Hollow Truth

Louis deRosset

University of Vermont

Few subjects have received more philosophical scrutiny than the nature of truth. The attention is warranted by the centrality of truth to theorizing in many fields and the problems that afflict systematic attempts to characterize it. Many of those problems have long been recognized and discussed. But a raft of new problems has recently been discovered.[1] These problems concern the question of how ascriptions of truth are to be grounded.

Most previous commentators on these new problems have drawn lessons from them for the theory of ground. In this paper, I argue that we should also draw lessons for the theory of truth more generally. In particular, I argue that consideration of these new problems suggests a plausible way to more clearly articulate one strand of *deflationary* thinking about truth. According to this strand of deflationism, truth is "meta-

1. See Fine 2010 for the original statement of the problems. See also Litland 2015; Correia 2014; Krämer 2013, 2020; Rodriguez-Pereyra 2015; Woods 2018 for variations and citations.

physically lightweight," in some sense badly in need of explication. I will propose an account of the (entirely bearable) lightness of truth that is as clear as the notion of one fact's obtaining in virtue of another, and then show that the resulting, broadly deflationary view yields a novel solution to the problems concerning how truth is grounded. So, if the proposal that I sketch is on target, then the theory of truth and the theory of ground interact fruitfully: we can apply the notion of ground to offer a clear explication of the deflationist claim that truth is "metaphysically lightweight." That explication both captures the motivations for that claim and solves the problems.

I will begin by stating some background assumptions, and then I will articulate the class of problems concerning how facts involving truth are to be grounded. These problems center on certain puzzles due to Fine (2010), with variations discovered by other authors. Switching tracks, I will next discuss the motivations for the strand of deflationism on which truth is "metaphysically lightweight." I will propose a ground-theoretic account of the lightness of truth and argue that it captures the motivations for this strand of deflationism. Then, I bring our two threads back together, applying the resulting, broadly deflationist view to the problems concerning how truth-ascriptions are grounded and describing the solutions that emerge. I will next discuss a second class of puzzles, due to Litland (2015), showing how the broadly deflationist view that I have articulated also solves those puzzles. Finally, I consider some objections and offer concluding remarks on the significance of the discussion.

1. Setup

Before I state the puzzles, it is worth being explicit about my terminology and background assumptions. Grounding is often said to be closely connected to a certain sort of explanation.[2] In philosophical parlance, however, 'explanation' is used to indicate a broad array of linguistic and extra-linguistic entities. This is potentially confusing. So, for the sake of clarity, I will use 'explanation' to indicate a class of *sentences* (true or not) that deploy explanatory locutions. For example,

'There are human beings' is true because there are human beings (1)

___

2. See Dasgupta 2014; Fine 2010; Rosen 2010 for classical expressions of the idea.

is an explanation, in the sense I intend here. Moreover, I will focus on what have come to be called *grounding explanations*. Grounding explanations tell us what obtains in virtue of what. Philosophers and scientists are fond of asking for explanations of this kind: "In virtue of what is murder wrong?" "In virtue of what am I justified in believing that I have hands?" "What makes diamonds hard?" Answering any of these questions involves asserting a grounding explanation, in the sense in play here.

The notion of ground has its critics.[3] Nevertheless, I will persist. In part this is because I think the criticisms don't ultimately succeed (deRosset 2020). Also, theorists of ground have, in my view, provided the clearest framework within which to express and discuss the explanatory role of truth. This work makes it particularly easy, as we will see, to state the broadly deflationist view that I propose. But there is another, less mercenary reason: it seems to me that, even if the critics turn out to be right, some successor notion to grounding is needed. The explanatory questions that appear to call for grounding explanations and are posed in familiar philosophical and scientific investigations are not going away. More particularly, the intuitions that motivate both the puzzles and the strand of deflationism that I will explore are not going away. If grounding locutions are not suitable for framing and discussing the claim that truth is "metaphysically lightweight," then some successor notions obeying analogous principles will have to serve instead.[4] I will leave it to those who sympathize with the criticisms to replace my talk of ground with whatever successor notions are most suitable, and to assess the plausibility of the various principles that result.

