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True by Default

ABSTRACT: *This paper defends a new version of truthmaker non-maximalism. The central feature of the view is the notion of a default truth-value. I offer a novel explanation for default truth-values and use it to motivate a general approach to the relation between truth-value and ontology, which I call truth-value-maker theory. According to this view, some propositions are false unless made true, whereas others are true unless made false. A consequence of the theory is that negative existential truths need no truthmakers and that positive existential falsehoods need no falsemakers.*

KEYWORDS: truthmaking, truth, falsity, default truth-value, propositions

Introduction

Truthmaker maximalism is the thesis that all truths have truthmakers:

> Maximalism: Necessarily, for all propositions p, if p is true, then there exists some x such that x makes p true.

On the standard account of truthmaking, an entity makes a proposition true only if it necessitates the truth of the proposition and is relevant to the proposition's truth, for example, when the entity is that which the proposition is about. (Similar views are defended or discussed by Armstrong 2004; Asay 2016; Fiocco 2013; Merricks 2007; Smith 1999; Cameron 2008; Jago 2018; and Rodriguez-Pereyra 2005.) Given this account of truthmaking, maximalism is controversial because there are many truths for which there are no obvious truthmakers. The familiar trouble case is that of negative existentials, such as

> (1) There are no unicorns.

If (1) is true, on maximalism then (1) has a necessitating truthmaker that (1) is about. But it is not at all plain what entity in the world grounds the truth of (1). Maximalists have argued that we ought to introduce new entities into our ontology to do the truthmaking work for negatives like (1), for example, absences, negative facts, totality facts, or the world. (Molnar 2000; Martin 1996; Kusko 2006; Russell 1918–19; Beall 2000; Barker and Jago 2012; Armstrong 2004; Cameron 2008; Schaffer 2010; and Pigden and Cheney 2006 defend such solutions.)

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Non-maximalists have criticized these proposed truthmakers. (For critiques, see Barker and Jago 2012; Dodd 2007; Griffith 2013; Merricks 2007; Molnar 2000; Parsons 2005, 2006; and Saenz 2014.) But they have also cast doubt on what motivation there is for a truthmaker principle that generalizes over all truths. Initial appearances suggest an asymmetry between positive existentials and negative existentials. <There are dogs> is true because of the existence of dogs and false if there are no dogs; it gets its truth, but not falsity, explained in terms of ontology. On the other hand, (1) is true because there are no unicorns, and false if there are any; it gets its falsity, but not its truth, explained in terms of ontology. 'Why', as Lewis asks, 'defy this first impression?' (1992: 204).

Lewis (2001) and Merricks (2007) point out that maximalism cannot allow two possible worlds to differ simply by one's lacking an entity x that the other contains; in the world lacking x, there must be an entity that excludes x, viz., the truthmaker for <x does not exist>. Since it seems possible that an entity could simply be removed from a world, it is a cost for maximalism that it says this is impossible. So maximalism, according to non-maximalists, commits us to something unintuitive —(1) is true because of the existence of something—and relies on a controversial metaphysical principle—no one-way differences between worlds.

These considerations are subject to ongoing debate. However, I assume, for the sake of this paper, that they motivate non-maximalism. My primary concern in this paper is with what form non-maximalism should take. The view I articulate here has it that some propositions need no truthmakers because they are true by default whereas others need no falsemakers because they are false by default. My appeal to default truth-values is not novel. Simons (2000, 2005, 2008) and Saenz (2014) both hold that some truths are true by default. However, I offer a new way to understand default truth-values and give them a central role in a theory I call truth-value-maker theory (TVM). According to TVM, if a contingent proposition is true by default, then it would have to be made false were it false, and if a contingent proposition is false by default, then it would have to be made true were it true. TVM provides a principled non-maximalism and a general framework for explaining why propositions have their truth-values.

Section 1 outlines the commitments of TVM and applies the theory to positive and negative existential propositions. Section 2 explains the notion of a default truth-value and motivates commitment to default truth-values. In section 3, I apply TVM to a variety of contingent propositions with the aim of ascertaining their default truth-values. Section 4 offers objections and responses to TVM.

1. Truth-Value-Maker Theory

TVM begins with commitment to this principle:

> Default: There are propositions that have default truth-values. For some of these propositions their default truth-value is true, while for other propositions their default truth-value is false.

Default could be extended to include a third truth-value, that is, indeterminate. However, I will assume bivalence, noncontradiction, and excluded middle

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throughout. A truth (falsehood) that is by default true (false) needs no truthmaker (falsemaker). Hence, default entails the falsity of maximalism insofar as it denies that all truths have truthmakers. Default does not specify which propositions have a default truth-value or which ones are true (false) by default. Hence, it is consistent with a variety of restrictions one might, after reflection, place on which propositions have default truth-values. In what follows, the default truth-values of contingent propositions will be the focus.

Default itself is consistent with some propositions being neither true nor false by default, i.e., some propositions may need to have both their truth-values made (see section 2.1 for discussion). However, as I will argue below, no proposition can have both truth and falsity as its default setting. Hence, a corollary of default is:

> Corollary: If p is true by default, then if p is false, then p is made false and if p is false by default, then if p is true, then p is made true.

