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“WHAT IN THE WORLD COULD CORRESPOND TO TRUTH?”*

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This paper argues that the Correspondence Theory of Truth is not well-served by Truthmaker Theory and is better developed in a different direction. For there are reasons to believe that the main axiom of that theory (TA) which states that for every truth there is a truthmaker is either unjustified or false. Some of these reasons are already well-known. Negative existentials and universal generalizations present initial difficulties for TM theory as do necessary truths.

There is a more serious problem, though which has not hitherto been noticed. (TA) even when restricted to contingent sentences seems to tolerate clear counterexamples. There seem to be, and I argue that there in fact are, true contingent sentences which lack truthmakers. The examples adduced are all truthmaker analogues of semantically pathological sentences.

The positive proposal shares with Truthmaker Theory the view that our judgments and sentences are rendered true by the worldly facts but argues for an alternative conception of ‘rendering true’ and a novel conception of ‘facts’.

1. *Doubts about the Correspondence Theory of Truth*

Donald Davidson once wrote:—

“Nothing ... no thing, makes sentences and theories true: not experience, not surface irritations, not the world, can make a sentence true. That experience takes a certain course, that our skin is warmed or punctured, that the universe is finite, these facts (if we like to talk that way) make sentences and theories true. But the point is better put without any mention of facts. The sentence ‘My skin is warm’ is true if and only if my skin is warm. Here there is no reference to a fact, a world, an experience or a piece of evidence.”¹

*My thanks to Hilary Putnam, Bill Lycan and Peter Forrest for insightful comments.

¹ *Inquiries into Truth and Interpretation*, Donald Davidson, Oxford: Clarendon Press, 1984, p. 194.

Davidson is not the only one who finds the idea of 'truthmakers' suspect. It is a consistent theme of Pragmatism that our beliefs and statements do not stand in need of any justification beyond those practices in which they are formed. Richard Rorty gives expression to the Pragmatist view:

"The pragmatist tells us that it is useless to hope that objects will constrain us to believe the truth about them, if only they are approached with an unclouded mental eye, or a rigorous method, or a perspicuous language. He wants us to give up the notion that God, or evolution, or some other underwriter of our present world-picture, has programmed us as machines for accurate verbal picturing, and that philosophy brings self-knowledge by letting us read our own programs."²

Again, commenting on William James's idea that "The 'true' is that which is best, all things considered, to believe" Rorty writes:

"James's point was that there is nothing deeper to be said: truth is not the sort of thing which *has* an essence. More specifically, his point was that it is no use being told that truth is 'correspondence to reality'. ... Given a language and a view of what the world is like, one can, to be sure, pair off bits of the language with bits of what one takes the world to be in such a way that the sentences one believes true have internal structures isomorphic to relations between things in the world ... undeliberated reports like 'This is water', 'That's red', 'That's ugly', 'That's immoral' ... can easily be thought of as pictures ... Such reports do indeed pair little bits of language with little bits of the world ...

James's point was that carrying out this exercise will not enlighten us about why truths are good to believe, or offer any clues as to why or whether our present view of the world is, roughly, the one we should hold. Yet nobody would have asked for a 'theory' of truth if they had not wanted answers to these latter questions."³

These objections to the Correspondence Theory of Truth all allege various epistemological failings. The Correspondence Theory allegedly requires a 'confrontation' between our beliefs and reality, according to Davidson, which confrontation is absurd. A system of mappings between our beliefs and "little bits of the world" cannot explain why or whether our best theories are roughly true, how we could ever know they were, or why we should even

² *Consequences of Pragmatism*, Richard Rorty, University of Minnesota Press, 1982, pp. 165-166.

³ *Ibid.*, pp. 162-163.

care whether they are in the first place, according to Rorty and the Pragmatists.

If any of these objections are right, the Correspondence Theory of Truth is in real trouble. But are they right? We surely cannot get outside our conceptual skins to compare our beliefs with reality but why do we need to? If the mappings between our beliefs and "little bits of the world" are theoretical posits why should we demand any more epistemically of these posits than of other theoretical entities with respect to theory confirmation etc.? We do not require extra-theoretical confrontation between the early stages of the Universe or fundamental particles and our beliefs about those things, so why demand it here? A mapping between our beliefs about electrons and electrons seems what we'd *minimally* need to explain why or whether our beliefs about electrons are roughly true, so why shouldn't this hold generally for all those beliefs we think of as true or roughly true?

Perhaps this line of thought is mistaken, however. Perhaps it is just an error to see facts as theoretical posits of a sort comparable to the theoretical posits of scientific theories? May be we are led to posit facts by analytic considerations — when we consider *what it is* for our beliefs or statements to be true?

Not only the Pragmatists express scepticism about any such demands of analysis. Consider the following passage from Stephen Yablo's lovely article "How in the World?"⁴:

"Is it just me, or do philosophers have a way of bringing *existence* in where it is not wanted? All of the most popular analyses, it seems, take notions that are not overtly existence-involving and connect them up with notions that are existence-involving up to their teeth. An inference is valid or invalid according to whether or not there *exists* a countermodel to it; the Fs are equinumerous with the Gs iff there *exists* a one-to-one function between them; it will rain iff there *exists* a future time at which it does rain; and, of course, such and such is possible iff there *exists* a world at which such and such is the case.

The problem with these analyses is not just the unwelcome ontology; it is more the ontology's intuitive irrelevance to the notions being analyzed. Even someone not especially opposed to functions, to take that example, is still liable to feel uneasy about putting facts of equinumerosity at their mercy. For various awkward questions arise, of which let me mention three.

How is it that I can tell that my left shoes are equal in number with

⁴"How in the World?" Stephen Yablo, *Philosophical Topics*, vol. 24, Number 1, Spring 1996, pp. 255–286.

my right ones just by pairing them off, while the story of how I am supposed to be able to ascertain the existence of abstract objects like functions remains to be told? Pending that story, who am I to say that the equinumerosity facts even *correlate* with facts of functional existence — much less that the correlation rises to the level of an analysis?

If my left shoes' numerical equality with my right turns on the existence of functions, then in asserting this equality, I am giving hostage to existential fortune; I speak truly only if the existence facts break my way. But that is not how it feels. Am I really to suppose that God can *cancel* my shoes' equinumerosity (and so make a liar out of me) simply by training his or her death gun on the offending functions, without laying a hand on the shoes?

Assuming that a one-to-one function between my left and right shoes exists at all, there are going to be lots of them. But then, rather than saying that my left and right shoes are equal in number because these various functions exist, wouldn't it be better to say that the functions exist — are *able* to exist, anyway — because my left and right shoes are equal in number? That way we explain the many facts in terms of the one, rather than the one in terms of the many."⁵

Now Yablo's point may be thought to gain much of its force from a judicious choice of example — the epistemological difficulties of Platonism about abstract objects like functions may be thought to comprise a rather special case; by way of contrast, we have independent non-analytic reasons for believing in future times. Moreover, his analysis of 'the number of Fs is equal to the number of Gs' in terms of equinumerosity was surely one of Frege's triumphs in the *Grundlagen*. That subsequent to this analysis dispute arises as to what functions *themselves* are need not in any way detract from its correctness.

Still, it is not obvious folly to question the need for facts or other truthmakers on either analytic or broader 'synthetic' grounds. Yablo's misgivings about the relevance of ontology to the analyses of the concepts he considers in the passage above echo the Pragmatists' claim that we do not need facts or other truthmakers to epistemically secure our beliefs.

This paper seeks to defend the idea that our beliefs and assertions are rendered true by worldly facts by arguing for a novel conception of facts and a novel conception of 'rendering true'. The positive proposals gain much of their force however against a backdrop of discontent with the currently popular theory of Truthmaking.

⁵ *Ibid.*, pp. 255–256.

2. *Types of Truthmaker Theory*

Theorists who believe in what we might call the Extreme Theory of Truthmaking hold that for every truthbearer there exists a truthmaker, by which they mean some entity which makes the given truthbearer true.

The Extreme Theory does not commit its proponents to believing in a monolithic type of truthmaker whether in the form of facts, states of affairs, objects, properties, tropes or whatever. It merely claims that for every truth there is some truthmaker or other. Neither does the theory require its proponents make sense of analytic ontology. It is fully compatible with a naturalistic view that looks to physical theory to provide suitable truthmakers for every type of true sentence.

Nonetheless, the Extreme Theory is difficult to believe. It is hard put to uncover truthmakers for logically complex or modal sentences. Thus negative existentials and universal generalizations present the challenge of finding some suitably extended entity which could make it true that all living creatures are mortal or that there are no immortal beings. The relevant truthmakers seem to be in short supply. Clearly, the mereological sum of all living creatures will not do since we need in addition the truth that these are all the living creatures there are. This leads Extreme TM theorists to posit totality states of affairs that *prevent* more things existing than there actually are and which, as Peter Forrest and I point out in "Introduction: Truthmaker and Its Variants" in this volume, apparently have to be reflexive. Forrest and I argue there that the dilemma can be avoided, though not without cost, if we distinguish different orders or levels of truthmaking. We would then have Minimality Facts of Level 1 preventing the existence of any other than the first order facts there actually are and some MF₂ preventing the existence of any other than the second order facts there are etc.

However, for reasons that Kripke has made clear from his theory of truth, there is a genuine question as to whether these levels can be consistently assigned.⁶ Suppose that the Damned on their way to Hell are met at the Gates by the Archangel Gabriel who issues the following three (true) warnings:

(G1) There is no escaping the fires of Hell.

(G2) You'll suffer eternal torment in Hell

(G3) Most of Lucifer's claims about Hell are just plain lies.

Upon passing through the Gates of Hell, the Damned are met by a smiling Lucifer who assures them:

(L1) People really party in Hell

(L2) St Peter often holidays in Hell

⁶"Outline of a Theory of Truth", Saul Kripke, *Journal of Philosophy* 72 (1975), pp. 690–716; reprinted in *Recent Essays on Truth and the Liar Paradox*, Robert Martin (ed.) Oxford University Press, 1984.

(L3) Everything Gabriel has just told you about Hell is true.

Then since a truthmaker for Gabriel's G3 must quantify over Lucifer's utterances, these must all be at a level below that assigned to G3. This TM for G3 includes a MF_1 to the effect that no more than one of L1, L2, L3 can have a TM. Since L3 is indeed true it has a TM, t say. So MF_1 implies that t is the only TM that exists at *this* level.