I will follow some now-standard notational conventions, writing '$\psi_1, \psi_2, \ldots < \phi$' to indicate full grounding. A sentence of this form says that $\psi_1, \psi_2, \ldots$ express a complete inventory of grounds for ϕ, with no need for supplementation. So, for instance,

$$\text{it's snowy, it's windy} < \text{it's both snowy and windy} \qquad (2)$$

---

3. See Daly 2012; Koslicki 2015; Hofweber 2009; Sider 2011: secs. 7.2, 8.2.1; Turner 2016; Wilson 2014.

4. Some of the critics agree. Sider (2011), for instance, is happy to use the 'in virtue of' locution; he just gives it an interpretation in terms of what he calls "metaphysical truth conditions." Wilson (2014) seems less happy with the 'in virtue of' locution, but she would admit its appropriateness as a kind of generic stand-in for any one of an array of specific notions that, in her view, do the metaphysical work in any particular case.

expresses the claim that its being snowy and its being windy are, collectively, a complete specification of some grounds for its being both snowy and windy.[5] I will write $\psi \prec \phi$ to indicate that ψ expresses a (perhaps improper) part of a ground for ϕ. So, for instance,

$$\text{it's snowy} \prec \text{it's both snowy and windy} \qquad (3)$$

says that it is both snowy and windy partly in virtue of its being snowy. I will follow standard terminology in calling the notion indicated by '$\prec$' *partial ground.*

What's more, I will assume that every true grounding explanation is accompanied by an explanatory argument. That is, if a grounding explanation of the form

$$\phi \text{ in virtue of the following facts: that } \psi_1, \text{ that } \psi_2, \ldots \qquad (4)$$

is true, then there is an argument containing only truths whose conclusion is ϕ, whose premises are $\psi_1, \psi_2, \ldots$, and in which each inference proceeds in the correct direction, tracing the order of explanation. I will call such inferences *explanatory.*[6] I know of no helpful analysis of the distinction between explanatory and non-explanatory inferences, nor of the closely related idea of proceeding in the right direction (for grounding). But examples can help illustrate the idea. Consider

(Either it's windy or it's snowy) in virtue of the fact that it's windy.   (5)

(5) is true. This explanation is accompanied by the one-inference argument

---

5. This claim of full ground is consistent with there being distinct, equally complete specifications of grounds in terms, say, of a more detailed specification of atmospheric conditions.

6. This assumption is shared with the deductive-nomological account of explanation (Hempel and Oppenheim 1948). I am not, however, signing on to the deductive-nomological account in detail; in particular, I do not require that the arguments in question be *deductively valid*, nor that they be *nomological*—laws need play no special role. So, one way of summarizing the import of my assumption is that I endorse the deductive-nomological account of explanation, except to the extent that it is deductive or nomological. See deRosset 2013 and Litland 2015, 2016 for views which exploit the correspondence between grounding explanations and explanatory arguments.

It's windy
Either it's windy or it's snowy

This inference is, intuitively, explanatory: it traces the direction of dependence and determination. Similarly, one way to tell that

> It's windy in virtue of the fact that it's windy and Apia is the capital of Samoa (6)

is not a true grounding explanation is to note that

It's windy and Apia is the capital of Samoa
It's windy

while valid, is not an explanatory inference. Finally, and most relevantly, Aristotle observed that

There are human beings
It is true that there are human beings

is an explanatory inference, but

It is true that there are human beings
There are human beings

is not.[7] He is plausibly interpreted as concluding from this observation that, while the truth of the claim that there are human beings and the existence of human beings mutually entail one another, the existence of human beings grounds the truth of the claim, rather than vice versa.

The explanatoriness of an inference, like its validity, does not require the truth of either its premises or its conclusion. For this reason, an inference can be explanatory, even though the corresponding grounding explanation is not true. Suppose that it's neither windy nor snowy. Then (5) is not true. Nevertheless, it's easy to tell that the argument in question contains only explanatory inferences. That argument has what it takes to accompany a true grounding explanation, so long as the facts cooperate. Similarly, you don't need a weatherman to know that (6) cannot be right.[8]

---

7. *Categories*, 14b14-22, trans. J. L. Ackrill.
8. Thanks to Selim Berker for discussion of the issues raised in this paragraph.

