

**teorema**

Vol. XXXIV/1, 2015, pp. 19-35

ISSN: 0210-1602

[BIBLID 0210-1602 (2015) 34:1; pp. 19-35]

## The Mirage of Falsemakers

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### RESUMEN

El principio *truthmaker* (el hacedor de verdad) se enfrenta a varios problemas, entre los que se incluye el de las verdades negativas. Lewis, entre otros, intenta solucionar este problema recurriendo a *falsemakers* (los hacedores de falsedad). En este artículo argumento, en primer lugar, que algunos pasos del argumento de Lewis en favor de la equivalencia entre el principio *truthmaker* y el principio *falsemaker* están injustificados y sugiero un nuevo argumento en favor de esta equivalencia. En segundo lugar, argumento que la caracterización de Lewis del principio *falsemaker* no es adecuada y sugiero mi propia caracterización. En tercer lugar, argumento que el problema no se resuelve recurriendo a *falsemakers*.

PALABRAS CLAVE: *hacedor de verdad, hacedor de falsedad, ontológicamente fundamentado, relaciones intermundanas, relaciones intramundanas.*

### ABSTRACT

The truthmaker principle faces a number of problems, including that of negative truths. Lewis, among others, tries to solve the problem of negative truths by appealing to falsemakers. In this paper, firstly I argue that certain steps of Lewis's argument for the equivalence of the truthmaker and the falsemaker principles are unjustified, and then I suggest a new argument for this equivalence. Secondly, I argue that Lewis's characterization of the falsemaker principle is not appropriate and then I suggest my own characterization of it. Thirdly, I argue that appealing to falsemakers will not solve the problem.

KEYWORDS: *Truthmaker, Falsemaker, Ontologically Grounded, Interworlds Relation, Intraworld Relation.*

### INTRODUCTION

The truthmaker principle (which says, roughly, that every truth has a truthmaker) is based upon an apparently acceptable intuition, namely: in every world, each true proposition (or, at least each proposition that is not necessary) is true in virtue of something which exists

in that world. In other words, truth is ontologically grounded. It has even been argued that the truthmaker principle does not require metaphysical realism and that it is compatible with idealism (see e.g., Daly [(2005), pp. 95-6] and Lowe [(2006), p. 182n]). Surprisingly, however, the standard formulation of this innocent-looking intuition quickly leads to results which conflict with other of our intuitions. One of the serious problems which accepting this intuition gives rise to is the *negative truths* problem. Intuitively, a negative truth is a proposition that is true in virtue of the *absence* of one or more things rather than the *existence* of one or more things, while the truthmaker principle requires that if a proposition is true it is true in virtue of the existence of one or more things. To solve this problem while maintaining the central thrust of the truthmaker principle, either the principle should be revised or some new kinds of entities should be added to our ontology. Adding negative facts [Russell (1918), p. 165] or totality states of affairs [Armstrong (1997), pp. 196–202] to one's ontology are some of the metaphysical prices that have been paid.

In his criticism of the truthmaker principle, David Lewis (2001) notes this problem and rejects these two commitments – commitment to negative facts and totality states of affairs. But, at the same time, Lewis accepts the intuition underlying the truthmaker principle and endeavors to provide a formulation of the principle which does not involve metaphysical costs such as commitment to negative facts or totality states of affairs. In addressing the truthmaker problem, he appeals to *falsemakers* and claims that such an appeal exempts us from accepting the unpleasant results which are necessitated by the standard version of the truthmaker principle, while satisfying the intuition underlying the principle.

In this paper I attempt firstly to illustrate that certain steps of Lewis's argument are questionable, secondly to demonstrate that his characterization of the falsemaker principle is not suitable, and thirdly to show that appealing to the falsemaker principle will not solve the problem of negative truths.