Yet since L3 quantifies over the Gs, these should be at a level lower than the Ls. At any rate a TM for L3 will include TMs for G1, G2 and G3 — t' , t'' , t''' — together with the MF_1 that t' , t'' and t''' are the only TMs that exist at Level 1. But this latter is inconsistent with the previous requirement for L3 that t is the only TM that exists at Level 1.

Necessary truths, on the other hand, pose the opposite problem to universal generalizations, it would seem. There is an overabundance of potential truthmakers for them. It is difficult to see what grounds one could have for ruling out any truthmaker of any sentence as an *a fortiori* truthmaker for '2 + 2 = 4'. Some constraint of relevance must be in play if this is to be done. But the most popular conception of the truthmaking relation regards it as a type of entailment and a relevance constraint has no place in classical or intuitionistic logic.

The most direct fix for necessary truths is to restrict the scope of the theory to contingent sentences only. The claim is then that every true contingent sentence has some entity that makes it true. Call this the Restricted (Extreme) Theory. What the Restricted Theory trades in power it redeems in credibility.

To be sure, the theory's silence on mathematical truths is irksome. We would dearly like to know how it can be, if it can indeed be, that a single sphere of volume V can be decomposed into a finite number of pieces and reassembled into two spheres each of volume V . The standard reply — that this result, the Tarski-Banach Theorem, is a direct consequence of the Axiom of Choice according to which a function exists selecting one member from each set in any given family of non-empty sets — seems to supply, to all intents and purposes, just the type of answer a bona fide truthmaker theorist seeks: it is the *existence* of a suitable Choice Function which *makes* the Tarski-Banach Theorem *true*. Why does the Restricted Theorist go coy about the very point on which the generic theory insists? Moreover, how can any genuine TM theory afford to *ignore* the truthmaking potency conferred by the existence of a suitable entity?

The Restricted Theory should allow that a Choice Function is a *prima facie* truthmaker. It may transpire that there are no abstract objects, in which case some other means for ontologically grounding the Tarski-Banach Theorem will have to be found. However the Restricted Theory need not be committed to the claim that no necessary truth has a truthmaker, merely that necessary truths in general do not have truthmakers.

Nonetheless modesty is a theoretical virtue of sorts and neither the existence of sets nor the interpretation of set-theoretic claims is quite so secure as to engender a healthy confidence that there are clear truths we are missing by not positing the existence of truthmakers for this domain. For many Field's fictionalism is the only epistemically defensible position to adopt. For the less daring who are convinced that truth *is* to be found in the mathematical, moral and modal domains, the safest option might be to restrict Truthmaker not to contingent truths but to synthetic ones.

The most direct fix for logically complex sentences is, once more, to so restrict the theory that these fall outside its scope. Thus on Peter Simons view, only atomic sentences require truthmakers.⁷ As 'atomic' conjures images of the failed metaphysical programmes of Russell and Wittgenstein, I think we do better to choose a more neutral term such as 'primitive' or 'primary' with no suggestion that the logical form of such sentences is something of any ultimate metaphysical import. So included amongst the primary sentences one will find, typically, existentially quantified sentences — 'Tigers exist', 'There are six numbers that determine the structure of the universe' etc. I shall call such theories which first discern a base class of sentences for which truthmakers must exist and then use truth-conditional (or some other) semantics to project from the base class to the truth of more complex sentences, Moderate Theories.

Restricted Moderate theories are weaker still and for that reason easier to defend. I do not mean to suggest by this that the restrictions of the truthmaker insight to contingent and/or atomic sentences are unmotivated. To the contrary, these have been justified by plausible arguments and I shall argue that the truthmaker principle must indeed be so restricted. My intention at this point is simply to sketch very broadly the types of truthmaker theory on offer.

Henceforth, I shall discuss Restricted TM theories. The Extreme Theory will then assert that every contingent (or synthetic) sentence has a truthmaker whilst the Moderate theory claims only that every primary contingent (or synthetic) sentence has a truthmaker.

What I wish to show is that neither the Extreme nor the Moderate theory is in the end defensible. In order to do this, it will be useful to state precisely the axioms of these versions of TM theory with the understanding that for the Extreme Theory these apply to all contingent sentences and for the Moderate theory to primary contingent sentences. I follow Stephen Read's formulation of these axioms.⁸

⁷ Cf his "Truthmaker Optimism", this volume.

⁸ "Truthmakers and the Disjunction Thesis", Stephen Read, *Mind* 2000, January, 109 (433), pp. 67–79.

3. Truthmaker Theory: Axioms and The Truthmaker Relation

The basic axiom of TM theory, the Truthmaker Axiom asserts that if p is true then there is some entity e that makes it true:

(TA) For all p , if p is true then there is some entity e such that $e \models p$ ⁹

The truthmaking relation is assumed to be a factive one. This gives rise to the following Factive Condition:

(FC) For all e and p , if $e \models p$ then p is true

As Read points out, given (TA) and (FC), one can vindicate the Correspondence Intuition that the connection between the truth of a truthbearer p and its truthmaker e is an internal one:

(CI) For all p , p is true iff $\exists e(e \models p)$

Left-to-right follows from (TA) whilst right-to-left follows from (FC).

How are we to understand the truthmaking relation \models ? There is some consensus amongst TM theorists that it is some species of entailment. This is often expressed as the claim that when e is a truthmaker for p , the mere existence of e entails the truth of p . There is no harm in this ellipsis provided we understand it as really meaning that the relevant truthmaking entity for p , e , exists and that the sentence ' e exists' entails p , i.e. $\exists!e \& \exists!e \Rightarrow p$.¹⁰ A more neutral, and I think more plausible, view is that it is some type of necessitation relation which grounds the aforementioned entailment.

At any rate, given the conventional understanding of ' \models ' as a necessitation relation, truthmaking is closed under entailment as asserted in the Entailment Thesis:

(ET) $\forall e, p, q [(e \models p \& p \Rightarrow q) \rightarrow e \models q]$

In the light of this understanding of the relation between truthmakers and those sentences they make true, some truthmaker theorists simply express the Truthmaker Axiom as follows:

(TM) $e \models p \leftrightarrow [\exists!e \& \neg \Diamond(\exists!e \& \neg p)]$

4. A Problem For Truthmaker Theory

With this understanding of the basic theoretical commitments of the Extreme and Moderate TM theories in hand, we can turn to a difficulty for them.

⁹ Throughout I use the symbol ' \models ' to represent the truthmaking relation.

¹⁰ It is implausible to construe the truthmaking relation as one of an entailment $\exists!e \Rightarrow p$ between e and p , pure and simple since as John Heil points out (this volume), we require the sentence ' e exists' to be true and if every truth requires a truthmaker as the Extreme Theory claims, the truthmaking relation threatens to be non well-founded.

The difficulty concerns TM analogues of certain semantically pathological sentences.

Throughout I shall take token sentences as uttered in contexts as my truth-bearers. It may be (as in fact I think it is) that it is only by virtue of expressing mental acts of judging, perceiving etc. that token sentences acquire the capacity to be truth-evaluable. Alternatively, it may be that it is only by internalising public sentences or else by tokening sentences in some mental language that thoughts are truth-evaluable. Or perhaps there is no asymmetric dependence between judgments and sayings at all? The position I do wish to reject is the one that says that both linguistic and mental tokens simply inherit their semantic evaluability by giving expression to underlying truth-bearers neither linguistic nor mental — propositions or meanings. I have two reasons for this. The first reason derives from naturalism. Anyone impressed by the difficulty of solving the naturalistic problem of mental representation cannot afford to assume that there are abstract entities in the world underlying our sayings and judgments which provide contents to those acts — a sort of invisible semantic stuffing. For it is not at all clear that 'contents' are abstract entities at all or how, if they are, they could have arisen in a world of fields and forces.

The second reason, which is more compelling, derives from Michael Dummett. Dummett first points out that there are good reasons for thinking that it is not sentences that we assess for truth or falsehood in every context:

"Someone says something, and I respond, 'I think that is true'. A little later someone else expresses the same proposition using different words, and perhaps substituting 'he' for the previous speaker's 'I'. If I reply, 'I already said that I thought that that was true', what can the demonstrative pronoun 'that' which I employed have referred to? Not, surely, to either of the sentences uttered, since they are different: it can refer only to the proposition that they both expressed."¹¹

Rather than taking this to mean that it is propositions which are the real bearers of truth, Dummett uses a point from Frege to turn the usual reasoning on its head: we have no way of identifying which proposition is expressed by a sentence other than by determining that sentence's truth-condition. But one who takes propositions as his truthbearers:

"... cannot adopt this answer without being caught in a vicious circle. He has offered an account of the concept of truth which takes

¹¹ "The Two Faces of the Concept of Truth", Michael Dummett, pp. 249–262, in *What Is Truth?*, Richard Schantz (ed), Walter de Gruyter, Berlin, New York, 2002, at p. 252.

propositions as given when the notion of truth is to be grasped in accordance with that account: his theory treats the notion of a proposition as prior to that of truth. He must therefore eschew any explanation of the meanings of sentences which makes use of the concept of truth. He must explain what it is for anyone to grasp what proposition is expressed by uttering a sentence in a language he knows without attributing to him an understanding of what it is for that proposition to be true. And how is the theorist to do that?"¹²

Let me now introduce the discussion of problematic sentences with a conspicuous success for TM theory. Consider the TM analogue of the Truth-teller: (τ) *The sentence written on the board in Room 122 has a truthmaker* When the sentence referred to in (τ) is 'Ducks waddle', (τ) is true. What makes (τ) true in this case is the existence of a sentence that has a truthmaker. So the (true) sentence 'Ducks waddle' is the truthmaker for (τ) in this particular context. Without certain background assumptions, the mere existence of this sentence, of course, will not entail (τ) but we can make these explicit by taking our truthmaker to be the mereological sum of the sentence 'Ducks waddle' together with its truthmaker, the property ducks

¹² *Ibid.*, pp. 252–253. Dummett's argument will not, of course, impress deflationists. In particular minimalists such as Horwich fit Dummett's job specification perfectly. For they believe that it is propositions which are the bearers of truth and that since the whole meaning of the term 'true' is conveyed by each and every non-pathological instance of the schema 'The proposition that p is true if and only if p ', propositions qua meanings of sentences cannot possibly be specified truth-conditionally. Horwich himself thinks that sentential (and word) meanings are determined by use. But which aspect of use does he have in mind? It cannot be our tendency to so use the sentence 'penguins are flightless' that it is true on condition that penguins are flightless. At least this must derive as a trivial consequence from something far more basic, which cannot be the fact that the term 'penguin' bears some substantive semantic relation to penguins or that 'flightless' picks out a property of flightlessness shared by penguins and pigs for example. For Horwich reference and satisfaction are "non-naturalistic, and in need of infinite, deflationary theories, as truth is", *Meaning*, OUP, p. 125. Horwich thus eschews word-world connections in his account of reference — "'penguins' refers to penguins" simply records our disposition to call every thing we consider sufficiently like a penguin 'penguin'. Perhaps. But without embracing a fully behaviouristic account of our verbal dispositions, courting semantic indeterminacy and thus undermining any ground for believing that there are any meaningful items fixed by use, Horwich still owes us an account of what does give meaning to the vocal blast 'penguins are flightless'. It is not clear that he recognizes this obligation. In fact the evidence suggests otherwise. For he maintains that intentionality can be adequately accounted for solely on the basis of our commitment to various analytic conditionals of the same form as:

If 'penguin' means penguin then 'penguin' is true of all and only penguins.