These examples show that, in at least some cases, we have a fairly firm grip on the idea of an explanatory inference. Moreover, since an inference can be explanatory without being sound, it is clear that our grip does not consist exclusively in our grip on the truth of the corresponding grounding explanations. As the falsity of (5) in a situation in which it's neither windy nor snowy illustrates, being accompanied by an argument consisting of explanatory inferences is at most a necessary condition for the truth of the corresponding grounding explanation.

I will call an argument accompanying a grounding explanation an *explanatory story*. An explanatory story is *step-wise good* (or *good*, for short) if and only if each claim that it contains is possibly true,[9] and each of its inferences is explanatory. So, we allow that the argument above involving conjunction elimination is an explanatory story but deny that it is a good one.[10] An explanatory story whose conclusion is ϕ is an *explanatory story for ϕ*. Thus, true grounding explanations whose *explanandum* is ϕ are accompanied by good explanatory stories for ϕ.

Finally, I will assume that true sentences that figure in grounding explanations express facts and that a given grounding explanation is true if and only if there is a grounding relation among those facts. On

---

9. The restriction to possible truth is inserted to ensure that strange explanatory stories like

$$\frac{\text{Joe is the parent of } \sqrt{2}}{\sqrt{2} \text{ has a parent.}}$$

do not turn out to be step-wise good. I will often suppress reference to this qualification in the main text, since no explanatory story relevant to the main discussion contains impossibilities. Thanks to Cian Dorr for pointing out the need for this qualification.

10. The claim that an explanatory story is step-wise good does not entail that the argument delivers any epistemic or pragmatic payoff to any particular audience, even when it contains only truths. There may, for instance, be step-wise good explanatory stories that do not provide any such epistemic or pragmatic payoffs, because, for example, they are too complex or too long. Thus, an explanatory story may be step-wise good without being intuitively good taken as a whole. That is, the result of chaining (step-wise) good inferences may be an explanatory story that, intuitively, is not good. The question of whether chaining intuitively good explanatory arguments yields larger arguments that are (still) intuitively good recognizably implicates the question of whether grounding explanations are transitive. (Technically, what is at issue is whether grounding explanations obey a CUT principle of the sort discussed in deRosset 2014, 2015 and Fine 2012b.) Though the view I describe in this paper holds that grounding explanations are transitive in the relevant sense, this is not an assumption used to pose the puzzles introduced in section 2. The assumption needed is that the explanatory arguments at issue are *step-wise* good. Thanks to David Chalmers and an anonymous referee for discussion.

this picture, ground is, in the first instance, a relation of dependence and determination among facts. When a fact depends on and is determined by some other facts in the relevant way, then a corresponding grounding explanation is true. I make this assumption merely for the sake of convenience. We could state the puzzles, express the deflationary theory I propose, and explore its merits by just talking about sentences and other objects and characterizing them as having certain features. Mention of facts is, in principle, dispensable. But the resulting exposition would be needlessly complex.

2. Puzzles Concerning Ground and Truth

We are going to start by focusing on a central class of puzzles for the theory of ground. The puzzles that we will discuss each involve an argument from highly plausible claims about ground and some innocent-looking assumptions to a claim that something (partially) grounds itself. An assumption of the puzzles, then, is that nothing even partially grounds itself. This assumption is highly plausible on the conception of ground that is in play. Any explanation of the form

$$\phi \text{ because } \phi, \dots \tag{7}$$

seems on its face transparently inadequate. The same goes, of course, for grounding explanations. A claim of the form

$$\phi \text{ in virtue of the fact that } \phi, \dots \tag{8}$$

seems clearly false. Thus, any ethicist who proposed that a certain act *a* is wrong partly in virtue of being wrong would face an immediate charge of implausibility.[11] If one nevertheless admits the possibility of partial self-grounding, then the erstwhile *puzzles* may turn out to be *results* that specify conditions under which something grounds itself.[12]

    The puzzles involve good explanatory stories, where each inference in the argument is, intuitively, explanatory. The first puzzle, due to

11. Jenkins (2011) describes a view on which grounding can relate a fact to itself. Still, no explanation of the form (8) is true on Jenkins's view. Similarly, though Rodriguez-Pereyra (2015) argues that there are reflexive instances of grounding, none of those instances are reported by sentences of the form (8).