## I. THE TRUTHMAKER PRINCIPLE AND SOME RELEVANT THESES

Lewis at first suggests the following formulation of the truthmaker principle:

TM (THE TRUTHMAKER PRINCIPLE): “For any proposition  $P$  and any world  $W$ , if  $P$  is true in  $W$ , there exists something  $T$  in world  $W$  such that for any world  $V$ , if  $T$  exists in  $V$ , then  $P$  is true in  $V$ ” [Lewis (2001), p. 606]. Such a  $T$  is called  $P$ 's *truthmaker*.<sup>1</sup>

If for every class of things, something exists which is composed of all members of that class, i.e., the principle of unrestricted mereological composition is allowed,<sup>2</sup> TM is equivalent to TMP:

TMP (THE PLURAL TRUTHMAKER PRINCIPLE): “For any proposition  $P$  and any world  $W$ , if  $P$  is true in  $W$ , there exist some one or more things  $T_1, T_2, \dots$  in world  $W$  such that for any world  $V$ , if all of the  $T$ 's exist in  $V$ , then  $P$  is true in  $V$ ” [Lewis (2001), p. 607]. The collection of such  $T$ s is called  $P$ 's *truthmaker*.

In this paper I take for granted that these two formulations of the truthmaker principle are equivalent.

It is worth mentioning that  $T$  in the formulation of TM varies over objects as well as states of affairs. (The same is the case for the ‘things’ in TMP.) This is because some truths cannot be necessitated by any ordinary object. For example, the truthmaker of the proposition that this pencil is red is not this pen; rather, it is *this pencil's being red* that necessitates the truth of the proposition.<sup>3</sup>

The truthmaker principle entails that any entity is the truthmaker of any necessarily true proposition. After mentioning this difficulty, Lewis limits his discussion to contingent truths without taking any position regarding whether necessary truths need truthmakers or not. Henceforth, whenever I talk about truthmakers, I mean truthmakers of *contingent* propositions, and I stand neutral concerning the issue of necessary propositions.<sup>4</sup>

Lewis then introduces this thesis:

DM (THE DIFFERENCE-MAKING PRINCIPLE): “For any two worlds  $W$  and  $V$ , something  $T$  exists in  $W$  but not in  $V$ ” [Lewis (2001), p. 606].

Lewis thinks that DM can be derived by applying TM to the proposition that world  $W$  is actualized. What follows is an extended

version of the argument that Lewis briefly discusses in favor of this [Lewis (2001), p. 607].

- (i) For any world  $W$ , the proposition that world  $W$  is actualized is true in  $W$ .

Therefore, by TM:

- (ii) There is an entity  $T$  in  $W$  such that it is the truthmaker of the proposition that world  $W$  is actualized.
- (iii) The proposition that world  $W$  is actualized is not true in any world but  $W$ .

Therefore, by TM:

- (iv) For any world  $V$  if it is not identical with  $W$ ,  $V$  does not contain  $T$ .

Thus, by (ii) and (iv):

- (v) For any world  $V$  something exists in  $W$  and does not in  $V$ .

But  $W$  was arbitrary. Hence  $TM \not\models DM$ .

Lewis's argument for  $TM \not\models DM$  faces a question. What Lewis means by the proposition that world  $W$  is actualized needs to be explicated. It cannot be the proposition that the sentence "world  $W$  is actual" (sentence  $S_1$ ) expresses. For, according to Lewis's view of actuality, the semantic content of "actual" is determined by the context in which it is uttered (see e.g., [Lewis (1973), pp. 85-6]). So if  $S_1$  is uttered in  $W$ , it expresses the proposition that world  $W$  is  $W$ . This proposition is true in all possible worlds. If  $S_1$  is uttered in a world  $V$  different from  $W$ , it expresses the proposition that  $W=V$ . This proposition is necessarily false and is not true in any possible world. Either way, the proposition that is expressed by  $S_1$  is not true only in  $W$ , the feature that Lewis needs for his argument.

But what if "actuality" is absolute rather than relative?<sup>5</sup> Unfortunately, if it is so and if Lewis's conception of possible worlds is accepted, then Lewis's argument fails again. For in this case the proposition that world  $W$  is actualized is a singular proposition that consists of an object (world  $W$ ) and a property (being actualized), i.e.,  $\langle \text{world } W, \text{actualized} \rangle$ . According to the Lewisian account of possible

words, the only relevant difference between the actual world and other possible worlds is that I am an inhabitant of the actual world only. This means that all possible worlds have the property of being actualized, given Lewis's concept of possible worlds and the absolute sense of "actual". So, in this case, the singular proposition  $\langle W, \text{actualized} \rangle$  is true in all possible worlds. Thus, the singular proposition  $\langle W, \text{actualized} \rangle$  does not satisfy the requirement that Lewis is seeking, i.e., being true only in  $W$ .

