TRUTHMAKER-DIALETHEISM

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1. *Introduction*

In recent years, Graham Priest and JC Beall have both defended two controversial theses: (1) the thesis that dialetheias (true contradictions) exist, and (2) the thesis that numbered among worldly items are negative facts which act as truthmakers for negative truths. In what follows, it is convenient to focus on the very clear defence of (2) offered by Beall [2000]. However, the same objections apply to Priest or anybody else who wishes to combine theses (1) and (2). I aim to show that the theory of negative facts favoured by Priest and Beall is incompatible with their dialetheism (though a replacement is urgently required by anyone who wants to maintain the sort of dialetheism defended by Priest and Beall alongside even a fairly weak truthmaker principle).

2. *Truthmaker-Dialetheism and Negative Facts*

A dialethia is a statement that is both true and false, and a dialethiest is one who accepts that there are such things. The dialetheist, in short, accepts that there are true contradictions and thus truth-value gluts. Dialetheism, it should be noted, is not the same as paraconsistency. A logic is paraconsistent just in case it does not validate the inference *ex contradictione quodlibet* (A, $\sim A \vDash B$, known more popularly as the principle of *explosion*). Dialetheism will require a paraconsistent logic in order to capture the kinds of inferences it countenances, but a commitment to paraconsistency does not demand any commitment to dialetheism and the two should be viewed as independent positions with dialetheism being one among several possible philosophical motivations for favouring paraconsistent logic.

The dialetheist, then, accepts the truth of some statement $A \wedge \sim A$.[1] Now consider what happens to the dialetheist who also endorses a version of the truthmaker principle, i.e., the principle that if A is true then A is *made* true

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[1] Subject to the qualification discussed in footnote 3, below.

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by some entity. We can overlook issues about the precise form and modal
strength of the principle[2] and even allow the truthmaker-dialetheist to hold
that there are numerous exceptions to the principle (e.g., necessary truths,
general truths, molecular truths, etc.). However, so long as we expect the
truthmaker-dialetheist, as it is surely reasonable for us to expect them, to
maintain that every atomic truth has a truthmaker,[3] she will have to accept
the existence of negative truthmakers. Assuming, for the sake of the argu-
ment, that truthmakers are facts, the dialetheist who accepts the truthmaker
principle for positive truths but wants to resist endorsing negative facts faces
an impossible task in explaining the truth-conditions of $A \wedge \sim A$. Unless
$\sim A$ is understood as having a truthmaker distinct from the mere absence of
A's truthmaker, there is surely no conceivable way in which reality can pro-
duce a truthmaker for $A \wedge \sim A$. The motivation for dialetheism is that there
can sometimes be sufficient grounds for asserting both a statement and its
negation. This does not mean that the dialetheist holds reality to be in the
impossible state of simultaneously containing and not containing the same
fact (as opposed to containing two *contradictory* facts). The only option for
the dialetheist who wants to keep truthmakers is to hold that the truthmaker

[2] For example, should the principle put truths into one-one correspondence with their
truthmakers or is there a many-one or even one-many relation from the domain of truths to the
domain of truthmakers? Further difficulties surround the nature of the relation between truths
and their truthmakers, as the relation seems to be one of necessitation: a cross-categorial
relation between truthmakers and truthbearers such that the truths are *necessitated* by their
truthmakers. None of these issues need delay us here, however.

[3] This qualification effectively restricts the objections raised in this paper to the version
of dialetheism that holds there to be some *contingently* true contradictions. Certainly not
every proposed dialethia is a conjunction of an atomic truth and its negation. For example,
the most commonly cited contender, the Liar sentence, does not conform to this model. Nor
does the Liar require a negative fact as its truth-maker. In fact, the truthmaker-dialethiest
has two options for explaining the truth of the Liar: (1) She could argue the Liar is both
necessarily true *and* necessarily false and hold that the truthmaker-principle holds only for
contingent truths, the truth-conditions of necessary truths and falsehoods being independent
of what entities there are in the world, thus the Liar has no truthmaker. Alternatively, she
could hold that (2) the proof of the Liar sentence in a semantically closed language L is its
truthmaker, and that the proof of the falsity of the sentence in L is the fact which shows
the Liar to be false. This proof is then the entity that makes the contradiction true (for
approaches to the Liar along the lines of this second option, see Priest [1987] and Bremer
[2007]). Note that both approaches deny that a negative fact is required for the truth of the
Liar. As such, neither option will help those like Beall and Priest who wish to defend the
claim that some contradictions depend on atomic truths and thus do require negative facts
to co-exist with their positive counterparts. In light of this qualification, I will take the term
'truthmaker-dialetheism' to signify joint commitment to (a) the thesis that every atomic truth
has a truth-maker and (b) the thesis that at least some contradictions are contingently true
(their truth depends on the contingent truth of an atomic constituent).

for $\sim A$ is a negative fact distinct from the mere absence of the fact that makes A true.