12. Some authors urge just this view in response to the puzzles (Correia 2014; Woods 2018).

Fine (2010), involves two classes of apparently explanatory inferences. The first corresponds to the general idea that an instance of an existential generalization is a ground of the generalization. So, it seems, instances of

EXISTENTIAL INTRODUCTION $\dfrac{\phi(\tau)}{(\exists x)\phi[x/\tau]}$

are explanatory inferences. Thus, the inference from 'Joe is a philosopher' to 'someone is a philosopher' seems explanatory. The second class of apparently explanatory inferences corresponds to the idea that we gleaned from Aristotle, that instances of

TRUTH-INTRODUCTION $\dfrac{\phi}{\text{it is true that } \phi}$

are explanatory. So, for instance, the inference from 'there are human beings' to 'it is true that there are human beings' is explanatory. Let $T(p)$ abbreviate 'the proposition p is true', and let q be the proposition that something is true, that is, the proposition expressed by

$$(\exists x)\, T(x). \tag{9}$$

The innocent-looking assumption is that q is true: some proposition is true. This assumption is verified by the fact, for example, that the proposition that $0 = 0$ is true.[13] Given our assumptions, the following is a good explanatory story containing only true sentences:

$$\dfrac{\dfrac{(\exists x)\, T(x)}{T(q)}}{(\exists x)\, T(x)}$$

Given that each inference is explanatory and each sentence is true, it is difficult to see how to avoid drawing the conclusion

$$(\exists x)\, T(x) \prec (\exists x)\, T(x). \tag{10}$$

Thus, the puzzle.

---

13. Fine (2010) offers another puzzle that uses the assumption that *every* proposition is *either* true or *not true*. This assumption will not look innocent to anyone familiar with the vast literature on the law of the excluded middle and the semantic paradoxes. I don't discuss this puzzle here, because of the additional complexities it involves.

There is an obvious variant that is innocent of the theory of propositions but which appeals to a truth *predicate* for sentences. That version accepts that instances of

$$\textbf{STRUTH-INTRODUCTION} \quad \frac{\phi \qquad \text{S says that } \phi}{S \text{ is true}}$$

(where S is a name for the sentence ϕ) are explanatory. Consider

$$(\exists x)x \text{ is true} \tag{11}$$

where 'is true' is a truth predicate for sentences. The innocent-looking assumption is that (11) is true. If so, then we can chain explanatory inferences to yield the following good explanatory story containing only truths:

$$\frac{(\exists x)x \text{ is true.} \qquad (11) \text{ says that } (\exists x)x \text{ is true.}}{\dfrac{(11) \text{ is true.}}{(\exists x)x \text{ is true.}}}$$

Given that each inference is explanatory and each sentence is true, it is difficult to see how to avoid drawing the conclusion

$$(\exists x)x \text{ is true} \prec (\exists x)x \text{ is true.} \tag{12}$$

Again, we have a puzzle.

Krämer (2013) poses a similar puzzle involving quantification into sentential position: there is a one-inference explanatory story in which '$(\exists S)S$' is derived from itself using

$$\textbf{SENTQ INTRODUCTION} \quad \frac{\Phi(\psi)}{(\exists S)\Phi[S/\psi]}$$

Since instances of SENTQ INTRODUCTION, like instances of EXISTENTIAL INTRODUCTION, seem explanatory, we again appear to be under pressure to accept a reflexive instance of partial ground.