Let the conjunction of default and corollary constitute the minimal commitments of TVM. In a motto: *some propositions are false unless made true, whereas others are true unless made false.*

TVM can be developed in a number of ways. One is to introduce a generic two-place relation of truth-value-making, that is, a relation that holds between some entity in the world and a proposition with a non-default truth-value; the entity makes the proposition have the truth-value it does. Moreover, we can introduce principles of truthmaking and falsemaking, that is, principles that provide necessary and sufficient conditions under which an entity is a truthmaker or a falsemaker for a proposition, respectively. Such principles might take this form:

> Truthmaking: For any entity x and proposition p that is false by default, x is a truthmaker for p iff x is one of the things (i) that p is about and (ii) that necessitates that p is true (cf. Griffith 2015b: 1166).

> Falsemaking: For any entity x, proposition p that is true by default and proposition q that stands in relation R to p, x is a falsemaker for p iff x is one of the things (i) that q is about and (ii) that necessitates that p is false (cf. Griffith 2015b: 1167).

TVM's clearest application is to positive and negative existential propositions. Positive existentials, which represent something(s) as existing, are false by default and, when true, need to be made true à la Truthmaking by the existence of something. Negative existentials, which represent something(s) as not existing, are true by default and, when false, need to be made false by the existence of something. The proposition <there are no Hobbits>, on TVM, is true and true by default; it needs nothing to make it true. However, consider the false negative existential (2):

(2) There are no human beings.

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Here, (2) is true by default but is, if false, made to be false. Let *p* be (2), *q* be <There are human beings>, and *R* be the relation of *being a positive contradictory counterpart to*. What makes (2) false is the existence of human beings, which are those entities that <There are human beings> is about and which necessitates the falsity of (2).

1. Default Truth-Values

What exactly is a default truth-value? To answer this question, we need to consider the nature of propositions. Being representational entities, propositions by their nature admit of being true or false; they are essentially truth-value-bearers. To identify a proposition *p* as the representation or truth-value-bearer it is, is (at least in part) to identify the conditions under which *p* would be true or false. What it is to be *p*, in other words, is to be that representation that is true or false under such and such conditions. These conditions are nonlinguistic representational entities that can be satisfied or unsatisfied, fulfilled or unfulfilled. We can call these conditions encoded in a proposition, its truth-value-conditions, as long as we are careful to distinguish them from entities that can satisfy them, that is, truth- and false-makers and from entities that are identified as truth-conditions in semantics, such as sets of possible worlds or interpreted sentences. Truth-conditions and falsity-conditions are requirements or demands built into propositions that specify what must be the case for the proposition to be true or false (cf. Rayo 2007).

Different propositions, being distinct representations, demand different things of the world. However, it seems that different propositions can also make different sorts of demands on the world. Some propositions represent the world as containing some entity and so demand of the world that something exist. A truth-value-condition makes a positive ontological demand, let us say, just in case it cannot be satisfied without the existence of a certain entity or entities (independent of the proposition itself). But other sorts of propositions require something *not* to exist; they make negative ontological demands. This distinction corresponds to two general ways to satisfy a truth-value-condition. First, a truth-value-condition can be satisfied by the existence of something that stands in a relation to the proposition. A proposition is made to have a specific truth-value just in case that truth-value-condition is positively ontologically demanding and is satisfied in the relational way. Here the world beyond the proposition needs to 'do' something to satisfy the truth-value condition, that is, it needs to contain some entity or have some property instantiated. Truth-value-making talk tracks positive rather than negative ontological demands. The reason is that 'making' talk picks out substantive dependencies in the world. Positive, but not negative, ontological demands, when satisfied, require a dependence or making relation between the proposition and an entity.

Alternatively, a truth-value-condition that makes a negative ontological demand can be satisfied in a nonrelational way by the nonexistence of something. The world beyond the proposition need not 'do' anything to satisfy the truth-value-condition, that is, no entity need exist nor property be instantiated for such truth-value-conditions to be satisfied. Such a proposition has the relevant

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truth-value automatically. The default truth-value of a proposition is the truth-value it need not be made to have, in the above sense. A proposition has its truth-value by default, in other words, just in case its truth-value-condition need not make any positive ontological demand and can be satisfied in a nonrelational way.

This provides a way to explain the truth (falsity) of propositions that need no truthmakers (falsemakers). Default truth-value-conditions make no positive ontological demand. Consequently, they can be satisfied in a nonrelational way, that is to say that they can be satisfied by the mere nonexistence of something. Both truth-values that are made and those that are default admit of explanations albeit of different sorts (cf. Simons 2008: 30). Both are explained by the satisfaction of their relevant truth-value-conditions, but the satisfaction of those conditions can be of the relational or nonrelational sort.

How exactly do we identify the default truth-value of a proposition? This can be done by considering which truth-value the proposition has when it is all alone in the 'empty world'. An empty world is one that lacks concrete, contingent entities though such a world might contain necessary beings. Reflection on empty worlds and 'small' worlds (e.g., worlds containing a single electron) is what motivates Saenz's (2014) rejection of maximalism. He argues that empty and small worlds (whether metaphysically possible or not) give us reason to think that negative existentials need no truthmakers. I find this argument persuasive and want to employ the notion of an empty world in a possible criterion for determining default truth-values.