This point is central to my argument, so it is important to make it clear. A likely objection is that the assumption that a fact cannot simultaneously obtain and not obtain begs the question against dialetheism. Why, so the objection runs, can't the dialetheist accept that reality can be such a way as to make this possible? The fact that what is being suggested here is contradictory is clearly not a good reason to persuade one who believes in true contradictions to reject the suggestion. Is it not, then, disingenuous to describe the suggestion as imposssible? This objection, however, seems impossible to square with any model-theoretic understanding of either dialetheism or paraconsistency (and thus, arguably, with any rigorous understanding of either). What allows for the possibility of a contradiction being true in a standard model for a paraconsistent logic is simply that formulas are not excluded from taking more than one truth-value. According to a standard dialetheic semantics for a paraconsistent language,[4] there are three possible interpretations from the set of values $\{1, 0\}$ that can be given to any well-formed formula A of the language. Let $v(A)$ be an interpretation of A which assigns to A subsets of the set $V = \{1, 0\}$. Then we have the three possible interpretations: $v(A) = \{1\}$, $v(A) = \{0\}$, or $v(A) = \{1, 0\}$. The following equivalences between interpretations hold:

$$\begin{array}{lll} 1 \in v(A) & \text{iff} & 0 \in v(\sim A) \\ 1 \in v(A \wedge B) & \text{iff} & 1 \in v(A) \text{ and } 1 \in v(B). \end{array}$$

Because it is possible that $v(A) = \{1, 0\}$, it is possible that $1 \in v(A \wedge \sim A)$ and hence possible that $A \wedge \sim A$ is true. Note, however, that this is only possible because it is possible that $A \wedge \sim A$ is *at least* true. It must also be at least false in order to be true (i.e. it would require that $1 \in v(A \wedge \sim A)$ and that $0 \in v(A \wedge \sim A)$). This brings us to the heart of the dialetheist's claim: a sentence can be true and false, because 'false' and 'not true' are not synonymous terms according to the dialetheist.[5] But now this makes it plain that the truthmaker-dialetheist certainly cannot countenance the possibility of reality both containing the truthmaker for A and *not* containing the truthmaker for A. For, according to the truthmaker principle, if reality does not

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[4] Namely for Priest's LP (logic of paradox).

[5] This point is made clearly by Priest [2001: 140]. Although Priest makes the point there in relation to the language FDE (First Degree Entailment: FDE differs from LP in the following respect: $\vDash_{LP} A \vee \sim A$, but $\nvDash_{FDE} A \vee \sim A$. In other words, FDE allows truth-value gaps and gluts; LP allows gluts not gaps), it is evident that the same principle applies to any dialetheic system of reasoning.

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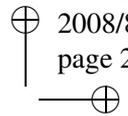
contain the truthmaker for A, A is not true. If the truth of $A \wedge \sim A$ depends
on the existence of the truthmakers for each conjunct, then the conjunction
cannot be true if the truthmaker for either conjunct is simply the absence of
the truthmaker for the other. For, if this were the case, then A would be both
true and not true. Such a possibility is most definitely not countenanced by
the dialetheist model and, for the reasons just given, is not equivalent to A's
being both true and false. The latter is possible by dialetheist scruples; the
former is not.

It is unsurprising, then, that Beall and Priest have been so keen to defend
negative facts. Indeed, Beall has recently acknowledged the truthmaker-
dialetheist's need of such entities, though he is confident that such entities
are readily available, remarking that 'the problem of accommodating "neg-
ative truths" is not particularly difficult; there are standard models available
... [t]he worry ... seems not to be substantial — at least pending further de-
tails' [Beall 2004a: 16]. The 'standard models' that Beall refers to here are
the ones that he [2000] and Priest [2000] have developed. Consideration of
those models, which I will draw together under the name of the 'polarity the-
ory', will provide us with the further details needed to add more substance
to the worry about finding plausible truthmakers for contradictions.