So, we have a battery of puzzles.[14] There are key differences among the puzzles. In particular, each puzzle centers on a slightly different bit of vocabulary and, as a result, involves different explanatory

---

14. Fine (2010) shows that similar puzzles arise concerning other truth-like notions, like that of a fact's obtaining. The solutions proposed below extend straightforwardly to these puzzles.

LOUIS DEROSSET

stories. Still, the similarities among the puzzles are striking. Each of the puzzles involves an ascription of truth or a truth-like notion.[15] Each of them also appeals to plausible claims about good explanatory stories and some innocent-seeming assumptions. It would appear, then, that we face an unappetizing menu of options: deny that the inferences in question are explanatory, deny the innocent-seeming assumptions, or accept that partial grounding has reflexive instances. In fact, as I will show, there is a fourth kind of solution. Motivation for a solution of that kind is to be found in a certain strand of deflationist thinking about truth. Let's turn our attention to that strand.

3. What Is Metaphysical "Heft"?

A core idea of deflationism is that truth is, in a sense badly in need of explication, "metaphysically lightweight." It is very unclear what the metaphor of metaphysical "heft" comes to. A brief review of some extant explications of the idea will highlight the difficulty of making it clearer. Horwich (1990: 39), a prominent defender of deflationism, claims that truth is not a "complex" property and that no naturalistic analysis of it is either possible or necessary. It is not clear how this would make truth "metaphysically lightweight." G. E. Moore, for instance, is famous for claiming that goodness is not susceptible of naturalistic analysis, and presumably he might be brought to agree that it is not "complex" in the sense Horwich intends. But Moore's view cannot be characterized as claiming that "good" is "metaphysically lightweight" in any reasonable sense.[16]

Some deflationists claim instead that truth is a logical property, and that makes it "lightweight" (Horwich 1990; Field 1992). The idea is that we have a predicate for truth in order to enable us to say things that could not be said without substitutional quantification or infinitary

---

15. The fact that Krämer's puzzle involves a truth-like notion is obscured by the relative unfamiliarity of the notation. On standard developments of the λ-calculus, '$(\exists S)S$' abbreviates '$\exists \lambda S.S$', where the expression '$\lambda S.S$' is a sentential operator that we can gloss, roughly, as *being the case*. Thus, '$(\lambda S.S)$snow is white' says, roughly, that it is the case that snow is white, and, intuitively, '$\exists \lambda S.S$' says that something is the case. The truth-like notion here is *being the case*. Thanks to an anonymous referee for pointing out this obscurity.

16. This point is pressed in (Stoljar and Damnjanovic 2014: sec. 7.6).

542

Downloaded from http://read.dukeupress.edu/the-philosophical-review/article-pdf/130/4/533/1465526/533derosset.pdf by SUNY STONY BROOK user on 11 March 2022

conjunction. So, for instance, it is impossible for us to say

> (Joe said that snow is white and snow is white) or
>
> (Joe said that snow is purple and snow is purple) or   (13)
>
> . . .

and make it through all of the claims that Joe might say. A truth predicate usefully enables us to assert

> Joe said something true   (14)

instead. A truth predicate is supposed to play this role by dint of the fact that some collection of nonparadoxical instances of a *T-schema* taking some such form as

> **E** the proposition that ϕ is true if and only if ϕ;   or
> **S** $\ulcorner \phi \urcorner$ is true if and only if ϕ

are true.[17] Deflationists need to say more, since if a deflationist theory can include a given collection of nonparadoxical instances of a *T*-schema, then so can, for example, a correspondence theory of truth. Deflationists typically claim that there is nothing more to the nature of truth than is given by the relevant collection of nonparadoxical instances of the *T*-schema (see Moore 2020 for discussion).

    Unfortunately, it is not clear how the fact that the truth predicate plays this useful role bears on the question of its metaphysical "heft." Given a consistent system *A* of arithmetic, adding instances of the *T*-schema (S) (for the original language), together with some innocent-seeming compositional principles concerning truth, may yield a nonconservative extension of *A*.[18] That is, adding in the instances of (S) and the

---

17.   The statement of (E) is taken from Horwich 1990, and the statement of (S) from Shapiro 1998. McGee (1992) shows that the question of which collection of instances of a *T*-schema are at issue is both urgent and difficult for this sort of deflationist.