Since I have restricted my focus to contingent truths (falsehoods), I will not be concerned with the default truth-value of necessary truths (falsehoods) here. Moreover, the fact that the empty world might contain necessary beings poses no problem for the role the empty world is meant to play in determining the default truth-value of contingent truths. For no necessary being grounds the truth-value of any contingent proposition. Otherwise, it would absurdly follow that contingent propositions are true in every world, assuming, that is, that truthmaking involves necessitation. Thus, even if propositions exist necessarily, they would not ground contingent truths (falsehoods).

Considering a proposition in an empty world allows us to isolate the proposition from any contingent ontology. Without any contingent entities, we can then consider which truth-value-condition of the proposition is satisfied (if any). The default truth-value of a proposition is a matter of which truth-value-condition does not make a positive ontological demand. If a proposition's truth-(falsity-) conditions do not make a positive ontological demand and can be satisfied in a nonrelational way, then they would be satisfied in the empty world, and the proposition would be true (false) by default.

I should emphasize that the empty world need not be seen as the 'default world' or as having some special metaphysical status. Rather, the empty world is a tool for determining which truth-value-condition of a proposition can be satisfied nonrelationally. That is, considering the truth-value of a proposition at the empty world *reveals* which truth-value-condition of the proposition can be satisfied (if any) without the existence of anything contingent.

I will close this section by addressing whether there are propositions that are neither true nor false by default, that is, whether there are propositions that need to have both

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their truth-values made. Suppose the empty world is possible. And suppose bivalence holds and that propositions exist in every possible world. Now assume for *reductio* that neither the truth nor falsity of proposition *p* is default, i.e., *p* has to be made to have its truth and its falsity whenever it has either. Then there is a possible scenario, namely, the empty world, in which neither *p*'s truth-conditions nor *p*'s falsity-conditions are satisfied. Hence, *p* is neither true nor false, which is impossible given bivalence. Therefore, it is false that *p* must be made to have both its truth and falsity. This argument is, of course, liable to be challenged on a number of fronts. If one thinks the empty world is impossible, then the argument will not be persuasive. On the other hand, if we give up bivalence, then we may regard *p* as neither true nor false in the empty world. Hence, *p* may be neither true nor false by default. I want to remain neutral about whether a proposition can be neither true nor false by default. TVM can be developed either way we come down on this question.

Could a proposition *p* have both its possible truth-values by default? If we assume the possibility of the empty world, it seems *p* could not. Suppose for *reductio* that *p* is both true and false by default. Then there is a possible situation, namely, the empty world, in which both *p*'s truth-conditions and falsity-conditions are satisfied. Hence, there is a possible situation in which *p* is both true and false. But this is impossible. Therefore, it is false that a proposition can be both true and false by default. We need not be convinced of the possibility of the empty world to see the problem with *p*'s being true and false by default. Even in the actual world, *p* would, impossibly, be both true and false because both its truth-value conditions would be automatically satisfied, having neither a truthmaker nor a falsemaker. Therefore, no proposition is both true and false by default.

1.1 Why Think Any Proposition has a Default Truth-value?

Suppose you are convinced of non-maximalism. And suppose you are convinced that <there are no unicorns> is true for lack of falsemaker, as Lewis (2001), Melia (2005), and Mellor (2003) are. You might wonder what more needs to be said beyond that; why introduce the machinery of default truth-values to explain the obvious contrast between positive and negative truths?

As far as I know, no non-maximalist has explained why some propositions can be true for lack of falsemaker. Without such an explanation, this view is open to the worry that this should apply to every truth if it applies to negatives; why can <there are cats> not be true for lack of falsemaker? On TVM, <there are no unicorns> can be true because there are no unicorns to make it false because it is true be default, that is, this proposition is of the sort whose truth-conditions make merely negative ontological demands. On TVM, this sort of explanation does not generalize to all truths. <There are cats> is not true for lack of falsemaker. This proposition is true in virtue of the existence of cats for its truth-conditions demand the existence of cats. Positive existential truths get explanations in terms of the existence of something, whereas negative existential truths do not. TVM, it is worth noting, is not subject to the worry that Merricks (2007: 82) raises for Lewis (2001: 611–12). Lewis claims that truthmaker explanations for positive truths are the same sort of (unilluminating) explanations (e.g., *p* is true because *p*)

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given for negative truths that are said to be true for lack of truthmaker. We do not have to follow Lewis in this claim, which is implausible.

Next, TVM does not require us to say many of the unintuitive things that some who reject maximalism say. We do not have to say, for one, that there can be 'truthmaking without truthmakers' (Melia 2005), that negative truths are 'made true' by the non-existence of something (Mellor 2003: 213), or that negative truths are grounded, but grounded in nothing, that is, grounded in zero-many facts (Muñoz 2020: 219). Clearly, the way in which negatives are made true cannot be anything like the way positive existential truths are made true by standing in a dependence relation to an entity in the world. Melia and Mellor do not properly distinguish the sort of explanation being given for the truth of negatives from the sort given for truths with truthmakers. (Merricks [2007], Cameron [2008], and Jago [2018] also make a similar point.) Saying negatives are made true by nonexistence is confusing as it invites objections from maximalists (e.g., Cameron 2008) that such a view undermines the motivation for truthmaker theory altogether.