Far from explaining away the problem of mental representation, this response simply ignores it since it is the antecedent of the above conditional which a theory of mental representation has to account for!

have of waddling (or the waddling trope if one prefers) $\delta \oplus W$ where δ denotes the sentence 'Ducks waddle' and W whatever entity it is — property, trope, fact, law, state of affairs etc. — that makes that sentence true.

However when it is (τ) itself to which the descriptive phrase in (τ) refers, (τ) is very plausibly false. At least it is if we understand the truthmaking relation to be one of necessitation in the way specified by the axiom (TM) of section 3.

For the truthmaker for (τ) would have to be comprised of the mereological sum of (τ) itself together with its truthmaker T , $\tau \oplus T$, since only (τ) and its truthmaker can make it true that the sentence written on the board in Room 122 has a truthmaker.

The problem, of course, is that (τ) which asserts of itself that it has a truthmaker is ontologically ungrounded in just the way that the Truth Teller (TT) which asserts of itself that it is true, is semantically ungrounded. The difference is that whereas semantically ungrounded sentences may still be true, ontologically ungrounded sentences cannot be true, according to the TM theorist.

Surely this is as it should be? If we consider our language as stratified into levels according to whether its sentences contain occurrences of the predicate 'true' or, in this case, its truthmaker ersatz 'has a truthmaker', then at the base level L_0 sentences will be free of any such occurrences. Then τ is not built up from any base level sentence from L_0 that is ontologically grounded by any entity. Whence τ itself is ontologically ungrounded and thus the sentence ' τ has a truthmaker', is very plausibly false.¹³

Unfortunately from here things take a distinctive turn for the worse, at least for the Extreme TM theorist. Consider first the TM analogue of Curry's Paradox:

(χ) If (χ) has a truthmaker then pigs can fly.

We now show that we can use (χ) to prove that pigs can fly using standard logic, identity properties for truth and the axioms of TM theory:

¹³One might wonder whether τ cannot be its own truthmaker. For surely it entails itself? Assuredly, but the question is whether the mere existence of τ entails τ ? The answer is that it does not. For 'The sentence "The sentence written on the board in Room 122 has a truthmaker" exists' clearly does not entail that the sentence written on the board in Room 122 has a truthmaker any more than 'The sentence "ducks waddle" exists' entails that ducks waddle. The latter simply means that a token of a certain (interpreted) sentence type exists, which carries no implications at all about how the world is in regard to the way ducks walk. Since this is also the way to construe the former, $\tau \oplus \tau$ cannot be a truthmaker for τ , in the case where τ refers to itself. This is a welcome result. We do not want sentences to be their own truthmakers merely on the strength of their own say-so.

1	(1)	χ has a TM	Hypothesis
1	(2)	'If χ has a TM then pigs can fly' has a TM	1 Df χ
1	(3)	'If χ has a TM then pigs can fly' is true	2 by (FC)
1	(4)	If χ has a TM then pigs can fly	3 Tr. Identity
1	(5)	Pigs can fly	1, 4 \rightarrow E
	(6)	If χ has a TM then pigs can fly	1, 4 \rightarrow I
	(7)	'If χ has a TM then pigs can fly' is true	6 Tr. Identity
	(8)	'If χ has a TM then pigs can fly' has a TM	7 by (TA)
	(9)	χ has a TM	8 Df χ
	(10)	Pigs can fly	6, 9 \rightarrow E

It is natural for a TM theorist to seek to dismiss (χ) as a mere curiosity with no serious implications for TM theory. Unfortunately, as we shall see, the TM theorist cannot afford to take this comforting line. One obvious reason why not comes from Tarski's work on truth. Tarski apparently believed (something that few theorists succeeding him have) that the use of 'true' in natural language contexts was inconsistent. To be sure, TM theory *need* not be (and in the first instance *ought* not to be) construed as a theory of truth (as opposed to the ontological grounds of truth) but the theory is surely heir to Tarski's worry. TM theory is unacceptable if there exists but one sentence which by invoking the notion and the logic of truthmaking permits us to prove any old nonsense at all.¹⁴

It may be that from the standpoint of TM theory the Curry sentence (χ) is pathological and this somehow invalidates the above proof? If (χ) is pathological then perhaps the step from (7) to (8) can be questioned? Even Extreme TM theorists can agree that (TA) need not apply to pathological sentences.

At first blush, this analysis looks unconvincing. What is pathological about a sentence asserting of itself that if some entity can be found whose mere existence entails it then pigs can fly? In fact, I think the appearances do not deceive but let us see where this response leads.

For this strategy to succeed, the Extreme TM theorist must first show *how* (χ) is pathological and then more importantly *why* its pathological nature should invalidate the use of (TA) at line (8) above — why the (contrary to fact) hypothesis that (χ) is true should invalidate the conclusion that it has a truthmaker. Neither task is trivial but the latter is the more urgent. For even if, as is being mooted, (χ) is pathological it is hardly *obvious* that the claim at line (7) above that (χ) is true is *also* pathological. Why is this claim not

¹⁴ Of course it does not have to be nonsense which is proven. Curry's Paradox can be used to prove any sentence at all — 'Every even number is the sum of two primes', for example, is hardly nonsense.

simply false?¹⁵ Why is it then not a straightforward logical consequence of this (false) claim that (χ) has a truthmaker, as prescribed by Extreme TM theory? We can conclude that (χ) at the very least places real pressure on Extreme TM theory.¹⁶

In fact, there is an independent ground for rejecting the Extreme Theory connected to its misclassification of λ as paradoxical. For if that theory's evaluation of λ were correct, then the following sentence ought also to be paradoxical:

(\emptyset) *Nothing exists*

Consider an empty universe U_Λ . Clearly \emptyset would be true of U_Λ . But if \emptyset is true in U_Λ then it follows by (TA) that there must be some entity e in U_Λ that makes it true. If e exists in U_Λ though, then at least one thing exists in U_Λ so that \emptyset would be false not true. Hence it is incoherent to suppose \emptyset true

¹⁵ In Kripke's theory of truth, if a sentence A is pathological then it has no truth-value and so, according to Kripke, neither should $T(\underline{A})$. Kripke's view is conditioned by his concern to establish the material adequacy of his definition of partial truth. Tarski had argued that no definition of truth for a language L could be materially adequate unless it entailed all the T-sentences for L: $T(\underline{p}) \leftrightarrow p$ [for the case where the metalanguage is an extension of the object language]. He went on to show how the Liar Paradox will arise in any language which contains a quotation functor or some other means of referring to its own sentences, obeys the laws of classical logic and is semantically closed in the sense that it is able to prove T-sentences for all its sentences. His own definition avoids paradox by treating all occurrences of 'true' as belonging to a metalanguage. Kripke abandons classical logic in favour of a 3-valued logic and develops a theory of truth within which there is no distinction between object language and metalanguage. Since T-sentences can only be proven for those sentences that are either true or false, Kripke must meet Tarski's challenge to demonstrate material adequacy of his definition of truth in some other way. So Kripke proves that whilst the T-sentences are not entailed by his definition, their counterparts in the form of inference rules — that from p one can infer $T(\underline{p})$ and from $\neg p$ one can infer $\neg T(\underline{p})$ are. Kripke's valuation of $T(\underline{A})$ as U when A is U then establishes the soundness of these rules of inference. Kripke is all too aware that this valuation of $T(\underline{A})$ is not obligatory, noting that "an alternate intuition would assert that, if A is either false or undefined, then A is *not true* and $T(\underline{A})$ should be *false* and its negation true." [1975, in Martin, 1984, p. 80 (Kripke's italics)]. He notes "I think the primacy of the first intuition can be defended philosophically, and for this reason I have emphasized the approach based on this intuition. The alternate intuition arises only after we have reflected on the process embodying the first intuition." [*Ibid.*, p. 80, 35n].

I think there is a better explanation of the source of the two intuitions — those who think of truth in deflationary terms will concur with Kripke that if $|A|= U$ then $|T(\underline{A})|= U$ also. Those who think of truth in non-deflationary terms, on the other hand, are more likely to believe that if $|A|= U$, then $|T(\underline{A})|= F$. For an explicitly deflationary theory of truth based on Kripke's theory see Scott Soames's *Understanding Truth*, OUP, 1999. For a defence of the non-deflationary alternative valuation see the discussion at the end of section 6.

¹⁶ In fact, as suggested in 10n above, I think this pressure *can* be resisted by anyone who believes in a substantive theory of truth as explained in section 6. Clearly, this can include truthmaker theorists.

in U_{Λ} and \emptyset is thus not true in U_{Λ} . If \emptyset is not true in U_{Λ} though, 'At least one thing exists' is true in U_{Λ} . But this contradicts our stipulation that U_{Λ} is empty. So \emptyset is true after all in U_{Λ} .

It is a fatal weakness of Extreme TM Theory if it cannot explain how a patently non-pathological claim such as \emptyset could be true, wrongly classifying \emptyset as pathological. So \emptyset by itself might seem sufficient to refute it. Not so. For Extreme Theorists might argue instead that whilst it is not pathological, \emptyset is necessarily false. For they may well believe it to be metaphysically necessary that something exists.