Ironically, there are some alternative accounts of possible worlds and "actuality" in which Lewis's argument is valid.<sup>6</sup> Lewis wants to be neutral between different conceptions of possible worlds [Lewis (2001), p. 605], but this argument is not valid on all accounts of possible worlds. Furthermore, if we accept Lewis's other thesis – viz., that any set of possible words is a proposition and any proposition is a set of possible worlds [Lewis (1986), p. 104]– this argument is sound; obviously in this account of propositions, the singleton of  $W$  is a proposition and is true only in  $W$ . But, once again, appealing to such a controversial thesis sacrifices the neutrality of the argument.

In short, Lewis's argument fails if – as Lewis holds – "actuality" is not absolute. It also fails if "actuality" is absolute and Lewis's account of possible worlds is correct.

Lewis needs  $\text{TM} \dashv\text{DM}$  to argue for equivalence of the truthmaker and the falsemaker principles. In the next section I will argue that this equivalence could be demonstrated without appeal to any controversial argument for intermediary like DM.

## II. FROM TRUTHMAKERS TO FALSEMAKERS

Lewis says there is a negative mirror-image for TMP:

MI: "For any proposition  $P$  and any world  $W$ , if  $P$  is true in  $W$ , there exist some one or more possible things  $F_1, F_2, \dots$  not in world  $W$  such that for any world  $V$ , if none of the  $F$ 's exists in  $V$  then  $P$  is true in  $V$ ." [Lewis (2001), p. 608].

Lewis thinks that the  $F$ s are  $P$ 's *falsemakers*. Therefore MI, parallel to TMP, is the falsemaker principle (henceforth FM).<sup>7</sup>

TM shows the connection between the truths in a possible world and the entities which exist in it, and FM shows the connection between the truths in a possible world and entities which do not exist in it. Because, intuitively, negative truths are true in virtue of some entities which do not exist or some properties which are not instantiated (and hence some states of affairs do not exist) rather than some entities which exist, it seems that FM provides a clue to solving the problem of negative truths. To pursue this clue, the relationship between TMP and FM should be made out.

Lewis indirectly demonstrates that TMP and FM are equivalent. He demonstrates four entailments:  $\text{TMP} \vDash \text{DM}$ ,  $\text{DM} \vDash \text{TMP}$ ,  $\text{DM} \vDash \text{FM}$ , and  $\text{FM} \vDash \text{DM}$ . Obviously these lead to the equivalence of TMP and FM. But, as we see in section I, The Lewis's argument for  $\text{TM} \vDash \text{DM}$  (and so for  $\text{TMP} \vDash \text{DM}$ ) is questionable. However, equivalence of TMP and FM can be demonstrated more directly. I will provide a more direct argument to this effect and will utilize it in criticizing Lewis's characterization of the falsemaker principle. This direct argument employs no assumptions which are not used in Lewis's indirect argument.

To show that  $\text{TMP} \vDash \text{FM}$ :

Assume TMP; then, since TMP and TM are equivalent, TM. The argument proceeds as follows:

- (i) Let  $P$  be true in  $W$
- (ii) Let  $U_1, U_2, \dots$  be all the worlds where  $\sim P$  is true

Then, by TM:

- (iii) There are entities  $F_1, F_2, \dots$  respectively in  $U_1, U_2, \dots$  which are truthmakers of  $\sim P$  in those worlds.

However, since the  $F$ s are  $\sim P$ 's truthmakers, if any of them exists in a world,  $\sim P$  will be true in that world. Thus:

- (iv) None of the  $F$ s exists in  $W$ .

Moreover, since in any of the  $U$ s at least one of the  $F$ s exists, we have:

- (v) For any world  $V$  in which none of the  $F$ s exists,  $\sim P$  is false in  $V$ , and hence  $P$  is true in  $V$ .

Hence FM.