Most importantly, non-maximalists who think that some truths have truthmakers while others do not, are already committed to something like default truth-values. These non-maximalists believe that some truths are true in virtue of standing in a relation of truthmaking to some entity and that others are true simply because they lack a falsemaker. It seems that these sorts of propositions are true in quite different ways, a point recognized by Saenz (2020: 3430ff.) and Barker and Jago (2012: 136). In my 'Towards a Pluralist Theory of Truthmaking' (Griffith 2015b) I argued as follows:

> Suppose that some truths, but not others, have truthmakers. If so, then *being true* is a relational property (one had because the bearer stands in a relation to another entity) of truths with truthmakers. For if a proposition *p* is made to have the property *being true* by some entity *x*, then *p* stands in a relation (that of truthmaking) to *x*. . . . Hence, *being true* is a relational property of *p* if *p* has a truthmaker. On the other hand, *being true* would be a non-relational property of truths without truthmakers. Such propositions would be true, but not in any way because of their relation to anything else. But *being true* cannot be both a relational and non-relational property on pain of contradiction. (2015b: 1170)

How can the non-maximalist avoid this contradiction? A straightforward way is to embrace a form of alethic pluralism on which some propositions are true in virtue of exemplifying a certain relational property whereas other propositions are true in virtue of exemplifying a certain nonrelational property. The distinction between truth and default truth I have been articulating is poised to explain this form of truth pluralism. Truths like <there are dogs> are true in a relational way because their truth requires ontological grounding. Truths like <there are no flying pigs>, on the other hand, are true in a nonrelational way because their truth is default, requiring no ontological grounding.

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A final consideration in favor of TVM I will mention is that the notion of default truth-values supplies a principled restriction of the truthmaker principle. That is advantageous from the perspective of ontological parsimony, given that the proposed truthmakers tend to be exotic, controversial, and fundamental entities. Merricks (2007) thinks that truthmaker theorists who absolve negatives from needing truthmakers are simply weak of will. The only reason, he believes, they would deny truthmakers for negatives is that they cannot identify plausible entities to serve as their truthmakers. That is an unprincipled restriction on truthmaking if we have antecedently committed to maximalism and just lost our nerve when the ontology got too controversial (cf. Jago 2018: 83; Armstrong 2004: 70). But TVM's restriction is principled: it comes out of the nature of the propositions themselves. It is in the nature of certain propositions (their truth-conditions) not to need truthmakers (the ones that make no positive ontological demands), and it is in the nature of others to need them. TVM rejects the idea that all truth and falsity are grounded in what exists because of the difference in how propositions represent the world.

2. Further Application

TVM is not only applicable to positive and negative existentials, but also to general universals, negative predications, and molecular propositions, among others. The purpose of this section is to identify the default truth-values for certain propositions in order to illustrate how TVM goes about determining whether a proposition needs a truthmaker (or falsemaker).

3.1 Universal Generalizations

Universal generalizations are logically equivalent to negative existentials. For example, (3) is logically equivalent to (4):

(3) All crows are black.
(4) There are no nonblack crows.

Insofar as negative existentials are true by default, then universal generalizations are logically equivalent to propositions that are true by default. If logical equivalence to a proposition that is true by default, such as, (4) above, suffices for being true by default, then universal generalizations, such as (3) above, are true by default. However, logical equivalence is not identity (it is only having the same truth-value in all models), and one may doubt that truth by default is closed under logical equivalence. Nevertheless, we can show that general universals are true by default. The logical form of (3) is $\forall x(Cx \rightarrow Bx)$. The conditional $<Cx \rightarrow Bx>$ is true by default because its truth-conditions can be satisfied in an empty world, that is, in an empty world both $<Cx>$ and $<Bx>$ are false; hence, the conditional itself is true. Its falsity-conditions are satisfied only if there exist certain entities, viz., nonblack crows.

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3.2 Negative Predications

Consider the following:

(5) Liquid *L* has no odor.

Whether (5) is true or false by default depends upon what its truth-conditions and falsity-conditions are. That is, (5) entails that there is something that has no odor. Hence, its truth-conditions demand the existence of something. Thus, at least (5) is not true by default. However, we might suppose that the falsity-conditions of (5) are disjunctive (assuming bivalence): (5) is false iff either *L* does not exist, or *L* exists and has an odor. On the analysis of default truth-value given above, (5) is revealed as false by default because (5) would be false in an empty world, which is a world lacking *L*. That may strike some as odd because one of the falsity-conditions of (5) seems to make a positive ontological demand, namely, that *L* exist with an odor. It is important to recall, though, that the default truth-value of a proposition is the value that *needs no* ontology to be satisfied, that *can be* satisfied in the nonrelational way. Therefore, despite the fact that (5) would be false if *L* existed with an odor, (5) makes no demand that *L* exist. Hence, (5) is false by default, and if true, it must be made true.