We have good reason to favour the Moderate Theory even if we do not as yet have a decisive reason to reject the Extreme Theory. Note that the derivation of paradox from \emptyset cannot formally proceed for the Moderate Theorist. Neither can the derivation of 'Pigs can fly' proceed from χ . For \emptyset is a negative existential and χ is a conditional and (TA) is deemed to apply only to *atomic* sentences, according to some Moderate Theorists.¹⁷

The TM analogue of the Contingent Liar is a little harder for the Extreme Theorist to account for:

(λ) *The sentence written on the board in Room 122 has no truthmaker*
as tokened in a context where the sentence referred to is in fact (λ) itself.

Let me specify one such context:

You are told to go to one of two unfamiliar rooms, the numbers of which have been masked. One of these is Room 122, the other Room 155. You choose which room. You are to wait a couple of minutes while someone else goes to the other room and writes (π) *Pigs can fly* on its board. You are told that this is what will be written on the board in that room. You are then to write on the board in your room:

(λ) *The sentence written on the board in Room 122 has no truthmaker*

Whilst you write, the masks on the door numbers are removed. You then go outside and check the number of your room.

A simple decision procedure can then be implemented to determine a Yes/No answer to the following question 'Does the sentence written on the board in Room 122 have a truthmaker?'

- (1) If your room number is 155, the definite description 'the sentence written on the board in Room 122' picks out the sentence (π) *Pigs can fly*. Since (π) is false it has no truthmaker. Whence (λ) is true and the answer to the question is 'No'.
- (2) If, on the other hand, the room number is 122, the definite description 'the sentence written on the board in Room 122' picks out (λ). Since

¹⁷ For these theorists 'Nothing exists' comes out true in an empty universe because 'Something exists' has no truthmaker whilst in the case of χ , the derivation breaks down at line 8 since (TA) only applies to atomic sentences according to some Moderate Theorists.

on pain of contradiction (λ) cannot be its own nor possess any other truthmaker (λ) has no truthmaker and (λ) is thus true. Whence, again, the answer to the question is 'No'.

The Extreme Theory rules (λ) to be pathological in the circumstance where it is tokened in Room 122. For suppose that it is true. Then what it says is the case. So it has no truthmaker. Whence, by (TA), it is not true. Alternatively, suppose that it is not true. Then by (FC) it has no truthmaker. But as this is what (λ) says, it is true after all.

I hold that (λ) is *not* pathological, although its non-pathological status is a central point of contention which we need to discuss carefully. For even in the case where it refers to itself it claims that there is no entity e such that $\neg\Diamond[\exists!e\&\neg\lambda]$ and this is surely *right* since any putative truthmaker for (λ) would in the very act of making (λ) true make it the case that it was not a truthmaker for (λ) after all.

I believe the Extreme Theory is refuted by λ . For λ is a contingent (and synthetic) sentence which has no truthmaker. Yet it is not pathological. It is simply true. To the extent that the Extreme Theory rules λ to be pathological, it gets the extension of the truth predicate wrong, violating its own fundamental principle (TA) in the process.

Extreme Theorists will, of course, demur:

" λ is pathological according to TM Theory. Naturally, if you assume TM Theory is false, λ will be straightforwardly true. So to the extent that you assume λ is stably true, you simply beg the question against TM Theory."

We shall revisit this question later but several points should be made by way of initial response:

Firstly, λ need only be deemed pathological if we assume with the Extreme Theorist that (TA) holds for *all* contingent (or synthetic) sentences. Secondly, λ does not seem to be semantically anomalous. We have no apparent difficulty in understanding its meaning — it asserts that there is no entity e whose existence necessitates that λ . Thus, in crucial contrast with the Liar or the Truth-Teller, we can specify truth-conditions for λ which do not themselves involve the concept of truth (or other closely-related semantic notions such as meaning). Thirdly, unlike the Liar or the Truth-Teller, we can provide a principled reason for believing λ to be true: since the supposition that any entity e is a truthmaker for λ leads to contradiction, λ 's claim that there is no such entity is correct.

There is also a 'Revenge Problem' with which those who evaluate λ as pathological must contend. If λ really is pathological then in particular it is not true. Hence by (FC) it has no truthmaker. But as this is precisely what λ says, it *is* true after all.

We have good reason then to reject the Extreme Theory and consider the Moderate Theory instead. Note once again that the derivation of paradox

from λ cannot formally proceed for the Moderate Theorist. For λ is a negative existential and (TA) is deemed by some Moderate Theorists to apply only to *atomic* sentences. But why should logical form matter?

Barry Smith and Peter Simons have an answer. They reject the 'Truthmaker Maximalism' which consists in an unrestricted acceptance of (TA). To believe that (TA) applies to sentences of any logical complexity, they think, is to confuse ontological form with logical form. It is just this confusion which impels some to countenance facts in their ontologies, they believe.

But however plausible this view may be (and I think it *is* independently plausible) it does not address the difficulty raised by λ . For it is not the logical form of the sentence λ which mandates the need for a truthmaker but rather its *content* — it claims that there is no truthmaker for the sentence written on the board in Room 122. Once that sentence has been identified (λ) will be false or true respectively according to whether that sentence has a truthmaker.

The property of being a truthmaker for λ is, in the context specified above, a property which, I think, determinately applies or fails to apply to exactly one object: the sentence satisfying the description 'the sentence written on the board in Room 122'. Furthermore, it is not only a determinate matter but I believe also a decidable one, as indicated above, whether the property of being a truthmaker for λ applies or fails to apply to the sentence identified, viz. π or λ .

Conceived thus, the property of not having a truthmaker may as well be treated as the negation of a logically unstructured property, with λ represented as $\neg T[\iota x Wx]$ and the decision procedure above conceived as a procedure for detecting the presence of T , the truthmaker property. There is no need to 'trawl through' an infinite or continuous domain to use Barry Smith's evocative metaphor, in order to verify $\neg T[\iota x Wx]$. In this sense, then, the fact that it can be represented as a negative existential is entirely irrelevant to the question of whether λ has a truthmaker or not.

So is the door open to the Moderate TM theorist to accept λ as true? Well suppose the Moderate theorist is prepared to accept that λ , inscribed on the board in Room 155, is true because it *has* a truthmaker in the form of the existence of a sentence written on the board in Room 122, 'Pigs can fly', which has no truthmaker. Can s/he also then turn around and accept that (λ) as inscribed on the board in Room 122 is true because it *lacks* any truthmaker?

It is hard to see how any TM theorist could accept that without betraying their most basic intuitions about the relation between truth and being. What could it mean to such a theorist to say what we have just said — that λ as inscribed on the board in Room 122 is true because it *lacks* any truthmaker? Indeed, there is enormous pressure on any such theorist to acquiesce in the

conclusion that a sentence lacking a truthmaker is *false*, not true. All that distinguishes the Moderate TM theorist from the Extreme theorist is that whilst the latter unreservedly endorses the inference from (1) p lacks a truthmaker to (2) p is false, the Moderate theorist restricts the type of sentences that the variable p can range over to some favoured class — the primary or atomic ones. For the Moderate TM theorist just as much as his Extreme counterpart it would seem that there are no sentences which are true *because* they lack truthmakers. There are only sentences which lack their own distinctive truthmakers, ones whose truth supervenes upon the truth of primary sentences for which there must indeed exist, on pain of falsehood, truthmakers.

Yet in both cases for the example of λ above, we want to say, what 'makes' λ true is that the definite description 'the sentence written on the board in Room 122' refers to a sentence that lacks a truthmaker — π in the non-self-referential case, λ in the self-referential case.

We want to say this but can the Moderate Theorist afford to do so? λ 's-referring-to-a-sentence-that-lacks-a-truthmaker had better not be construed as some type of entity — a fact or state of affairs, say — that makes λ true. Yet neither can it be a property of λ that it so refers if properties are entities of sorts. For then it would be a truthmaker and this would mean λ would (by (FC)) be true even though what it stated was false. This is patently absurd.

Yet λ 's-referring-to-a-sentence-that-lacks-a-truthmaker nonetheless surely is a genuine property of λ which explains why the self-referential and non-self-referential tokens of λ are both true. More, the truth of λ is ontologically grounded in the existence of this very semantic or representational property which it possesses. How can the Moderate Theorist concur yet pull back from acknowledging that property as a truthmaker?

It is hard to see how the Moderate Theorist can do so, yet do so s/he must if s/he is to avoid the gross absurdity above. But to the extent the Moderate Theorist is prepared to accept that λ 's being true can be determined in one context by the existence of a truthmaker for it and in the other by the non-existence of a truthmaker for it, s/he accedes to a radical context-dependence implicit in the very notion of truthmaking.

Such radical context-dependence threatens to stymie any interesting generalizations about the relation between truthmakers and truthbearers. For, as λ is tokened in a given context C , λ 's being true is not in general determined by the context C 's supplying a truthmaker for it. Whether it is the existence of a truthmaker or the nonexistence of any such entity which determines in a context whether a certain sentence is true or not can, according to this view, apparently depend on purely contingent features of that context. If so, how can there be any interesting theory of truthmaking? How can there be any interesting connection between truthmaking and truth? More pressingly, how

can it be that *for TM theorists* the truth of any sentence is determined in a context by the non — existence of a truthmaker for it?¹⁸

A natural response for the TM theorist at this point is to classify the property of being a truthmaker for λ as either unstable or else context-dependent. The first type of view could then track the views of Revision Theorists such as Gupta and Belnap in dealing with the semantic paradoxes. The second could draw on the work of Contextualists such as Parsons and Burge.¹⁹

Now there is something undeniably attractive about the idea that the property of being a truthmaker for λ is an unstable one. For consider what actually occurs. You write λ on the board in a room the identity of which has been kept from you, knowing that in one of the rooms the sentence 'pigs can fly' has been penned. You then find out which room you are in and identify the sentence written on the board in Room 122 as the very sentence you have written, λ . You conclude at this initial stage that on pain of paradox the sentence you have just written, λ , has no truthmaker. But then you reflect that the very sentence which λ *refers to* as having no truthmaker is indeed a sentence that has no truthmaker. So at this first reflective stage you conclude that λ *does* indeed have a truthmaker after all — to wit, λ itself. Further reflection convinces you that this cannot be so. So at Stage 2 of the process of reflection, you conclude that λ has no truthmaker after all. And so the process iterates flipping between affirmative and negative replies to the question "Does λ have a truthmaker?"