18.   In particular, let *A* be a consistent, suitably strong, recursively axiomatizable system of arithmetic in the language $\mathcal{L}$. Expand $\mathcal{L}$ by adding a truth predicate '*T*'. Add as axioms all instances of the *T*-schema for $\mathcal{L}$ and compositional principles concerning truth like 'for any sentence ϕ not containing '*T*', $T(\ulcorner \neg \phi \urcorner)$ if and only if $\neg T(\ulcorner \phi \urcorner)$' (Halbach 2001: 184). Finally, understand the induction axiom schema to include instances containing occurrences of '*T*'. Then, the consistency sentence for the original system (A) is derivable. See Shapiro 1998 for an intuitive argument and Halbach 2001: 184 for a description of exactly which additional axioms are required for the argument. Thanks to an anonymous referee for helpful guidance.

compositional principles allows us to derive new consequences in the old language. This result strongly suggests that adding a truth predicate governed by the *T*-schema adds expressive power that is, intuitively, substantial.[19] So, granting the claim that truth is a "logical" property in the relevant sense still leaves us in the dark regarding how truth is supposed to be "metaphysically lightweight."

Another strand of deflationist thinking holds that truth-ascriptions are semantically equivalent to the sentences to which truth is ascribed. So, for instance, on this view,

$$\text{'There are human beings' is true} \tag{15}$$

is semantically equivalent to

$$\text{There are human beings.} \tag{16}$$

Call this view *disquotationalism*. There are a variety of classical expressions of disquotationalism,[20] and a great deal of controversy over its merits.

For present purposes, we can set these controversies to the side. Disquotationalism is not the strand of deflationism that we will be exploring. As we will see, there is a way of developing the idea that truth is "metaphysically lightweight" that does not incur the semantic, cognitive, and epistemic commitments that make disquotationalism so controversial. Moreover, disquotationalism seems not to solve all of the problems presented by the class of puzzles that we are considering. It appears to handle the first two puzzles, since a disquotationalist may say that instances of TRUTH-INTRODUCTION and STRUTH-INTRODUCTION

19. There are a variety of different, more precise characterizations of the idea that an extension of *A* is *conservative*. The argument discussed in note 18 shows that the addition of instances of the *T*-schema and some innocent-seeming compositional principles governing truth fails to be conservative on just one of those characterizations. There is significant controversy over whether the deflationist claim that truth is "metaphysically lightweight" requires conservativity *in that sense*. The existence of this controversy reinforces the point made in the main text, since it stems in part from the unclarity of the idea that truth is "metaphysically lightweight." In particular, the claim that truth is "metaphysically lightweight" has not been understood clearly enough to determine whether it requires the kind of conservativity over *A* that the argument shows is lacking. The explanation of the sense in which truth is "metaphysically lightweight" in section 4 below does not require this kind of conservativity.

20. See Ayer 1936; Field 1992; Grover, Camp, and Belnap 1975; Quine 1970; Ramsey 1927.

are semantically equivalent to inference by repetition, and thus are not explanatory. But it does not handle "postcard" cases, which appear to give rise to a puzzle of essentially the same sort as those we have already posed.[21] The puzzle uses two further examples of apparently explanatory forms of inference:

DISJUNCTION INTRODUCTION	$\dfrac{\phi}{(\phi \vee \psi)}$	$\dfrac{\psi}{(\phi \vee \psi)}$

CONJUNCTION INTRODUCTION	$\dfrac{\phi \qquad \psi}{(\phi \wedge \psi)}$

Suppose that we have a postcard with two sides, A and B. The sentence

$$0 = 0 \vee (\exists s)(s \text{ is written on } B \text{ and } s \text{ is true}) \qquad (17)$$

is written on side A, and

$$(\exists s)(s \text{ is written on } A \text{ and } s \text{ is true}) \qquad (18)$$

is written on B. The innocent-seeming assumption in this case is that (17) is true, since $0 = 0$. The following argument, then, seems like a good explanatory story, assuming the disquotationalist's view that '(17) is true' is semantically equivalent to '$0 = 0 \vee (\exists s)(s$ is written on B and s is true)' and '(18) is true' to '$(\exists s)(s$ is written on A and s is true)':