Because I am assuming bivalence here, I will not consider views on which (5) is neither true nor false if *L* does not exist. If one rejects bivalence, then (5) would be treated as expressing a proposition whose truth conditions and falsity conditions both make positive ontological demands. In the empty world, (5) would be neither true nor false. Asay and Baron (2012: 236) argue that it is implausible to think that a proposition could not require a truthmaker but still have one. Their worry is that the truth would be given two diametrically opposed sorts of explanations. This worry can be placated in the case of the falsity of (5) because the falsity-conditions of (5) are disjunctive. It stands to reason that the falsity of (5) could be given diametrically opposed explanations because the falsity-conditions of (5) can be satisfied in very different ways.

Propositions like (5*), on the other hand, need a different treatment.

(5*) Not (Liquid *L* has an odor).

This is true by default. That is, (5*) does not entail that there is something that lacks an odor, and hence it is true in the empty world.

3.3 Conjunctions and Disjunctions

We can also identify the default truth-values of molecular propositions involving the truth-functional connectives conjunction and disjunction. First, consider the conjunction:

(6) There are houses, and there are baseballs.

The default truth-value of such a proposition is a function of the default truth-values of its conjuncts. Both conjuncts have falsity as their default truth-value; they must be

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made true. It follows that the default truth-value of (6) is also falsity. For the falsity-conditions of (6) make no positive ontological requirements on what exists or what it is like; (6) is false in an empty world. On the other hand, the truth-conditions of (6) are such that they make demands on what exists and what it is like. Hence, (6), if true, must be made true.

Consider now a conjunction with conjuncts with mixed default truth-values:

(7) There are no golden mountains, and there are baseballs.

The first conjunct is true by default, and the second is false by default. That is, the truth-conditions of (7) demand the existence of something, in this case baseballs. Thus, (7) is not true by default. However, the falsity-conditions of (7) require that at least one of the conjuncts of (7) be false. In the empty world, there are no golden mountains or baseballs; therefore, the second conjunct of (7) is false. That is, the falsity-conditions of (7) are satisfied in the empty world. Hence, (7) is false by default. Despite the fact that (7) would be false if there were golden mountains, (7) just does not *require* any positive ontology to be false. If true, (7) needs to be made true because its truth-conditions require there to be baseballs. On the other hand, conjunctions with conjuncts that are true by default, for example, two negative existential truths, are themselves true by default.

In other words, (7) is like a museum with a recommended donation: you are not required to pay to get in, but the museum will gladly take your money. That is, (7) does not require any ontology to be false, but it will be false when certain things exist. One might insist, though, that the falsity-condition of (7) makes a positive ontological demand in the case where <there are no golden mountains> is false. If so, then we could say that default truth-value of the conjunction with mixed default truth-value conjuncts is determined by the *actual* truth-values of its conjuncts and their default truth-values. Hence, (7) is not false by default if <there are no golden mountains> is false and <there are baseballs> is true; it would be neither true nor false by default. However, (7) is false by default if <there are no golden mountains> is true and <there are baseballs> is false. If you think it is odd to say that the default truth-value of a conjunction would depend on the actual truth-values of its conjuncts, it is worth remembering that conjunctions are functions from their conjuncts. Not only are their existence and truth-value determined by those of their conjuncts, so, too, are their default settings determined by their conjuncts. This result is not surprising, one could argue, because propositions like (7) have disjunctive falsity-conditions.

A similar truth-functional treatment can be given to disjunctive propositions like the following:

(8) There are frogs, or the Cubs win.

Because both disjuncts of (8) are by default false; the disjunction itself is by default false. If both disjuncts of a disjunctive proposition are by default true, then the disjunction itself is by default true. A more complicated case is the following:

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(9) There are frogs, or there are no unicorns.

Here the first disjunct is false by default, and the second one is true by default. That is, (9) is true just in case one or both its disjuncts are true— (9) is true just in case (i) there are frogs and no unicorns, (ii) frogs and unicorns, or (iii) no frogs and no unicorns. On my view, (9) is true in the empty world, a world with no frogs or unicorns. Similar to cases discussed above, (9) is true by default because it requires no positive ontology to be true. (Consequently, Lewis (2001: 610) is wrong to say that propositions like (9) neither have truthmakers nor are they true for lack of falsemakers.) On the other hand, the falsity-conditions of (9) say that (9) is false just in case both of its disjuncts are false. The only world at which those conditions are satisfied is one in which there are unicorns. Therefore, the falsity-conditions of (9) do make positive ontological demands; if false, (9) must be made false.

3.4 Other Classes of Propositions?

A full articulation of TVM would tell us, for each kind of proposition, which are default true or default false (or neither). That project cannot be undertaken here. But it opens up an avenue for those who affirm certain truths but deny that they have truthmakers, for example, presentists, actualists, Molinists, and mathematical nominalists, to argue that tensed propositions, modal truths, subjunctive conditionals, and arithmetical truths have default truth-values. For at least contingent truths, the general strategy would be to investigate the truth-value-conditions of these propositions and consider their truth-values in the empty world. These philosophers should then argue that the truth-conditions of these propositions make no ontological demands and explain how these conditions are satisfied even without the existence of any contingent entity.