To show that  $\text{FM} \models \text{TMP}$ :

Assume FM. The argument proceeds as follows:

- (i) Let  $P$  be true in  $W$ .  
 (ii) Let  $U_1, U_2, \dots$  be all the worlds where  $\sim P$  is true.

By FM:

- (iii) For each of these  $U$ s, there are possible entities  $F_1^U, F_2^U, \dots$  which do not exist in that  $U$ , such that  $\sim P$  is true in any possible world in which none of the  $F^U$ s is present.

Therefore:

- (iv) If  $P$  is true in some world, at least one of  $F^U$ s exists in that world.

Therefore, considering that  $P$  is true in  $W$  and false in  $U_1$ :

- (v) There is a possible entity  $F_*^{U_1}$  in  $W$  which does not exist in  $U_1$ .

Similarly

- (vi) There are possible entities  $F_*^{U_2}, F_*^{U_3}, \dots$  in  $W$  which do not exist in  $U_2, U_3, \dots$  respectively.

But every world which contains all the  $F_*^U$ s is not identical with any of the  $U$ s. Therefore  $P$  is true in that world. Thus:

- (vii)  $P$  is true in  $W$  and there are entities  $F_1^{U_1}, F_1^{U_2}, \dots$  in  $W$ , such that for any world  $V$ , if all of the  $F_*$ s exist in  $V$ , then  $P$  is true in  $V$ .

$F_*^U$ s are  $P$ 's truthmakers. We have thus established TMP.

Hence the truthmaker and the falsemaker principles are equivalent.

One of the advantages of this direct argument is that it avoids the difficulties that I mentioned in the previous section. In section III I

will show that it is also useful for revealing the strategy of appealing to falsmakers in solving the problem of negative truths.

However, I think Lewis's formulation of the falsmaker principle is not appropriate. If we look for parallels between truthmakers and falsmakers, falsmakers should necessitate falsity – that is to say,  $P$  should be false in every possible world in which a falsmaker of  $P$  exists. In other words, if the falsmaker principle is supposed to be a mirror image of the truthmaker principle, it should be impossible that  $P$  is true in a world wherein a falsmaker of  $P$  exists. But this is not excluded as impossibility by Lewis's principle quoted above: in fact, the existence of a possible world wherein some of  $F$ s (or even all of them) are present and  $P$  is true is consistent with Lewis's formulation of the statement that  $F$ s are falsmakers of  $P$ .

My suggestion for characterizing the falsmaker principle is:

FM': For any proposition  $P$  and any world  $W$ , if  $P$  is true in  $W$ , there is a possible entity  $F$  which does not exist in  $W$  such that for any world  $V$ , if  $F$  exists in  $V$ , then  $P$  is false in  $V$ . Such an  $F$  is called  $P$ 's falsmaker.

TM implies FM'. To see this, assume TM. The argument proceeds as follows:

(i) Let  $P$  be true in  $W$ .

Then (recall that we are dealing with contingent propositions only):

(ii) There is a world  $V$  such that  $P$  is false in it.

But since  $\sim P$  is true in  $V$ , by TM:

(iii) There is an entity  $F$  in  $V$  such that, for any world, if  $F$  exists in that world,  $\sim P$  is true in it.

(iv)  $\sim P$  is not true in  $W$ , thus  $F$  does not exist in  $W$ .

Hence FM' holds.

But the converse, FM'  $\not\vdash$  TM, is not true. A close consideration of my argument for FM  $\not\vdash$  TMP reveals that what enables us to move from FM to TMP is the fact that FM involves a specific existential claim, viz. in any world where  $P$  is false one of its falsmakers exists. This existential proposition provides the ontological commitment that TM

requires. On the contrary, FM' does not involve the existence of anything in any *particular* possible world. Therefore TM (and so TMP) and FM' are not equivalent.

The fact that TM is not and FM' is consistent with the possibility of the empty world (the world which does not contain anything, at least not any contingent things)<sup>8</sup> shows once again that FM' is weaker than TM (and so TMP). Suppose that the empty world is possible. In that world, among many other propositions, the proposition that there are no unicorns<sup>9</sup> is true. According to TM, the empty world must contain some entity such that it makes that proposition true. But this is absurd. On the contrary, by FM', the truth of that proposition involves nothing but the existence of some entity in another world such that it does not exist in the empty world. This is pretty unproblematic.