(17) is true   (17) is written on A
(17) is written on A and (17) is true
$(\exists s)(s$ is written on A and s is true$)$ (i.e., (18) is true)   (18) is written on B
(18) is written on B and (18) is true
$(\exists s)(s$ is written on B and s is true$)$
$0 = 0 \vee (\exists s)(s$ is written on B and s is true$)$ (i.e., (17) is true)

As before, it seems difficult to avoid drawing the conclusion

$$(17) \text{ is true} \prec (17) \text{ is true.} \qquad (19)$$

And so, again, we have a puzzle.

So, the disquotationalist strand of deflationism does not help with this simple variant of the original puzzle. We will be better served if we focus on the strand that emphasizes the idea that truth is "metaphysically

21. This argument is due to Litland (2015).

lightweight." Unfortunately, it remains mysterious what this idea might come to.

The mystery is lessened, perhaps, if we attend to the use to which deflationist theories are put. Briefly, deflationism is used to show that truth-ascriptions *play no robust explanatory role whatsoever.* One might have hoped or feared that the ascription of truth will play a key role in a variety of philosophically important enterprises. For instance, one might have thought that truth-ascription will play an important role in explaining and defending realism about a certain swath of discourse, the validity of certain logical inferences, or the nature and value of successful inquiry. Deflationists have proposed that these issues are clarified and progress made possible when we recognize that the role of truth in such investigations is very minimal. Truth-ascriptions have no explanatory role to play, other than as devices to summarize and generalize over the claims to which truth is ascribed. In an instance of (S) like

> 'Snow is white' is true if and only if snow is white   (20)

the left-hand side exerts no explanatory *oomph.* Instead, its role in giving explanations is exhausted by its serving to indicate those representation-independent conditions that actually do the work.[22] In this sense, adding quotation marks and the ascription of truth to the right-hand side of (20) to get its left-hand side is "metaphysically lightweight": it adds nothing of any explanatory significance.

An example may help illustrate the plausibility of the idea that truth-ascriptions play no robust explanatory role. One explanatory role claimed for truth is that certain scientific theories are useful because they are true (or nearly true). For instance, the GPS system, we may suppose, relies on the General Theory of Relativity. It might be claimed that part of what makes the GPS system useful is that that theory is true. However, deflationists have pointed out that, if we have an explicit formulation of the General Theory of Relativity, then the appeal to truth is otiose. Instead of saying that the GPS system is useful in virtue of the fact that the General Theory of Relativity is true (or nearly true), we should more perspicuously say that the GPS system is useful in virtue of the fact that mass warps space-time, and so on.[23] What makes the GPS system useful

---

22. See, esp., Field 2004: 29; Horwich 1990.

23. This example is adapted from Horwich 1990: 49–50. The centrality of the explanatory vacuity of truth to deflationary views is also indicated by the fact that one

are the features of physical reality, rather than the features of a certain theory about physical reality. Appeal to the truth of a certain representational entity, the theory, serves simply to point us toward the relevant features of physical reality when stating them is either impossible or inconvenient. In this sense, the truth-ascription is a mere placeholder for a statement of those representation-independent physical conditions that actually make the GPS system useful.

Call the claim that truth-ascriptions play no robust explanatory role, but serve instead to indicate those representation-independent conditions that actually do the explanatory work, the *deflationist's insight*. It is worth dwelling on the intuitive appeal of the deflationist's insight. The GPS system consists of a number of things, scattered around and above the surface of the Earth. These things, working in concert, are poised to be of use to suitably equipped people, who are also scattered around and above the surface of the Earth. The General Theory of Relativity, by contrast, is presumably a proposition or a set of propositions, and so is located either in Plato's heaven, Frege's third realm, or, perhaps, nowhere at all. In any case, the General Theory of Relativity is not located around here, where both the GPS system and its users are located. It's plausible to think that the theory is just not in the right place to make that system useful, here and now, to its users. It is much more plausible, by contrast, to think that the features of that part of physical reality that contains both the GPS system and its users are, in part, what makes it the case that the system is poised to be of use.