I will, however, make some brief and provisional remarks about the application of TVM to tensed propositions and necessary truths. First, consider, for example, the following tensed proposition

(10) There were dinosaurs.

This proposition is true by default if it is true in the empty world. In this case, the relevant empty world is a world in which there neither was, is, nor will be any concrete contingent entities. After all, that is the world in which (10) is fully isolated from contingent ontology; it gives us the clearest picture of what (10) is like on its own, which is the purpose of considering the truth-value of a proposition at the empty world. Thus, (10) seems to be false in a world in which there were no concrete entities, ipso facto in a world in which there were no dinosaurs (and therefore also no tensed facts about what did exist). Therefore, (10) is false by default; if true, then it needs to be made true. However, even though (10) needs a truthmaker, there are other tensed truths that, being true by default, do not need one, for example, <there were no unicorns>. TVM absolves some, but not other, tensed propositions from needing truthmakers.

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Next, necessary truths. Trivialist views of necessary truths developed by Rayo (2009) and Cameron (2010) offer a way of explaining why necessary truths (or at least mathematical truths for Rayo) are true by default. Trivialists think that such truths have trivial truth-conditions, that is, truth-conditions that make no ontological demands and whose falsity-conditions are unintelligible. Being trivially true is not identical to being default true. A proposition might be true by default without the failure of its truth-conditions being unintelligible. However, if we think of being trivially true as a way of being true by default, that is, as a species of true by default, then trivialism fits nicely within the TVM framework.

3. Objections and Replies

Objection 1: Many metaphysicians deny that negative existentials need truthmakers, for example, Bigelow (1988), Lewis (2001), Melia (2005), Mellor (2003), Muñoz (2020), Simons (2000, 2005, 2008), Schipper (2018), Saenz (2014). How is TVM different from those other forms of non-maximalism?

Response: I already argued in section 2.1 above that default-truth values play an important explanatory role for non-maximalists, allowing them to explain the difference between the truth of positive and negative existentials. Moreover, TVM draws out an implication latent in non-maximalism and makes it explicit, viz., default and non-default truths are true in different ways. This difference is important and needs to be an explicit part of the theoretical framework of non-maximalism. Still, it is worth distinguishing TVM from two other well-known versions of non-maximalism.

First, consider the view that truth supervenes on being (TSB). Like TVM, TSB absolves negative truths from needing truthmakers. According to TSB,

> TSB: If p is true, then either at least one entity exists which would not exist, were p false, or at least one entity does not exist which would exist, were p false. (Bigelow 1988: 133; cf. Lewis 2001)

Unlike TSB, TVM offers an account of the dependence of (non-default) truth-value on being. A number of philosophers have pointed out (see Griffith 2015a and Merricks 2007) that TSB does not articulate a sense in which truth (or falsity) depends on being because the principle merely flags a modal covariation of truth-value with existence. Truth supervenes on being, but equally, being supervenes on truth (Rodriguez-Pereyra 2005: 19). TSB is not a thesis of truth's dependence on being. Nor does TSB explain what any particular truth (or falsehood) depends upon for its truth (or falsity). Because truths (or falsehoods) that need truth- (falsity-) makers depend not on reality generally, but on specific portions of reality, an account of those truths (falsehoods) ought to direct us to their specific grounds. TVM offers both an account of the dependence of (non-default) truth and falsity on being—with its principles of truthmaking and falsemaking (see section 1 above)—and a way to determine what such truths and falsehoods are grounded in.

Now consider Simons's (2000, 2005, 2008) truthmaker 'Optimalism', which is the most similar to TVM. According to Simons, only positive atomic propositions

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need truthmakers. Once the truthmakers for those truths are fixed, so are the truth-values for negative, general, and molecular truths (see also Heil 2000; Lewis 1992: 218–19; 2001: 610; Melia 2005: 69, and Mellor 2003). For example, if a positive atomic proposition *P* is false, then the truth-functional connective '~' ensures that ~*P* is true. Thus, ~*P* is true, not because it has a truthmaker, but because its contradictory positive counterpart *P* lacks one. I think Simons's optimalism is an interesting and worthy view to consider; therefore, let me say a few things to distinguish optimalism from TVM. There is a subtle difference between the way that TVM and optimalism explain the truth of negatives. Simons says, 'the reason why a negative atomic proposition is true is not that it has a truthmaker but that its opposite does not' (2008: 30). The truth of negatives is explained in terms of another proposition lacking a falsemaker. TVM's explanation is just that negative propositions are true because the thing(s) they represent as not existing do not exist. There is no need to explain their truth via the truth-functional connections between the negative truth and its contradictory positive counterpart. More generally, optimalism says that only atomic propositions have truthmakers and that all other molecular truths can be explained by their truth-functional relations to atomic propositions. TVM is neutral on whether there is a distinction between atomic and nonatomic propositions, and it leaves it open that truths other than atomic truths have truthmakers. The scope of optimalism is different from that of TVM. Optimalism is focused on explaining the truth-value connections between atomic and molecular propositions. TVM, on the other hand, provides a general account of default and non-default truth-values that can be used to explain the truth-values of many sorts of propositions beyond atomic and molecular propositions. (Potentially. The application of TVM remains to be worked out.) The general strategy of focusing on the ontological demands of truth-value-conditions, rather than on truth-value connections, has the (potential) benefit of helping to explain the truth-values of a wider range of propositions, for example, of tensed, modal, and conditional propositions.