There is yet another issue about the falsemaker principle. As Lewis has mentioned, the truthmaker and the difference-maker principles both come in plausible plural and monistic versions, such that if unrestricted mereological composition is allowed, these two versions are equivalent. But the monistic version of FM, FMM, is not plausible:

FMM: For any proposition  $P$  and any world  $W$ , if  $P$  is true in  $W$ , there exists some possible thing  $F$  not in  $W$  such that for any world  $V$ , if  $F$  does not exist in  $V$  then  $P$  is true in  $V$ .

Consider the proposition that there is no unicorn and a particular possible unicorn  $u_1$ . Intuitively,  $u_1$  is a falsemaker of "there are no unicorns." According to FMM, if  $F$  is  $u_1$ , then for any possible world  $V$ , if  $u_1$  does not exist in  $V$ , then "there are no unicorns" is true in  $V$  – that is to say, for every possible world  $V$ , if "there are no unicorns" is false in  $V$ , then  $u_1$  exists in  $V$ . But this is bizarre, for there could be a possible world in which  $u_1$  does not exist but some other unicorns do. According to FM, which is really a plural version, the falsemaker of "there are no unicorns" is all possible unicorns. But intuitively each of these unicorns is sufficient to make the proposition false. It is obvious that, according to FMM, the mereological sum of all possible unicorns is not a falsemaker of "there are no unicorns" too.

It is worth mentioning that another characterization of the falsemaker principle is conceivable:

FM'': For any proposition  $P$  and any world  $W$ , if  $P$  is false in  $W$ , there exists something  $F$  in  $W$  such that for any world  $V$ , if  $F$  exists in  $V$ , then  $P$  is false in  $V$ . Such an  $F$  is called  $P$ 's falsemaker.

But this is nothing but TM. We have only replaced " $P$  is true" with " $\sim P$  is true" and "truthmaker" with "falsemaker". Since TM covers all propositions (including  $\sim P$ ), it can be shown, via some obvious steps, that FM'' is equivalent to TM. But, as I mentioned above, the insight of falsemaking, rather than truthmaking, is that of providing a connection between truths in a possible world and the entities which do not exist in it. But FM'' lacks this advantage. As we will also see in the next section, this feature of the falsemaker principle (whether it is FM or FM'') enables – so it is claimed – falsemaker theorists to solve the problem of negative truths.

In short, Lewis's formulation of the falsemaker principle is not plausible; a plausible formulation of this principle is not equivalent to TM, and an equivalent one does not do what it should.

In the next section, I will show how falsemaker theorists would employ the falsemaker principle and its (alleged) equivalence with TM to counter the problem of negative truths, and then I will argue that their strategy is not successful.

### III. THE MIRAGE OF FALSEMAKERS

*Prima facie*, it seems that one, who believes in truthmakers, i.e. holding that all truths have truthmakers, believes that to say that a proposition is true leads to an ontological commitment and who believes in falsemakers i.e. holding that all truths lack falsemakers, believes that to say that a proposition is true does not lead to an ontological commitment. On the other hand, intuitively positive truths are true because some things exist (or some things have some properties) and negative truths are true because some things do not exist (or some things do not have some properties). These considerations may contribute a clue to solve the problem of negative truths: for positive truths we should appeal to their truthmakers and for negative truths we should appeal to their falsemakers. If we could show that appealing to falsemakers fulfills the underlying intuition of appealing to truthmakers, the problem would be solved. Let us consider:

G: If  $P$  is true in  $W$ , then either there is an entity in  $W$  which is  $P$ 's truthmaker or there are possible entities which are  $P$ 's false-makers and are not in  $W$ .<sup>10</sup>

For example, as Lewis says [Lewis (2001), p. 610], the advocate of G would argue that the proposition that there are no unicorns is true in the actual world because this proposition has some falsemakers such as  $u_1, u_2, \dots$  none of which exists in the actual world. Briefly, there is a division of labor: true positive propositions have truthmakers, while true negative ones lack falsemakers. In other words, any truth, be it positive or negative, implies the existence of some entity; some of them are in the actual world and others in other worlds; without any commitment to something like negative facts or totality states of affairs.