3. *The Polarity Theory of Negative Facts*

In brief, the polarity theory holds that the truthmakers for atomic truths are
to be modelled by ordered sequences of the form $\langle r_n, d_1, \ldots, d_n, i \rangle$ where
r_n is an n-placed relation, d_1, ..., d_n are objects, and i is an element of
the set $\{1, 0\}$ of *polarities* (not to be confused, of course, with the set of
truth-values just discussed). According to Beall, $\langle r_n, d_1, \ldots, d_n, 1 \rangle$ is the
fact that d_1, ..., d_n, are r_n-related; $\langle r_n, d_1, \ldots, d_n, 0 \rangle$ is the fact that d_1,
..., d_n, are *not* r_n-related [see Beall 2000: 265]. Let 'P_n' be an n-placed
predicate and '$c_1, \ldots, c_n$' be singular terms, then if we let '$\delta(P_n)$' denote the
relevant n-placed relation and '$\delta(c_1), \ldots, \delta(c_n)$' denote the relevant objects,
the truthmaker for the statement '$P_n c_1, \ldots c_n$' will be the fact

$$\langle \delta(P_n), \delta(c_1), \ldots, \delta(c_n), 1 \rangle$$

while the truthmaker for '$\sim P_n c_1, \ldots c_n$' will be the fact

$$\langle \delta(P_n), \delta(c_1), \ldots, \delta(c_n), 0 \rangle.$$

Both '$P_n c_1, \ldots c_n$' and '$\sim P_n c_1, \ldots c_n$' are true if their respective truthmak-
ers obtain and are false otherwise. There is no demand for new truthmakers
for molecular truths, as the truth of these will depend on the truth-values of
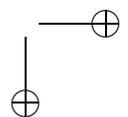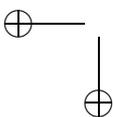
their atomic parts in accordance with familiar recursive definitions such as

$$v(A \land B) = \text{T} \qquad \text{iff} \quad v(A) = \text{T and } v(B) = \text{T}$$
$$v(A \supset B) = \text{T} \qquad \text{iff} \quad v(A) = \text{F or } v(B) = \text{T}$$

and the like.

## 4. *The Incompatibility of Dialetheism and Polarity Theory*

Consider the provision of truth conditions for $A \land B$ just provided. According to this definition, a contradiction $A \land \sim A$ is true just in case A is true and $\sim A$ is true. The truth-conditions specified for positive and negative atomic truths give us the following equivalence:

$$v(A) = \text{T} \quad \text{iff} \quad v(\sim A) = \text{F}.$$

This is, ordinarily, perfectly in tune with dialetheism which holds that sentences can be both true and false, hence both A and $\sim A$ can be (at least) true by virtue of also being false. Furthermore, if the truthmakers for A and $\sim A$ are distinct entities, there would appear to be no a priori reason why these two entities cannot both obtain. The task facing the truthmaker-dialetheist, recall, was to find truthmakers for negative truths distinct from the mere absence of truthmakers for the positive truths they negate. Having procured negative truthmakers for negative truths in the shape of the polarity theory's negative facts, has the truthmaker-dialetheist completed the task?

  No. The reason is that negative facts are indistinguishable from absences of facts on the only philosophical explanation of the formal mechanism of polarity theory that is available to the truthmaker theorist. What distinguishes a negative fact from the positive fact that would make its negation true on the polarity theory? A difference in polarity. The only difference between the fact that a is not F and the fact that a is F is that the former contains the negative polarity 0 in addition to a and F, while the latter contains a, F, and the positive polarity 1. What, exactly, does this mean? It means simply that a fact containing polarity 1 as constituent is the fact that the other constituents *are* related, while a fact containing just the same constituents but with the polarity reversed is the fact that these same constituents are *not* related [see Beall 2000: 265]. Let

$$\langle F, a, 1 \rangle$$

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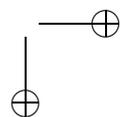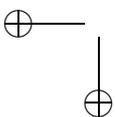
be the fact that a is F, and