Objection 2: The analysis of default truth (falsity) depends upon the possibility of the empty world. But the empty world is metaphysically impossible. Hence, the analysis of default truth (falsity) fails.

Response: It is controversial whether the empty world is impossible. (See the collection of papers in Goldschmidt 2013.) Arguing for the metaphysical possibility of the empty world is a bigger task than I have space for here. Fortunately, the plausibility of the analysis of default truth-values I have given here does not stand or fall on the metaphysical possibility of the empty world. First, even if the empty world is metaphysically impossible, it may still be logically possible. And as Saenz (2014: 95) points out, logical possibility seems to be enough to make sense of and reason about claims concerning the empty world.

Second, it is important to remember that the empty world was primarily introduced as a heuristic, namely, as a way to think about certain propositions in isolation from any contingent ontology. Default truth-values are something possessed by propositions themselves, determined by their truth-value-conditions. Conceiving of a proposition in the empty world is a way to reveal the default

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truth-value of the proposition, not what makes it the case that the proposition is true or false by default. Thus, even if the empty world is impossible, propositions can still have default truth-values.

Third, Saenz (2014: 96ff.) has argued convincingly that the truth of maximalism should not depend upon the (im)possibility of empty and small worlds. He argues that the reasons to believe maximalism concern the relation between truth and being, not the (im)possibility of empty and small worlds. If one is convinced of maximalism, one should believe it is true in empty and small worlds regardless of their (im)possibility. Similarly, the reason for believing that some propositions are default true or false concerns the nature of these propositions and not the (im) possibility of empty and small worlds. Moreover, maximalism is not clearly incompatible with empty and small worlds—Cameron (2011: 75n24), a maximalist, thinks the empty world is possible. Maximalism is only incompatible with empty and small worlds (a) if maximalism is taken to be a necessary truth and (b) if we assume that negative existentials are true in such worlds.

Objection 3: TVM absolves some truths from needing truthmakers. Therefore, it is in violation of the core intuition motivating truthmaker theory, namely, the intuition that 'a truth, any truth, should depend for its truth on something "outside" it, in virtue of which it is true' (Armstrong 2004: 7). Without doing justice to this intuition, truth 'floats free' of being, a highly implausible position.

Response: I think this intuition is primarily motivated by certain paradigm examples of truths that need truthmakers, for example, by positive existentials and predications (Griffith 2015b). It is easy to believe one has an intuition about something in general when one takes certain examples to be representative of an entire range of phenomena (Saenz 2014: 97). I agree with Simons, who writes, 'Maximalism is a theoretical position extrapolating from a fundamental insight, it is not itself a fundamental insight' (2007: 255). The fundamental insight, it seems to me, is that truth-values need accounting for, especially for contingent truths and falsehoods. The development of this insight has to consider propositions on a case-by-case basis given their important differences.

The charge that truths lacking truthmakers would 'float free' of being is common but rarely spelled out. However, thinking through the various ways that a proposition's truth-value can be independent of the existence of something reveals that propositions that are true by default do not 'float free' of being in a problematic way. In my 'How Negative Truths are Made True' (2015a) I drew a distinction between 'existence-independence' (EI) and 'variation-independence' (VI) that can be of help:

> EI: The truth-value of a proposition p is existence-independent of an entity x if it does not depend on the existence of x. If p's truth is existence-independent of x, then the truth-value of p is whatever it is, no matter whether x exists or not. (Griffith 2015a: 323)

> VI: The truth-value of a proposition p is variation-independent of some entity x if p's truth-value does not change with any *possible* variation

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> of or change in *x*; no matter how *x* changes, *p*'s truth-value does not change. (Griffith 2015a: 324)

The concern about truths 'floating free' of being is that they would be completely independent of what there is and what it is like, that is, that there is no dependence on particular entities but also no modal covariation between what is true and what there is. Drawing on this distinction, let a truth 'float free' of being in this sense if it satisfies EI and VI with respect to any actually existing entity. But propositions that I have argued are true by default, for example, negative existentials, do not 'float free' of being in the sense of satisfying EI and VI. Negative existentials are EI of any actually existing entity, but they clearly are not VI of reality as a whole.

If this is true, then it undercuts Fiocco's (2013) argument that it is impossible for a truth to lack a truthmaker. Fiocco argues that if a truth *p* were to lack a truthmaker, then 'any and every feature of the world could be different without affecting the truth of *p*' from which it would follow that 'it is possible that the world be such as to contain grounds sufficient for the truth of not-*p*, thereby making not-*p* true, while leaving *p* true. Therefore, it is possible that both *p* and not-*p* be true. This, however, is a contradiction and certainly not possible' (2013: 14–15). If negative existential truths are true by default but not VI of reality as a whole, then the contradictory scenario Fiocco envisions would not follow from denying that negative existential truths need truthmakers.