Unfortunately, though, the glossy advertizing for a Revision Theory of Truthmaking does not match with the reality. The property of being a truthmaker cannot possibly be an unstable one if truthmaking is conceived in the way truthmaker theorists intend. For according to them, truthmakers are *entities* which *exist* and whose *mere existence* necessitates the truth of those sentences they make true. Short of having λ pop in and out of existence at successive stages, there is no way in which it could make itself true at one stage and then turn around and not make itself true at alternating stages.²⁰

¹⁸ The problem is thus not simply context-dependence. Of course the Moderate TM theorist can allow that tokens of the same sentence type true in one context may be false or without truth-value in another. The problem is to make sense from the perspective of such a theorist of the claim that a given token sentence is true in a context *because* it lacks a truthmaker.

¹⁹ See the articles by these authors in Martin, *loc. cit.*

²⁰ Even if the Revision Theory of Truthmaking could be formulated in such a way as to avoid this problem there are variants of the λ case with which it would have to deal, such as Stable TM:

(ψ) (ψ) has no stable truthmaker.

Presumably (ψ) is not only true but stably true? The intuitions we have about the 'instability' of 'is its own truthmaker' when applied to (λ) in my view simply feed into our computations as we decide whether that sentence has a TM or not. On pain of inconsistency then, it cannot.

As to Contextualist approaches, the idea is, presumably, that the necessitation relation between truthmaker e and truth t is to be relativized to context and that subtle shifts in context occur in the stages of evaluating the truth of λ . So whilst in one context of evaluation, C_k , $e \models t$, in a successor stage C_{k+1} , $\neg(e \models t)$.

This proposal gives rise to a flurry of questions — ‘What determines that there has been a shift in context aside from the need to avoid paradox?’ ‘Can the *TM theorist’s* necessitation relation be relativised to context in the manner envisaged by Contextualists?’ ‘If there is no change in what exists as we move from one context to another how can there be a change in what truths are made true in successive contexts?’ ... to mention only a few. There is in addition an analogue of the usual worry about Contextualism — that if we introduce a predicate true of all and only the contexts of evaluation then a Strengthened Non Truthmaker variant of the original example can be formulated:

(κ) (κ) has no *TM* in any context.

Finally, there is a more sophisticated version of (λ) to be developed below with which Contextualism is apparently powerless to cope since it involves the very same context of evaluation. The ploy of barring quantification over contexts is useless against it.

It might be thought that the *TM theorist* could simply rule out of consideration sentences that are self-referential. But a ban on self-reference is too draconian to even contemplate even for those sentences that are explicitly self-referential.

The *TM theorist* presumably does want to say that it is the sentence (σ) below which makes itself true:

(σ) *This sentence contains five words*

Some sentences apparently are their own truthmakers. We must not, therefore, impose a blanket ban on self-reference if we are to explain this fact. Moreover, as Kripke showed, the contextual production of de facto self-referential sentences is not something that can be ruled out by either fiat or foresight and even if it could, there are still those non self-referential versions of the Liar with which we would need to contend, a truthmaker analogue of which would be the infinite sequence of sentences:

(2) *All of the subsequent sentences lack a truthmaker*

(3) *All of the subsequent sentences lack a truthmaker*

(4) *All of the subsequent sentences lack a truthmaker*

... ..

Again, unlike the case for the Descending Liar on which this sequence is based, there is a consistent assignment of truth-values to the sentences in the sequence which is, moreover, intuitively correct — the sentences in the infinite sequence are all true.

As far as I can see the Moderate Theorist has only one credible way to defend the truth of λ — it is to contend that what makes λ true is that its negation lacks a truthmaker.

This is to endorse a Truthmaker analogue of the Negation Principle:

(N) $\neg p$ is true iff p lacks a truthmaker

This does appear to deal with (λ) . For 'The sentence written on the board in Room 122 has a truthmaker' in the envisaged context is false when the sentence written on the board there is (λ) as the latter states 'The sentence written on the board in Room 122 has no truthmaker'. ... Success at last?

Maybe. There is something very odd about the attempt to ground λ 's truth in the lack of a truthmaker for its negation however. The oddness was manifest in the TM theorist's puzzle about how λ could be true *in spite of the fact* that it *lacked* a truthmaker. To a semantic theorist, this puzzle should sound incomprehensible, For on such views λ *says* that it lacks a truthmaker. That is, λ is true *on condition that* it lacks a truthmaker. So if λ is true this can only be *because* it lacks a truthmaker and *not*, as TM theorists aver, because its negation does. How can it then be a puzzle that λ is true when it lacks a truthmaker given that this is precisely what the sentence states, what satisfaction of its truth-condition demands?

The fact is that there is an irresolvable conflict between the demands imposed by the semantic or at least truth-conditional analysis of λ and the requirements of TM theory. The truth-condition of λ demands the non-existence of a truthmaker for it, TM theory demands the existence of one. Something has to give and it is TM theory which must give if our sentences are to mean what we take them to mean. Which, indeed, it does. For it is only because λ itself lacks a TM that the negation "the sentence written on the board in Room 122 has a truthmaker" comes out false.

Frustrated in their attempts to adequately explain its truth, Moderate Theorists might wish to revert to evaluating λ as pathological after all. I can think of four sorts of reasons which might be used to justify this claim. The first is that there is in fact a direct argument which establishes the pathological status of λ . The second is the idea that in certain contexts, tokens of a given sentence type can either fail to express a proposition or else fail to express a truth-apt proposition. The third is that the truthmaking relation is irreflexive. The final one is that it is semantically illicit for a sentence to quantify over its own truthmakers.

What direct argument could be used to establish the pathological status of λ ? Presumably, one of this sort:

"Suppose the argument for λ 's non-pathological truth is accepted. Then what we have is that λ is a sentence that lacks a truthmaker. But lacking a truthmaker is a property λ has in virtue of which it is true. Call this property P. Then P exists and the sentence 'P exists' entails λ . Hence, λ does have a

truthmaker after all — viz. P — and so the supposition that λ is stably true must be rejected."

Unfortunately this argument is fallacious. The property of lacking a truthmaker cannot itself be a truthmaker for λ . Lacking a truthmaker is not an existing entity that can be used to ground the truth of any sentence, least of all λ for it is not an existing entity at all. To see why we only need to observe that the property in question is, using the familiar lambda abstraction notation, the following: $\lambda x. \neg \exists e. e \models x$. It cannot simultaneously be that property and discharge the role of truthmaker for the sentence in question because to do the latter it would have to also be a property satisfying the condition of being a truthmaker, $\lambda x. \exists e. e \models x$. No property can consistently satisfy both requirements.

What of the idea that λ fails to express a proposition? For reasons noted already, it is implausible to believe that λ even when inscribed on the board in Room 122 simply fails to express any proposition at all. Perhaps it fails to express a truth-apt proposition then? But what is supposed to determine that when λ is inscribed on the board in Room 155 it does express a truth-apt proposition but when inscribed on the board in Room 122 it does not? It had better not be that in the latter case but not the former paradox results once the context is determined since that proposal is flatly circular.

Suppose I write on the board in Room 122 the following words:

(*t*) *Someone somewhere has just penned a sentence that lacks a truthmaker*
Then according to the proposal under review my written words can articulate a truth-apt proposition if but one person, perhaps on the other side of the world, writes 'Pigs can fly'. But how can the truth-*aptness* of my inscription depend upon the truth of words someone the other side of the world writes? To the contrary, it seems clear that the other person's inscription can ground the truth of mine only because mine already had truth-conditions which the sentence 'Pigs can fly' satisfied — the existence of a sentence lacking a truthmaker does not magically spirit these truth-conditions into existence.

Roy Sorensen has recently drawn attention to an interesting relative of the Liar deriving from Russell which he calls the No-No Paradox.²¹ The Liar is sometimes presented in the form of the Card Paradox — on one side of a card is printed 'The statement on the other side of this card is false' and on the other 'The statement on the other side of this card is true.' But suppose that on the other side one had found not the latter but rather 'The statement on the other side is false'? The example is not paradoxical since it is consistent to assign truth to one token and falsehood to another. The problem, as Sorensen points out, is that any such assignment is completely arbitrary.

²¹ "Truthmaker Gaps" in his *Vagueness and Contradiction*, OUP (forthcoming).

Consideration of a truthmaker variant of Sorensen's No-No example leads to a response to the third suggestion that truthmaking is intrinsically irreflexive. So consider once more:

(ι) *Someone somewhere has just penned a sentence that lacks a truthmaker*
 Suppose now that someone else somewhere writes the very same words and that my inscription and his are the only inscriptions produced at the time indicated. Note here there is a single context in play and so Contextualist responses are ineffective.

TM theorists who require the TM relation be irreflexive limit the expressive capacities of sentences like λ and ι when tokened by themselves in contexts that force self-reference. However in the case described, there are two distinct tokens of ι . Call these ι_1 and ι_2 . We can grant to the TM theorist that neither of these tokens could express its own pathological status were it to be the only token produced in a contingently self-referential context. But this is not the situation here. The symmetry of the situation suggests that we must accord the same semantic status to both ι_1 and ι_2 .

So there are 3 cases for the Moderate Theorist to consider:

- (a) ι_1 and ι_2 are both true. This they cannot be unless both lack truthmakers as each token must be grounded by at least one sentence that lacks a truthmaker (and neither inscription can ground itself). Suppose this is so. Then ι_1 makes ι_2 true because it lacks a truthmaker and ι_2 makes ι_1 true because it lacks a truthmaker. So both ι_1 and ι_2 have truthmakers after all. Whence ι_1 and ι_2 cannot both be true.
- (b) ι_1 and ι_2 are both false. This means that both have truthmakers. But then by (FC), both are true not false. Whence ι_1 and ι_2 cannot both be false.
- (c) ι_1 and ι_2 are both pathological. But then both lack truthmakers. So then ι_1 makes ι_2 true and ι_2 makes ι_1 true. This means ι_1 and ι_2 are both true. Whence ι_1 and ι_2 cannot both be pathological.

