g. promises, marriages, fiscal transactions, etc. One nice example concerns Elizabeth Anscombe and her grocer. In her famous paper 'On Brute Facts' Anscombe describes a series of transactions with her grocer culminating in the delivery *chez elle* of a sack of potatoes. The upshot of

this is that, other things being equal, she owes the grocer money (and would be a 'bilker' if she refused to pay up) [1958: 22-23]. Now the proposition:

(AG) Anscombe owes the grocer money,

is true (if it is true) in virtue of:

- (1) the existence of a background of institutions;
- (2) a particular sequence of transactions (including crucially certain speech-acts) between Anscombe and the grocer (e.g: 'I would like to order some potatoes'. 'Yes Madam, that will be 15s', etc.); and
- (3) the non-existence of defeating circumstances.

Thus for the debt to subsist – that is, for it to be *true* that Anscombe owes the grocer money – a background of social institutions and a sequence of personal interactions are not enough. Something must *not* be the case for the debt-proposition to be true: there must be no facts that would invalidate the debt. If the whole episode had been a charade, enacted as part of an amateur movie production there would be no debt. Likewise there would be no debt if an admirer of Anscombe's philosophy had secretly paid off the grocer, or if Anscombe and the grocer had been having a secret affair and the potatoes had been a love-gift whose true nature had to be concealed from prying eyes and ears. To use a vague verbal gesture *other things must be equal* – or, more explicitly, there must be no circumstances which would *stop* Anscombe owing the grocer money. Thus (AG) appears to be a mixed proposition involving positive and negative elements. If we adopt (Miv') then either that mixed proposition lacks a truthmaker or it has a truthmaker which does not necessitate its

truth. But a truthmaker that does not necessitate the truth of the proposition it makes true, sounds awfully like a truthmaker that does not make its truth true, that is, a truthmaker which is not a truthmaker. The same problem arises for many 'social' truths, for most, perhaps all, of our social practices are defeasible. This affords us good reason for preferring (M.iv) to (M.iv'). If we think it important to truthmaker theory that most truths are necessitated by their truthmakers, then we should insist on (Miv). For given (M.iv'), only the small minority of purely positive propositions are made true by facts which necessitate them.

12. Conclusion

It is time to choose. Either an eviscerated Truthmaker theory, *or* metaphysically suspect negative facts, *or* positive – and sometimes very big – but metaphysically-sound truthmakers for all truths. Our conclusion is clear, so we shall leave you with this message:

THINK POSITIVE AND (WHEN NECESSARY) THINK BIG!¹²

¹² We thank Stephen Mumford, John Heil and Josh Parsons, and audiences at the University of Otago Philosophy Department Seminar and the Australasian Association of Philosophy Conference 2005 for their helpful comments.

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