$$\langle F, a, 0 \rangle$$

the fact that a is not F, then the only difference between these two facts is
that in the case of the positive fact a has the property F while in the negative
case it does not. But in that case the polarity theory has made no relevant
advance on the claim that negative truths are made true by the mere absence
of truthmakers for their negations — a position which we have seen to be
uninhabitable by the dialetheist. The truth of a contradiction $A \wedge \sim A$ clearly
cannot be supported by any position which holds the truth of $\sim A$ to consist
in the absence of a truthmaker for A, as by definition, reality cannot produce
a truthmaker sufficient to make the contradiction true: the only way it can
yield a truthmaker for one conjunct is by *not* yielding a truthmaker for the
other. If this is what negative truth consists in, contradictions cannot be true.
But this is just what negative truth does consist in after all on the polarity
theory. If negative facts are to be understood on this model then the truth of
every statement, positive or negative, will exclude the truth of its negation,
ensuring that every contradiction is false (and, more importantly, not true).

It might be objected, however, that it is unfair to dismiss the polarity theory
on the basis of Beall's explanation of it. Beall, after all, characterises positive
and negative polarities in terms of objects having or not having, respectively,
the relevant properties only as part of an intuitive explanation of the theory.
Is it not possible to produce a more refined explanation of the polarities of
facts that accounts for the difference between positive and negative facts
without recourse to explaining one in terms of the absence of the other? To
demonstrate that polarity theory and dialetheism are genuinely incompatible
it needs to be shown that no such refinement of the polarity theory is possible.

At first sight it may seem that such a refinement should be possible. After
all, $\langle F, a, 1 \rangle$ and $\langle F, a, 0 \rangle$ surely are different triples, and as each is intended
to represent a fact, the latter is obviously not intended to represent the ab-
sence of the former fact. Not *intended* to, admittedly; but the important
question is whether the polarity theorist can offer a suitable account of the
nature of polarities that succeeds in representing them as anything more than
absences. To do that they must reveal what more they are. But here polarity
theory runs out of explanatory resources. The problem is that all attempts to
define polarities so as to avoid the above criticism are doomed to circularity.[6]

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[6] One might be tempted to dismiss circularity worries on the grounds that the truthmaker
theorist is engaged in the project of ontology, not conceptual analysis, and hence is not an-
swerable to such accusations. This response from the truthmaker-dialetheist would not be
acceptable, however. For one thing, Beall [2000] is responding directly to Molnar's [2000]
request for an explanation of what kinds of things negative facts are. The explanation, obvi-
ously, will not be satisfactory if it circular, appealing to the very feature we want explained.

To see why, recall that polarities themselves are introduced in order to give a definition that explains the difference between positive and negative facts. But if we now ask for an explanation of what a positive or negative polarity is it looks impossible to locate an answer that doesn't make some reference to the positiveness or negativeness of facts that the introduction of polarities was supposed to explain. There is simply nothing more to a polarity than whether or not the other members of the sequence it features in are, or are not, related. The only non-mysterious thing a positive polarity can be is the having of a property by an object (or the holding of a relation between its objects), or, in the case of a negative polarity, the *not-having* of a property by an object (or *not-holding* of a relation between the elements of a certain n-tuple of objects). This exhausts the contribution that a polarity makes to the fact it features in. In other words, the polarities of facts signal nothing more than the instantiation or non-instantiation of properties and/or relations. But, at this point, it is surely reasonable to ask of the polarity theory what the difference is between the non-instantiation of a property by an object and the *absence* of that property in the object. If polarities are to provide a definition of negative facts that is sufficient to relieve our concerns over their ontological status, the polarity theorists urgently owe us an explanation of how the *not-having* of properties or *not-holding* of relations can amount to anything more than the absence of those properties or relations. I can see no way that such an explanation can be provided.

A distinction between negative facts and absences is formally available in the situation semantics where polarity theory has its origins, but this will not provide the philosophical explanation we are looking for (and nor is it intended to). In the terminology of Barwise and Perry's [1999] semantic theory, the distinction amounts to the fact that negative facts are *persistent*, while absences are *non-persistent*. A fact f is persistent just in case, if f is an element of a situation s, then f is also an element of any situation s' containing s as a proper constituent [see Barwise & Perry 1999: 62]. As the absence of f from a situation s, does not entail the absence of f from s' (where $s \subseteq s'$), absences are non-persistent. This distinction is, of course, an appropriate one to draw in situation semantics. It does not, however, suffice to explain what the difference between negative facts and absences is. Indeed, to think that it should, is to mistake an epistemic limitation for a metaphysical distinction. The reason why absences of facts are non-persistent is that, as Barwise and Perry put it, situations are *partial*. The "situations"