But the exact formulations of the truthmaker and the falsemaker principles reveal that this strategy is not appropriate. The crucial step in this strategy is to illustrate that the falsemaker principle fully exhausts the intuition on which the truthmaker principle is based. One may think that if we argue that these two principles are equivalent, we would prove what we are after.<sup>11</sup> But it was argued in the previous section, what I suggested as a suitable formulation of the falsemaker principle (FM') is not equivalent to the truthmaker principle. More importantly, if these two are equivalent, one cannot appeal to one in order to solve the problem with the other.

I think that G, as a solution for the problem of negative truths apart from being based on the incorrect premise of equivalence of the truthmaker principle and the falsemaker principle, is confronted with at least two problems. Before explaining these problems I will make a brief digression regarding Armstrong's objection to falsemaker theories [Armstrong (2004), p. 55] in order to show that it does not work.

Armstrong says that, according to falsemaker theories such as G, some propositions, specifically negative propositions, need not have truthmakers: they may instead just lack falsemakers. In other words, G says lacking a falsemaker is a compensation for not having a truthmaker. But lacking a falsemaker is not a property which some true propositions have instead of some other property that other true propositions have, namely having truthmakers, simply because all truths – even positive ones – lack falsemakers (recall that  $TM \models FM$  and  $TM \not\models FM'$ ). Lacking a falsemaker is a common property of all truths,

whether they have truthmakers or not. Thus, citing the fact that some true propositions lack falsemakers is not any substitute for the fact that they do not have a truthmaker, since all true propositions lack falsemakers. Appealing to G for some truths is to say nothing but that there are no truthmakers for some truths.

First of all, it is not obvious that all truths lack falsemakers, i.e. the falsemaker principle is applicable to them. Actually positive truths create troubles for the falsemaker principle (again disregarding whether FM, FM' or even FM'' is the appropriate formulation of it); troubles which are very similar to those negative truths create for TM. Consider this positive truth: "there is a chair in this room." According to FM', there must be some possible entities which do not exist in the actual world such that, in any possible world, if they exist then "there is a chair in this room" is false in that world. These entities are truthmakers of this negative truth: "there is no chair in this room." Only something like negative facts or totality states of affairs could do this job. In short, providing truthmakers for positive truths is easy. So is providing falsemakers for negative truths (the falsemakers being absent from the worlds where negative truths hold). However, providing truthmakers for negative truths and providing falsemakers for positive truths are troublesome. So what seems an advantage of the falsemaker principle – being free of undesirable ontological commitment – actually is an advantage of its restricted version, namely for negative propositions.

So there are no falsemakers for positive truths, at least when some things like negative facts or totality states of affairs are not allowed in our ontology. Therefore, the second part of G (that there are possible entities which are  $P$ 's falsemakers and are not in  $W$ ) is not true of all truths. Thus the division of labor is not absurd. If Lewis's solution for negative truths is accepted, some truths (positive ones) have truthmakers and there are no possible falsemakers for them, and other truths (negative ones) lack falsemakers and there are no possible truthmakers for them. The point is that, as my argument for the equivalence of TMP and FM shows, that have been introduced in section II, what really are equivalent are TMP for positive truths ( $TM_p$ ) and FM for negative truths ( $FM_n$ ) on the one hand, and TMP for negative truths ( $TM_n$ ) and FM for positive truths ( $FM_p$ ) on the other. In those arguments we appealed to the truthmaker of  $\sim P$  to provide the falsemaker for  $P$  and to the falsemaker of  $\sim P$  to provide the truthmaker for  $P$  (see the steps (ii) and (iii) in those arguments). Similarly,  $TM_p$  im-

plies  $FM_n$ ' (FM' for negative truths) and  $TM_n$  implies  $FM_p$ ' (FM' for positive truths). G employs truthmakers for positive truths and false-makers for negative ones. Therefore G is actually  $TM_p$  and  $FM_n$ . This principle covers all truths and excludes  $TM_n$  and  $FM_p$  which are confronted with the same problem, namely commitment to entities like negative facts or totality states of affairs, simply because they are equivalent. So for falsemaker theorists it is not true that all truths lack falsemakers. Given that, if we accept FM as the falsemaker principle, lacking falsemakers of a truth really means that FM is true for it; falsemaker theorists only accept  $FM_p$  and reject  $FM_n$ , and *a fortiori* FM. But what Armstrong says – viz., that all truths lack falsemakers – is true only if FM is accepted, without any limitation in the scope.