This, I think, is a far more worrying example for TM theory than the original one since if the analysis above is correct, not even the pathological status of both token inscriptions can be defended! Furthermore, it is a problem for Moderate TM theory just as much as for its Extreme variant. For all that theory tells us is that (ι) will be true in the circumstances if either ι_1 or ι_2 lacks a truthmaker. Since nothing in the things that exist in the context could explain how one inscription could be grounded as true and yet the other not, *both* must lack truthmakers. But then if this is so ι_1 can serve to ontologically ground ι_2 and ι_2 can ground ι_1 . Whence both inscriptions have truthmakers after all. But then each inscription of (ι) comes out *false*, not true, since there is no inscription which lacks a truthmaker.

By way of contrast, the theory that classifies λ as a true sentence that lacks a truthmaker classifies both ι_1 and ι_2 as simply true. Each inscription is a true sentence that lacks a truthmaker. For the reasons already discussed

neither token can be its own truthmaker. But if any one is a truthmaker for the other then that latter one cannot be the sentence that lacks a truthmaker.

By symmetry, if ι_1 cannot be a truthmaker for ι_2 then ι_2 cannot be a truthmaker for ι_1 . So neither ι_1 nor ι_2 can be truthmakers for the other. Whence, neither ι_1 nor ι_2 have truthmakers and thus both ι_1 and ι_2 are true. Each inscription is true because it is satisfied by a sentence that lacks a truthmaker, not because it is 'made true' by itself or the other inscription. The mere existence of the same sequence of marks halfway across the world does not entail that the inscription in front of you now is true. To the contrary, it is the fact that both inscriptions *lack* truthmakers which entails that, given that this is just what they say, both are true.

A different suggestion about the source of pathology for λ and ι is that it is semantically illicit for a sentence to speculate about its own possible truthmakers. Sentences that do so are semantically anomalous to the extent that they try to preempt the metaphysical question of whether there is some entity outside them that grounds their truth.

This suggestion faces a powerful objection, though. Proofs are surely bona fide truthmakers for mathematical assertions — the mere existence of a proof of a mathematical assertion entails that it is true. If we impose a ban on sentences that mention their own truthmakers, however, Goedel sentences become pathological!

This point can be generalized. There are truthmaker theorists who hold that truthmakers just are proofs.²² One does not have to be committed to Anti-Realism to hold this — one might simply understand the demand for a truthmaker as an epistemic demand for conclusive warrants for all the claims we believe. Given this interpretation of 'truthmaker' then, all of our 'pathological' examples are to be understood as self-referential claims about the existence and non-existence of proofs for them. *They* are pathological then if and only if *Goedel sentences* are.

My conclusion is that neither the Extreme nor the Moderate TM theory can adequately account for λ and both are completely unable to handle ι . The Extreme Theory misclassifies an unproblematically true sentence as pathological. The Moderate Theory empties itself of all explanatory power in an effort to explain how λ and ι could be true. But this latter it cannot do. What is the upshot of all this? Is it that there are no such things as truthmakers or that they are far rarer than most truthmaker theorists had hoped? I take it that the moral of our investigation of TM theory through the example of λ is that it cannot be defended in any form. Even the simple cases used to motivate the theory offer at best equivocal support. Take simple existential statements.

²² One such theorist is Goran Sundholm. See his "Existence, Proof and Truthmaking: A Perspective on the Intuitionistic Conception of Truth", *Topoi* 1994: 13 (2), pp. 117–126.

I point to yonder graceful bird and say 'Lo! A black swan exists'. Surely the ostended black swan is what makes my claim true, the truthmaker theorist pleads, surely the mere existence of this bird necessitates that my claim is true?

The existence of that bird is both necessary and sufficient for the truth of the sentence asserting *it* exists. But the problem is that *everyone* agrees with that.²³ Deflationists who claim that to assert *p* is true is simply to assert *p* would readily agree — what I mean when I utter the words 'The sentence "A black swan exists" is true' is simply that a black swan exists. No more no less. I mean to be adverting to some particular thing in the world, namely Bruce the black swan. So conceding the ontological indispensability and sufficiency of the existence of yonder black swan in regard to the truth of the sentence 'A black swan exists' is not yet to assent to a general need to ontologically ground *all* truths as per the Truthmaker Axiom.

The moral of the λ , \emptyset and ι cases was that it is sometimes the *non-existence* of certain putatively truthmaking entities which may be required for a sentence to be true. Whether it is the existence or non-existence of entities which is germane to the truth of a sentence depends, for the non-deflationist at least, on the truth-condition of that sentence.

When interpreted at any theoretically interesting level of generality, then, the Truthmaker Principle is only plausible if read pleonastically or at least non-objectually — *something* must exist whose mere existence entails the truth of our sentences. Yes indeed: *whatever it is* that satisfies the truth-conditions of those sentences. Since these truth-conditions may require for their satisfaction the *non-existence* of entities just as readily as the existence of entities, there is simply no interesting general relation between the existence of entities and the truth of sentences such as Truthmaker Theory seeks to capture.

5. A Proposal Concerning Facts

Truthmaker Theory is indefensible in my view for the reasons cited. But that need not mean that the Correspondence Theory of Truth is as well. Indeed, I shall now argue for that theory by arguing for a novel view of facts as the correspondents of true sentences and a novel view of 'correspondence'.

Something should be said first, though, about the worry that theorists who admit facts into their ontology do so because they confuse ontological with

²³ Everyone also agrees that since $\exists!b$ entails $\exists xSx$, the mere existence of that one black swan, Bruce, necessitates that 'There are black swans' comes out true.

logical form. I take it that it is an important warning not to confuse ontological with logical form and that the costs of not heeding it are indeed extreme — witness 'Nothing exists'.

We must not simply assume that to every true sentence there corresponds a fact if that brings in its train negative facts and their shadowy ilk. However, one who discriminates between ontological and logical form might still wish to countenance facts.

The example of λ again shows why. We took the moral of our discussion of λ to be that the fundamental axiom, (TA), of TM theory cannot be sustained in any interesting form. It is quite consistent with this, though, to hold that in both the self-referential and the non-self-referential cases there is indeed a single type of fact that correspond to λ — *the fact that the sentence referred to by the descriptive phrase 'the sentence written on the board in Room 122' lacks a truthmaker.*

This is a semantic fact, a fact about the semantic or representational properties of certain sentences. Is it a pleonastic fact though? That rather depends upon what facts are to begin with. So what *are* Facts then? Facts are supposed to be not only things in the world, but things with content — items both in and about the world. This has led to a division in opinions between those who say that facts belong to the world of sense and those who say that they belong to the world of reference, to put matters in Fregean terms.

One intuition says that there is nothing in the world that makes 'There are no goblins' true. Rather it is something missing from the world which does this — viz. Goblins. It is the absence of something rather than the presence of something which makes this sentence true. Yet another intuition says that there *is* something: the fact that there are no goblins.

What is this thing, the fact that there are no goblins, if indeed it is a 'thing' at all? If it is an item in the world, it is not just one item along with other items, for it is an item that tells us *how* the world is ... but that sounds more like the task of a statement or a theory or a belief than an entry in the book entitled 'What the world contains'. Our goblin fact would have to assume the status of a Leibnizian monad — something *in* the world reflecting information *about* the whole world.

But why is this mysterious? Something in the world that reflects information about the world is a property of the world. We live in a no-goblin type of world. That's one of the properties our world has that distinguishes it from other possible worlds otherwise identical to it. Facts, thus construed, are just properties of the world, our world that is.

One who finds this type of response mysterious is Stephen Yablo in the aforementioned article "How In The World?". After commending Robert Stalnaker's response to Lewis's famous 'Paraphrase' Argument for the existence of concrete alternative worlds that unlike ours do not actually exist, Yablo expresses puzzlement about Stalnaker's own alternative. Lewis had

argued that there are other ways things could have been and that 'other ways things could have been' exist since things objectively could have been different from the way they actually are.

To this, Stalnaker had replied:

"If possible worlds are ways things might have been, then the actual world ought to be the way things are, rather than I-and-all-my-surroundings. But the way things are is a property or state of the world, not the world itself."

Yablo is puzzled by Stalnaker's positive claim that the statement 'the world is the way it is' is true provided it is not read as an identity claim. He worries that it makes little sense if read as a predication either. Specifically, he worries that if you interpret it as a predication, you are going to be stuck with Lewisian concrete possible worlds.

I don't see why. It is true that we can as easily say 'the way the world is is large, complicated, ...' as say 'the world is large, complicated, ...'. It is also true that in both claims the thing that is deemed large, complicated etc. is the world, I and all my surroundings, not some property that I and all my surroundings possess. 'The way the world is' refers to the sum total of the properties of the world, the totality of facts if these are, as I believe them to be, simply properties of the world. Contra Wittgenstein of the *Tractatus*, the world is not identical to the totality of facts unless objects generally are identical to the sums of their properties.

'The world is the way it is' just means that the world has just those properties that it has. To say that 'the way that the world is is large, complicated, ...' is just to say that included in the properties of the world are the following: largeness, complexity, ... Clearly this will be true if and only if that humongous object which is the world, i.e. I and all my surroundings, is large, complicated, ...

So we have the start of a defence of the thesis that facts are what make our beliefs true. Facts are properties of the world. Our beliefs and statements are 'made true' by how the world is — i.e. by what properties it has. A belief that a cosmic antigravity controls the expansion of the Universe or that the abortion debate is not really about the rights of foetuses are, if true, made true by our world's being a cosmic-antigravity-universe-expansion-controlling world or a world wherein the existence or non-existence of rights for foetuses does not determine the abortion debate.

Every belief or statement we make can thus be construed as a conjecture about which world we inhabit, which properties it has. It is the role of our truthbearers to specify which properties the world has and these truthbearers will be true according to whether the world has the properties specified. The relation of 'Correspondence' in the Correspondence Theory of Truth is then

just property instantiation rather than, as TM theorists aver, necessitation-by-entities.

Davidson, to recall, dismisses all talk of facts as explanatorily vacuous. This seems unwarranted to me. To the extent that he acknowledges that the world is thus and so, which he clearly does, that it has certain properties and not others, Davidson ought to acknowledge that there are 'things' which 'make' our beliefs true — viz the world's having just those properties our beliefs impute to it.

Davidson's point might rather be that the mere existence of some special type of entity in the world cannot itself suffice to make a statement or belief true. He is not alone in this view, as we saw earlier. Many who resist the idea that truths need truthmakers do so in response to some such intuition. It cannot be the mere existence of some entity, some state of affairs which excludes goblins, they think, which by itself makes 'There are no goblins true'.