True negative existentials are not true independently of any possible variation in what there is and how it is. Were there a unicorn, for example, <there are no unicorns> would be false rather than true. Negative existentials are appropriately sensitive to the world beyond themselves in the sense that they could be made to be false by certain variations in what exists. And we can specify exactly what variations those would be, viz., the existence of those entities that satisfy the falsemaker principles for those propositions. Accordingly, I reject the charge that propositions that are true by default float free of being in the problematic way implied by the objection.

(Sidebar: In my 'How Negative Truths are Made True' [2015a] I used VI to motivate a principle of truthmaking for negative existentials. I no longer think VI picks out a truthmaking relation, despite the fact that it picks out a dependence relation. Not all forms of dependence of truth on being are truthmaking relations. For the sort of dependence articulated by the inverse of VI—variation dependence—does not seem to be a kind of *making* or *in virtue of* dependence at issue with truthmaking. Just because reality as a whole can change such that <there are no unicorns> would be false, it does not follow that reality as a whole, grounds or makes the truth of this negative existential.)

Objection 4: Fine, but TVM has yet to address direct arguments for the thesis that truths require truthmakers. Rodriguez-Pereyra (2005: 25), for instance, provides the following argument for the view that all contingent, synthetic truths require truthmakers:

(11) Truth is grounded.
(12) Grounding is a relation.

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(13) Relations link entities.
(14) Therefore, truth is grounded in entities.

Response: TVM has a straightforward response to this argument: (11) is false. It is not the case that every true proposition stands in a relation of grounding to some portion of reality. (Here I am assuming with Rodriguez-Pereyra that (12) is true.) Rodriguez-Pereyra motivates (11) by posing a dilemma: either truth is grounded in reality—that is, determined by some portion of reality—or it is primitive. And if truth is primitive, then either truth and being have nothing to do with each other, or reality is grounded in truth, or truth and being mutually ground each other (2005: 22). None of these options look plausible according to Rodriguez-Pereyra, so we should believe truth is grounded. But we need not think these are the only options if a truth is not grounded in being. As I outlined above, truth-conditions can be satisfied in at least two ways, in a relational way and in a nonrelational way. If the truth-conditions of a proposition make no ontological demands, then the proposition may be true—its truth-conditions may be satisfied—without the proposition standing in a relation to some portion of reality. Such truths are still related to reality (as I argued in responding to the previous objection) in such a way that they are neither completely independent of being nor grounded in being.

Objection 5: But what about Jago's (2012, 2018: 93ff.) objection to non-maximalism? Jago argues that there are positive truths that necessitate negative truths, for example:

(15) Max knows that Ern Malley does not exist

necessitates the truth of

(16) Ern Malley does not exist.

Given that knowledge is factive, (16) must be true if (15) is. According to Jago, (15) is a positive truth and by the lights of non-maximalists it requires a necessitating truthmaker. If there is a necessitating truthmaker for (15), then there will be something that necessitates the truth of (16). That commits the non-maximalist to postulate something that necessarily excludes the existence of Ern Malley. And that entity will be the sort of controversial entities maximalists posit as truthmakers for negative truths. That is, non-maximalists are committed to the very entities that they do not want to be committed to and the rejection of which motivates their non-maximalism.

Response: Indeed, if there is a necessitating truthmaker for (15), then there will be something that necessitates the truth of (16). But necessitation is not sufficient for truthmaking, as Jago (2018: 95) acknowledges. And just because something necessitates the truth of (16), it does not follow that that something is a controversial entity like an absence, a negative fact, or totality fact. After all, the fact or the state that (16) is true necessitates the truth of (16) (without of course making true (16)). The non-maximalist could say that part of the truthmaker for (15) just is

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the fact or state that (16) is true (Skiles 2014: 3652). Jago wants to force the non-maximalist to give an analysis of knowledge that will identify the truthmaker for propositions like (15). I do not know how to give such an analysis. But I do not see any reason to think that commitment to a truthmaker for (15) commits me to something like an absence, a negative fact, or a totality fact. Jago writes, 'if she [the non-maximalist] finds a way to explain how ordinary, ontologically uncontroversial entities necessitate [(15)'s] truth, then the maximalist can appeal to the very same strategy' (2018: 95). But that is not necessarily right. If part of the grounding for the truth of (15) involves the truth of (16), which the non-maximalist says needs no truthmaker, then that solution is off-limits to the maximalist.

This response does commit me to denying the entailment principle: If x makes p true and p entails q, then x makes q true. This entailment principle is controversial (Armstrong 2004 embraces it, Rodriguez-Pereyra 2006 rejects it). I am happy to reject this principle, not the least because it entails that the existence of car keys would make true <triangles have three sides>. Thus, (15) may entail (16) and may even be relevant to (16). But there is no reason to think that truthmaking distributes over entailment in this case or any other. Being a purely modal notion, entailment does not guarantee that the explanatory connection involved in truthmaking between x and p carries over to x and q. In the case of (15) and (16), it seems that the truth of (16) is prior to and explains that of (15); the truth of the proposition known helps explain why the subject knows that proposition. If that is right, then we should not expect for a truthmaker for (15) to also be a truthmaker for (16). And it would not be surprising that (16) could lack a truthmaker despite the fact that (15) has a truthmaker and (15) entails (16).

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