However, this consideration shows that Armstrong is right when he says that appealing to G for some truths is to say nothing but that there are no truthmakers for some truths. G, which really means  $TM_p$  and  $FM_n$ , is nothing but  $TM_p$  (recall that  $TM_p$  and  $FM_n$  are equivalent). In arguing for G, we really appeal only to part of TMP, namely  $TM_p$ . Even for negative truths, G appeals to  $FM_n$  which is equivalent to  $TM_p$ . As I mentioned previously,  $FM_n$  does not, but FM does, imply ontological commitment to unfavorable entities like negative facts or totality states of affairs. So the underlying intuition of TMP is not totally fulfilled. Therefore G is really based on  $TM_p$  and Armstrong rightly says that G is nothing but that there are no truthmakers for some truths.

One may say that G, however, formulates the intuition that truth is ontologically grounded. Unfortunately, it does not. According to G, the truth of some propositions in some worlds depends on what exists in other worlds. But, intuitively, the grounding relation between truth and existence (at least for contingent propositions) is an intraworld matter, between the proposition which is true in a certain world and the entities of that same world, not an interworlds matter, between the proposition which is true in a certain world and the entities of other worlds. In other words, intuitively the truth conditions of all contingent propositions in a possible world are only relevant to entities of the same world, and how things are in other worlds is irrelevant.

An advocate of G may respond that TM (and so TMP) faces similar problem. Truthmaking is an intraworld relation but that it implies an interworld relation (recall that TMP implies FM' and is equivalent to FM). So the same objection is applicable to truthmaking. I rejoin

that the truthmaker relation primarily is an intraworld relation but the falsemaker is not. Some primarily intraworld relations might require that some relations obtained in other worlds, e.g., if *A* causes *B* in *W*, then the same relation occurs in nearby worlds. In a case of causation, those relations in other worlds guarantee that it is indeed an instance of causation and not only an accidental regularity. But causation is an intraworld relation nonetheless. Likewise, truthmaking primarily is an intraworld relation between propositions and entities, but requires that some relations obtain between them in other worlds.

But why does an intraworld relation like truthmaking imply an interworlds relation like falsemaking? Because other possible worlds are relevant in determining whether a proposition has or does not have a modal property.<sup>11</sup> For example, if a proposition is only contingently true it has this property by virtue of the fact that it is false in some other possible worlds. Similar things could be said about necessity and possibility. As I said in section 1 above, we restrict our discussion to contingent truths. The fact that negative truths lack falsemakers, which exist in some other possible worlds, primarily comes from their contingency. Considering that contingency is a modal notion, it is not unexpected that whether a proposition is or is not contingent depends on some entities of other, non-actual, worlds. If the propositions whose truthmakers we are pursuing are contingent, then they are false in some other possible worlds, so their negations are true in some worlds. According to TM, their negations have some truthmakers in those worlds. These truthmakers are falsemakers of the former propositions whose truthmakers we are looking for. Thus the fact that all true propositions which have truthmakers in the actual world also have falsemakers in some other worlds, and that the actual world lacks these falsemakers, is related to their contingency. Consider that when I was arguing for FM and FM', the contingency of propositions was presupposed; in some steps of my argument I employ such an assumption: if *P* is true in some worlds, there is another world in which *P* is false.

In short, G is based on nothing but a scope-limited version of TM and incorrectly implies that the grounding relation is an interworlds relation, whereas intuitively it is an intraworld relation. Considering that we have restricted TM to contingent truths, and that contingency, like other modal notions, is an interworlds matter, it is correct that the falsemaker principle is derivable from TM and that falsemaking is an

interworlds relation: but this comes from the contingency of the propositions, not their truth.