The examples of λ and its variants show that this is absolutely correct — no *thing* makes λ or ι true, to the contrary, λ and ι are true precisely because they *lack* any entities to 'make' them true.

Yet the world's being a certain way accounts for λ 's being true just as much as it accounts for 'There are no goblins' being true. The world's instantiating the property of goblinlessness accounts for the sentence 'there are no goblins' being true and its instantiating the property of being the sentence referred to by λ which lacks any entity whose existence entails λ 's truth accounts for λ being true. But the world's instantiating a property is not itself another entity in the world but rather a mode of configuring those entities which together with their properties and relations together go to make up the world.

I think there is a deeper source of resistance to the idea of worldly facts as the correspondents of true sentences, however. It is this. No mere citation of what properties the world contains will assist in explaining why our truthbearers are true when correctly matched with the appropriate properties if there is no prior account of how those properties came to be associated with the truthbearers in the first place. The mere existence of the property of goblinlessness does not begin to explain why the sentence 'there are no goblins' has the truth-condition it has.

This, I submit, is one of the things that lies behind the complaint of explanatory vacuity that is so often levelled at the Correspondence Theory of truth. *Given* that the sentence 'there are no goblins' is understood in the way it is, though, pairing it with the property of goblinlessness does indeed explain why it is true. Facts by themselves, though, offer no solution to Brentano's problem — they presuppose one has already been provided.

6. Difficulties With The Proposal

6.1. Commitment to Properties

The basic questions to be asked about my proposal concerning facts are firstly whether there are any properties to begin with and, secondly, if there are whether the world has to be credited with any. The second question is far easier than the first. *Being approximately 14 billion years old* is a bona fide property of the world, *if* properties exist at all. *Containing neither goblins nor truthmakers* is another such property no less objective or mind-independent than the first but that view gives rise to the next challenge.

6.2. Negative Properties?

How can *lacking* something be a genuine property? Being goblinless, lacking a truthmaker etc. are negative properties, it might be alleged, and so even if there are some positive properties the world has which account for the various truths specifying those properties, the same cannot be said for negative properties — lacks, deficiencies, absences and their ilk. For there are no negative properties.

I do not know whether there are negative properties or not. I doubt that we need believe in them, though. *'The fact that the world lacks goblins or truthmakers'* certainly sounds pleonastic — a mere nominalisation of the sentence *'the world lacks goblins or truthmakers'*.

I think we have good reason to concede the point for such cases, as I explain below. This does not mean that all talk of facts as properties of the world is likewise pleonastic. For we might be able to give a reason for the pleonastic character in the case of negative properties that does not carry over to their positive counterparts. Furthermore, there might be independent reason to do so since there are challenges a fact theorist must face far sterner than garden-variety negative existentials — there is for example the problem of the empty universe characterized by the counterfactually true claim *'Nothing exists'*.

Just as there can be Extreme and Moderate TM theories so there can be Extreme and Moderate Fact theories. Extreme Fact theorists demand a property of the world for every true sentence, irrespective of that sentence's logical complexity. Moderate Fact theorists impressed by Truth-Conditional Semantics see no reason to accede to this demand and independent reason to resist it. For we need to semantically process sentences before we can properly determine which properties the world must have if they are to be true. For the TCS theorist, this semantic processing just amounts to an identification of the sentence's truth-condition which, for a Fact theorist will provide

a specification of the appropriate worldly property. When we encounter logically complex sentences in TCS, though, we first look to the appropriate recursion clause. In the case of 'There are no goblins' the recursion clause tells us that this sentence will be true on condition that it is not the case that there are any goblins. So this yields that 'There are no goblins' is true if and only if the world does not contain goblins.

In the case of negative existentials, then, it is the world's *lacking* the property specified in their positive existential counterparts which grounds their truth. 'Instantiating goblinlessness' is, if not a pleonastic property of the world, a reducible one. Even more dramatically is a universe's containing nothing. Talk of specific lacks, deficits and privations is to be replaced by specification of those properties the world does not contain. Lacks and absences thus no more need direct instantiation by the world than do 'nowheres' and 'nobodies'.

So it is the world's failure to contain goblins not its instantiating the property of goblinlessness that grounds the truth of 'There are no goblins'. I would prefer to say that the world's instantiating the property of goblinlessness semantically reduces to (via TCS) its not instantiating the property of goblinfulness. There are no negative facts for the Moderate Fact theorist, hence there are no negative world-properties.

What of the empty universe? For such a case 'Nothing exists' comes out true. What property of such a 'universe' could correspond to this sentence? No property. Rather it is because the empty universe fails to instantiate the property of containing at least one thing that 'Something exists' comes out false within it. Whence 'Nothing exists' comes out true of it.

6.3. Vacuity

Deflationists will urge that this account of facts is simply vacuous. They might put their point as follows:

"Consider your claim that "'penguins are flightless' is true if and only if the world has the property of containing flightless penguins". Surely there is nothing to this claim over and above the truism that 'penguins are flightless' is true if and only if penguins are flightless! More pointedly, if there is *not* something to this talk of facts as worldly properties beyond the simple platitudes to be found in the T-sentences then all such talk is pleonastic. If on the other hand there *is* some additional content then there is no guarantee that the resultant truth theory will be even extensionally correct."

I suspect some such objection has in one form or another dogged every serious attempt to develop a theory of facts. I also suspect that it contributes tacitly to the uncertainty over whether facts are to be counted as properties of the world our words describe or as (semantic) properties of the words we use to describe that world (true propositions).

I concede that this objection can look quite formidable. My view, however, is that it is fatally flawed. It derives all its power from conflating two quite distinct projects within which T-sentences such as “‘penguins are flightless’ is true if and only if penguins are flightless” typically appear.

The 2 distinct projects are:

- (i) TCS, the project of specifying the meanings of the sentences of a given language by specifying their truth – conditions
- (ii) The project of articulating a theory of truth.

Were the Fact theorist’s project to be (i) the criticism above would be quite apposite: the Spanish sentence ‘La tierra se mueve’ does not *mean* ‘Our universe contains a moving Earth’. It simply means that the Earth moves. In order to ensure they get the semantics of Spanish right, TCS theorists had better pair the Spanish sentence ‘La tierra se mueve’ just with the English sentence ‘The Earth moves’ as its translation in the metalanguage. Anything other than ‘The Earth moves’ is going to be wrong semantically, relative to project (i) of TCS, that is.

But the theory which treats facts as properties of the universe is a theory in metaphysics, not semantics and, in the context of this paper, occurs as part of an attempt to articulate a theory of truth — to wit, the Correspondence Theory. If the account it gives of facts is any good, of course, this account should receive independent corroboration from other theories (not just in metaphysics) which seem to require the existence of facts. Perhaps causation is a relation between facts? Perhaps mental representation is only possible if there are reliable means of detecting facts? Perhaps perception or knowledge likewise require us to posit a capacity for detecting facts ... and so on. The Fact Theorist’s project is (ii), not (i) and as Dummett, Davidson and many others have emphasized, when interpreting T-sentences such as “‘Penguins are flightless’ is true if and only if penguins are flightless” one has to choose between reading them as specifications of the meanings of the OL sentences by means of an antecedently understood notion of truth or else reading them as ‘partial definitions’, as Tarski dubbed them, of the predicate ‘is true’. This is a forced choice between (i) and (ii).

The Spanish sentence ‘La tierra se mueve’ does not *mean* that the Universe contains a moving Earth. Nonetheless it could not be true unless the Universe had this property and it is the Universe’s having just this property and no other which grounds the truth of this particular Spanish sentence — ‘grounds’ it in the sense that it satisfies its truth-condition, not in the exotic ‘entity-necessitation’ sense given to that term by Truthmaker theory.

It is the task of TCS to specify conditions the world must satisfy for our sentences to be true. It is not the task of TCS to speculate about the metaphysical nature of the satisfiers. Yet this in no way implies that the latter have no interesting underlying metaphysical nature. In like fashion, it is deemed to be a truism that true statements tell us how things are, what the world

is like. Yet many frown upon any attempt to give substance to these vague metaphors. Why? Is the thought that if something is a truism, there cannot be any substantive truth it tracks?

Some such thought may partially explain the appeal of Deflationism, which brings me to an important respect in which the above response to the vacuity objection is unsatisfactory. I alleged that the vacuity objection to my theory of facts rested upon a conflation of 2 distinct projects involving truth — the conflation of TCS with a theory of truth. But it is implausible to believe that philosophers who object to substantive accounts of facts do so *solely* because they have made some simple gaff. Rather deflationism with respect to facts often derives from a prior allegiance to deflationism with respect to truth.

When we look at the alethic deflationist's response to my criticism of the vacuity objection, things at once look more interesting. Witness Paul Horwich:

"The correspondence conception of truth involves two claims: (a) that truths correspond to reality; and (b) that such correspondence is what truth essentially is. And the minimalist response ... is to concede the first of these theses but to deny the second."²⁴

Of course truths correspond to reality for the minimalist. This is a trivial consequence of a trivial property accessible to anyone who grasps the (uncontroversial) instances of the schema 'The proposition that p is true iff p '. By virtue of knowing our language and understanding the predicate 'true' we can know apriori which bits of reality should get paired with which truths. All of this is conferred for free on anyone who grasps the meaning of the little word 'true'. What need then to posit any interesting metaphysical nature for that word to stand for?

It is crucial to appreciate that minimalism and deflationism in general can only appear plausible if they first deny the legitimacy of Truth Conditional Semantics: if truth is insubstantial in any one of the ways suggested by such theories, it cannot possibly function as a theoretical primitive in a semantic theory.

This at once affords us a deeper explanation of the source of the vacuity objection to any substantive theory of facts — far from conflating 2 distinct but equally legitimate projects involving truth, TCS and theories of the nature of truth, deflationists mean precisely to deny the legitimacy of the first of these! How plausible is this denial?

In my view, not plausible at all. Even if the *only* virtue of TCS was that it gave us the wherewithal to recursively characterize the semantics of logically complex sentences (and predicates), this would be virtue enough ... virtue which rival theories invariably struggle to duplicate. The easiest thing for

²⁴ *Truth*, Paul Horwich, Oxford University Press, 1990, p. 124.

rival theories such as a 'Use' theory to do, of course, is to just ignore this problem of semantic structure — to pretend that the platitude that words mean what they do because of how we use them actually explains something about meaning.