Furthermore, the truthmaker-dialetheist owes an account of negative facts that will reveal how truthmakers can be found for an atomic sentence and its negation simultaneously. Thus she is obliged to explain how she avoids falling into the position whereby her ontology of truthmakers undermines her dialetheism. That explanation will have to be non-circular if it is to be convincing.

of situation semantics are abstract representations of reality: set-theoretic constructions employed to represent some aspect of *real* situations in order to facilitate the study of the meanings of (utterances of) natural language expressions [see Ibid: 9]. As such, the representations are only partial representations. They provide only limited information about the things they model. Thus, we cannot infer from the failure of a situation to provide the information that f obtains, that f in fact does not obtain. But this reveals nothing about the metaphysics of facts, it merely reflects the epistemic situation we are in with regard to them. Thus the distinction can do nothing to dispel the mystery surrounding negative facts.

Beall [2000: 266] is aware of the seriousness of the charge of mysteriousness. I agree with Beall that the only way of escaping the charge here will be to demonstrate that the postulated polarities have explanatory value. However, Beall fails to avoid the charge because the postulation of polarities within an account of the metaphysics of facts[7] has no explanatory value *over the postulation of negative facts*, yet these are the very things polarities are intended to explain. Bertrand Russell realized this point when formulating a version of the polarity theory nearly a century ago and responded to demands for an explanation of the nature of the polarities of facts by refusing to comply on the grounds that polarities are indefinable.[8] It is clear why he should want to insist this: as we have seen, no non-circular definition that carries any explanatory force is available. It seems, in the absence of that explanation, that the only option is to follow Russell in refusing to give any further explanation of the nature of polarities and to just take them as fundamental features of facts that are not susceptible to further analysis. But, in that case, it is far from clear how the polarity theory makes any advance at all beyond the mere positing of negative facts. This may be the only response available to the defender of negative facts: ordinarily, it is perhaps acceptable to follow Russell in taking negative facts to be the kinds of things that can only be postulated and not explained. But the truthmaker-dialetheist carries a heavier explanatory debt that cannot be paid in the absence of a convincing account of negative facts capable of explaining the co-existence of truthmakers for both A and $\sim A$. Polarity theory, if it is to support dialetheism, must be further developed than it was in Russell's hands. Admittedly, in the hands of Beall and Priest, polarity theory is further developed to give us an elegant formal means of handling the postulation of negative facts. Philosophically, however, like Russell's, their version of the theory offers no more than an

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[7] This is not to say that polarities have no explanatory value elsewhere: we have just seen that they do have an explanatory role in modelling partiality in situation semantics. They are similarly employed in Barwise & Etchemendy [1987].

[8] See Russell [1918: 216].

insistence that there *are* negative facts; it does not explain what such things might be. In the face of the circularity threatening any attempt to offer more than the brute assertion that negative facts exist, it seems reasonable to conclude that the polarity theorist *cannot* provide the required explanation. But until such an explanation is given, we only have the polarity theorist's word to go on that negative facts have some property that distinguishes them from the kinds of intuitive explanation given by Beall, which, as we have seen, collapses into an explanation in terms of absences and is, as such, insufficient to support the weight of truthmaker-dialetheism. Whether or not the polarity theorists are right to insist on the existence of negative facts, such insistence *alone* is clearly insufficient to convince opponents of negative facts that negatively polarised facts are anything more than mere absences in set-theoretic disguise. But nothing beyond brute insistence looks to be available.

5. *Concluding Remarks*

It is worth noting in conclusion that among alternative truthmakers for negative truths, hardly ubiquitous creatures under the best of circumstances, none seem able to support truthmaker-dialetheism. All construe negative facts in terms of the absence or exclusion of positive states of affairs, whether this is part of an attempt to find positive truthmakers for negative facts (as is the case with Armstrong's 'totality facts') or part of an attempt to uncover the defining feature of negative facts (as we have seen to be the case with the polarity theory itself). One who thinks that the world may contain contradictory facts and who is also intuitively drawn to the view that truths are made true by facts in the world, seems faced with a tough decision. Either dialetheism or truthmaking will have to go. Despite his insistence, noted above, that truthmaking poses no obstacle unique to dialetheism, Beall [2004b] has recently explored the compatibility of a deflationary theory of truth with dialetheism. He is perhaps well advised to do so.[9]

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