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#### ACKNOWLEDGMENTS

I would like to thank my colleagues at IPM, especially Hamid Vahid, Mahmoud Morvarid, and Hashem Morvarid for their helpful conversations or comments on earlier drafts of this paper. I am particularly indebted to Kaave Lajevardi for his insightful and constructive comments and advice.

#### NOTES

<sup>1</sup> *Prima facie*, the above formulation of the truthmaker principle presupposes mere possibilities. However, note that many non-Lewisians would use the standard possible worlds semantics without thereby committing to merely possible existents. I wish to remain neutral concerning the metaphysics of modalities.

<sup>2</sup> For details, see Varzi (2009).

<sup>3</sup> Armstrong (2004), p. 54.

<sup>4</sup> Recall that, at least on the standard view, propositions like the one expressed by “There could be a talking donkey” are necessary (if true), so that in my discussion of the truthmaker principle I will not deal with them.

<sup>5</sup> Lewis describes the absolute sense of “actual” thus: “the world ‘actual’ ... applies to everything. Not just everything hereabouts, everything suitably related to us, ... but everything without restriction. ... [Other possible worlds] are some more of actuality” [Lewis (1986), p. 97].

<sup>6</sup> For example, Plantinga shows that in his conception of possible worlds, the proposition that for all *W* world *W* is actualized is true in *W* and not in any other possible world [Plantinga (1974), p. 43]. See also van Inwagen (1980).

<sup>7</sup> There are certain phrases in Lewis’s paper that might seem to make my claim questionable: “We have not said that the *F*’s are falsemakers for *P*, in other words that they are truthmakers for not-*P*” [Lewis (2001), p. 609]. However, note that this is immediately followed by: “But that is in any rate one case that might arise”, and nowhere in his paper does Lewis raise any objection to *that* case. Precisely after this latter quote, Lewis gives an example to support the claim that the *F*’s are falsemakers. In the remainder of his pa-

per, Lewis frequently appeals to the notion falsemaker and uses the term “falsemaker”, while offering no other definition of this notion (for example: twice on p. 610 and twice on p. 611). It seems that when Lewis says: “We have not said that the *F*’s are falsemakers for *P*” he is only attracting our attention to the point that in arguing for the equivalency of TMP and MI, he does not appeal to the notion of falsemakers. To further support my interpretation, notice that before introducing this principle, Lewis writes “this will serve as introduction to the idea of truth by lack of falsemaker” [Lewis (2001), p. 609].

Moreover, a number of commentators consider Lewis to be attending to the very idea of *falsemakers* in this paper. Thus Armstrong, referring to the same paper, writes, “... David Lewis and John Bigelow... proceed by trying to find a judicious weakening of the principle that every truth should have a necessitating truthmaker. Falsemakers become very important for them. Certain truths are allowed to be true not because they have truthmakers, but solely because they *lack falsemakers*” [Armstrong (2004), p.68]. Cf. also MacBride (2005), p. 120.

<sup>8</sup> Metaphysical nihilism – the doctrine that such a world is possible – is a matter of controversy. Rodriguez-Pereyra (1997) and Lowe (2002), among others, argue against and for this thesis, respectively. My argument is neutral on this controversy.

<sup>9</sup> Readers, who have concerns about the possibility of unicorns, may replace this sentence with something like “there is no pink rhinoceros in the White House.”

<sup>10</sup> G is equivalent to this Bigelows’s thesis: truth supervenes on being [Bigelow (1988), 126]. It is also very similar to Lewis’s one-way truthmaking [Lewis (2001), p. 610].

<sup>11</sup> Lewis (2001) does not present such strategy explicitly. But he must have had something like it in mind, for without such an argument there is no connection between Part 2 (which is mainly devoted to illustrating that TM and FM are equivalent) and Part 3 (which is devoted to solving the problem of negative truths by appealing to falsemakers) of his paper.

<sup>12</sup> A counterfactual, at least according to some theories like Armstrong’s, is true in virtue of what exists in the actual world (for example, something that makes the relevant law of nature true). But this may have some implications for nearby worlds. However, what obtains in other worlds is not directly relevant to the counterfactual’s truth conditions.

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