Suppose such a theory were to be developed in an instructive way so that it tied down which particular non-semantic aspects of our use of expressions²⁵ ground the semantic facts about expression meaning. This would have to be done without appealing to the expressions' semantic contribution to truth-conditions, of course. How any such use-theory is *then* supposed to explain the existence of recursive semantic structure without *at that point* adverting to truth-conditions remains wholly mysterious to me.

Denying the legitimacy of TCS entails denying that what makes a translation between 2 languages correct is simply that it preserve truth-conditions. Hartry Field, in many ways the most careful deflationist, defends precisely this consequence. Less sanguine than Horwich about the legitimacy of an appeal to propositions or the explanatory value of 'use', Field draws the solipsistic conclusion that 'true' applies only to sentences of one's own idiolect, a view he calls Pure Disquotationalism. Yet we surely do recognize that there are true utterances in languages we do not understand. How can anyone deny this?

Field does not deny this. He simply reinterprets its significance. Rather than there being some relation of interlinguistic synonymy that is preserved when Jorge utters 'La tierra se mueve' and Diana reciprocates with 'The Earth moves', a relation that is to be explicated in terms of sameness of truth-conditions for the Spanish and English sentences uttered, Field looks elsewhere for his ersatz translation relation. Thus:

"What we are doing when we conjecture whether some utterance we don't understand is true is conjecturing whether a good translation of the utterance will map it into a disquotationally true sentence we do understand."²⁶

But Field's ersatz relation is not even a close cousin of translation. Understanding is an epistemic issue. Translation between languages is not. Like most people I have every confidence that there are truths of, say, quantum field theory which I have no prospect of appropriating within my cognitive repertoire. That does not make them any less true. Neither does it mean that when I conjecture that there are such truths I am speculating about

²⁵ Using 'penguin' to refer to penguins is not an aspect of use a minimalist or deflationist can avail himself of — especially so if reference is to likewise be deflated.

²⁶ "Deflationary Theories of Meaning and Content", Hartry Field, *Mind* 103, pp. 249–285 at p. 273.

the expressive resources of my own limited cognitive repertoire — I already know the answer to that question: there are no sentence there that can even roughly translate (let alone faithfully represent) the relevant quantum-theoretic truths.

So the vacuity objection rests upon a conflation of 2 distinct projects in my view, a conflation aided and abetted by the present naturalistic infatuation with deflationary theories of truth. These latter theories deny the legitimacy of one of these 2 projects, to wit Truth Conditional Semantics, thereby collapsing the distinction between the metaphysical and semantic projects concerning truth.

If there are good reasons for doubting that facts can most profitably be conceived as properties of the universe, these do not derive from any apriori argument about the semantics of the sentential operator 'it is a fact that' or from complaints that a metaphysical theory of facts cannot discharge the functions of a semantic theory, something it does not even set out to do.

6.4. *Slingshot Argument Against Facts*

This rather notorious argument, which Davidson has done most to promote, would, if sound, undermine my proposal concerning facts and the Correspondence Theory. One very persuasive discussion of its shortcomings is to be found in Stephen Read's "The Slingshot Argument".²⁷

The Slingshot Argument, SA, performs two types of logical operation on complex singular terms to establish its conclusion that if a sentence corresponds to one fact it corresponds to the GREAT FACT which is the sum of all other facts. The first is Substitutivity of Identicals SI, the second is Substitutivity of Logical Equivalents SLE. Read argues that however complex singular terms are to be understood, the SA fails. If such terms are contextually defined as per Russell, SI fails. If they are understood as rigid designators, SLE fails. Finally, if they are interpreted non-rigidly SI fails.

6.5. *The Defeater Worry*

It would be folly to rest one's whole case against an interesting and influential theory largely on the strength of one problematic example without at least checking to see that the example does not undermine one's preferred alternative! And prima facie, this seems as if it may well be the case. For an

²⁷ "The Slingshot Argument", Stephen Read, *Logique et Analyse*, v. 143–144 (1993), pp. 195–218.

analogue of (λ) can indeed be constructed for my theory of facts as properties of the world:

(λ^*) *The world does not possess the property specified by (λ^*)*

It is simple to show that by the lights of the proposal (λ^*) is pathological. By the lights of TM theory (λ) is pathological also. Yet I claimed that (λ) was *not* pathological and that TM theorists themselves must face up to this! Surely (λ^*) places me in exactly the same uncomfortable position of declaring a stably true sentence pathological? Have I not here succumbed to a rather extreme form of myopia?

No. There is a crucial difference between *Truthmaker* theory and the Correspondence (and indeed any other) Theory of *Truth*. Truthmaker Theory is *not* in the first instance a theory of Truth, but rather of the *ontological grounds* for truth. My left ear makes it true that there is a piece of flesh sticking out the left side of my head. It may also make it true that $2 + 2 = 4$ if indeed its making any contingent sentence true makes any necessary truth true. But it would be ludicrous to identify the property of being my left ear with that of the truth of the proposition $2 + 2 = 4$. Truthmaker Theory is not an attempt to provide a property that can be identified with truth, either analytically or naturalistically, it is, instead, an attempt to provide an ontological ground for truths.²⁸

Precisely because I *am* offering a theoretical identification of the property of being true with the property of being a property of the world specified by a truthbearer, it is legitimate to regard (λ^*) as pathological upon substitution of the explicans '*The world does not possess the property specified by...*' by the explicandum '*... is not true*'.

But there had better be independent reasons for thinking λ^* is pathological which do not carry over to the original truthmaker case of λ . Are there? I think there are. Consider the empirical counterpart of λ^* :

(λ^*) *The world lacks the property specified by the sentence written on the board in Room 122*

Upon removing the mask from the door numbers you discover to your dismay that the room in which you penned these lines was none other than Room 122. You reason that λ^* will indeed be true if the world lacks a certain property. But now you are puzzled. *Which* property is it that the world is supposed to lack according to λ^* ? Well, it is the property specified by that very sentence itself, the sentence that says that the world lacks the property which *it* specifies. But *which* property is that? ... We are never told.

²⁸This is not to say that Truthmaker Theory cannot be developed into a theory of truth. A theory of truth could be developed in which p 's being true consisted in its *having some truthmaker or other* (by analogy with functionalist approaches to the reduction of mind). Then my left ear would be an occupier of the functional role "being a truthmaker for ' $2 + 2 = 4$ '".

This stands in sharp contrast to the case where the sentence written on the board in Room 122 turns out to be ‘Pigs can fly’. Here, as in all non-pathological cases, we can say precisely which property the world either has or, in this case, lacks — namely, that of *avianporkerhood*.

It also contrasts with the original case of λ where it is λ which is tokened in Room 122. For there we can say which property the world instantiates — it contains a sentence, namely λ , for which there is no entity whose mere existence entails it. *That* is why λ is true rather than pathological.

Whereas λ is *not*, λ^* is indeed redolent of the Liar L and the Truth Teller TT. The Liar and the Truth Teller are semantically anomalous in just this way — when we try to specify interpretational truth-conditions for them, ones that do not themselves contain the concept of truth (or some related semantic notion), we are stymied: L is true iff L is not true; TT is true iff ‘TT is true’ is true.²⁹

If true sentences correspond to the facts and facts are properties of the world, we can see why this is so problematic — we are simply not told *which* property it is that the world is supposed to lack iff it has the property specified by L nor which property the world is supposed to possess iff it has the property imputed to it by TT. Their failure to specify the relevant worldly properties justifies Kripke’s position that both L and TT lack a truth-value.³⁰

Finally, consider Curry’s Paradox once more, as originally expressed in terms of truth:

1	(1)	χ is true	Hypothesis
1	(2)	‘If χ is true then pigs can fly’ is true	1 Df χ
1	(3)	If χ is true then pigs can fly	2 Tr. Identity
1	(4)	Pigs can fly	1, 3 \rightarrow E
	(5)	If χ is true then pigs can fly	1, 4 \rightarrow I
	(6)	χ	5 Df χ
	(7)	χ is true	6 Tr. Identity
	(8)	Pigs can fly	5, 7 \rightarrow E

Pace Kripke, the claim that χ is true is a substantive claim about the properties the world possesses — to wit, that it possesses the property specified by χ . But in fact χ specifies *no* property at all. Hence $T(\underline{\chi})$ is false rather than without truth-value. This invalidates the step from line 6 to line 7. For

²⁹ By way of contrast, λ is simply a more general version of the Goedel sentence that says of itself that there is no proof that makes it true. This latter is patently *not* a semantically anomalous claim.

³⁰ Here I mean only to express a view about the source of (this type of) semantic pathology. My remarks are not put forward as any sort of solution to the paradoxes.

the sentence at line 6, namely χ , is without truth-value whilst the sentence at line 7, ' χ is true', is, on the account I am arguing for, false. Thus the inference rule permitting one to derive $T(\underline{A})$ from A is unsound in the presence of pathological sentences to the extent that it permits one to infer a sentence less true than the sentence from which it is inferred. Since we wish to reason about pathological sentences using ordinary modes of inference, it is far more plausible in my view to locate the difficulty with Curry's Paradox at the level of the valuation $T(\underline{A})$ receives when A is pathological. It is welcome news that we can give a principled reason for doing so.³¹

³¹ The use of the rule (\rightarrow I) in the above derivation is inessential. It can be replaced by the *Rule of Absorption*: From $\theta \rightarrow (\theta \rightarrow \psi)$ infer $\theta \rightarrow \psi$. A shorter derivation is then:

- | | | |
|-----|---|----------------------|
| (1) | $T(\underline{\chi}) \rightarrow \chi$ | Tr. Identity |
| (2) | $T(\underline{\chi}) \rightarrow (T(\underline{\chi}) \rightarrow \pi)$ | 1 Df χ |
| (3) | $T(\underline{\chi}) \rightarrow \pi$ | 2 Absorption |
| (4) | χ | 3 Df χ |
| (5) | $T(\underline{\chi})$ | 4 Tr. Identity |
| (6) | π | 3, 5 \rightarrow E |

Thus any logic licensing *Absorption* and *Modus Ponens* for a language in which the identity properties of truth hold will be unsound in the presence of pathological sentences such as χ . Restrictions on either *Absorption* or *Modus Ponens* lack any compelling philosophical justification, in my view. Not so a restriction on the identity $T(\underline{\theta}) \leftrightarrow \theta$ to non-pathological sentences.