However intuitively appealing the deflationist's insight may be, it is obviously still in need of clarification and defense. This is where the notion of ground can help. I will propose a ground-theoretic account of the lightness of truth. This account yields a broadly deflationist view that is compatible with a wide range of plausible semantics for truth-ascriptions. As we will see, this view differs from disquotationalist forms of deflationism in two ways. First, it develops the thoroughly *metaphysical* strand of deflationism on which truth is "metaphysically lightweight," letting the semantic, cognitive, and epistemic chips fall where they may. It thereby skirts the semantic, cognitive, and epistemic controversies attending disquotationalism. Second, it solves the puzzles for the theory of ground that I have described.

---

of the most serious worries about deflationism according to its proponents is that, when the representations we deploy are true, their truth seems to explain our successful navigation of the world (Field 1992: 329).

4. Truth as Hollow

The theory that I will describe is one on which truth-ascriptions may be thought of as "hollow vessels" so far as grounding goes. In particular, their role in grounding is simply to stand in for the facts expressed by the claims or sentences to which truth is ascribed. For ease of reference, I will call this theory *HT*, for "hollow truth." My description of HT specifies the role of truth-ascriptions in grounding. As we will see, that requires specifying both the role of the facts expressed by truth-ascriptions in grounding and the (slightly different) role that such ascriptions play in (good) explanatory stories. Let's start with the role in grounding of the facts expressed by truth-ascriptions.

What grounds the facts expressed by truth-ascriptions? As we have already seen, it is highly plausible to think that, in a large class of cases, the facts expressed by truth-ascriptions are grounded in the facts expressed by the things to which truth is ascribed. So, for instance, Aristotle is plausibly interpreted to suggest that the fact stated by

$$\text{it is true that there are human beings} \qquad (21)$$

is grounded in that stated by

$$\text{There are human beings.} \qquad (16)$$

Thus,

$$\text{There are human beings} < \text{it is true that there are human beings} \quad (22)$$

is a true grounding explanation. HT endorses this claim and generalizes it to corresponding ascriptions of truth to sentences: the fact stated by

$$\text{'There are human beings' is true} \qquad (15)$$

is grounded in that stated by

$$\text{There are human beings} \qquad (16)$$

together with the facts concerning what the sentence 'there are human beings' says. So, on HT, both (22) and

$$\text{There are human beings} \prec \text{'There are human beings' is true} \qquad (23)$$

are true.[24] Call this claim *Aristotle's insight.* It generalizes, of course, to a broad class of other truth-ascriptions.[25] HT claims that, in a broad class of cases, if a sentence P is true, and P says that ϕ, then

$$\phi \prec P \text{ is true} \qquad (25)$$

and

$$\phi < \text{it is true that } \phi \qquad (26)$$

are both true grounding explanations.[26]

These commitments concern how facts reported by truth-ascriptions are grounded. But the heart of the idea that truth plays no robust explanatory role concerns instead what those facts ground. HT holds that the fact stated by a truth-ascription plays no further role in grounding. In particular, no such fact grounds anything. Once we have said how facts involving truth are grounded, we have said all that there is to be said about their role in grounding.[27] On HT, for instance,

---

24. It might plausibly be thought that these two claims are related. One way of explaining the relation is to endorse a full grounding claim corresponding to an instance of a minor variant on STRUTH-INTRODUCTION:

$$\text{('There are human beings' says that there are human beings, it is true that}$$
$$\text{there are human beings)} < \text{'There are human beings' is true.} \qquad (24)$$

Then (23) can be obtained from (22) and (24) by the transitivity of full ground and a principle relating partial and full ground, on which, if $\phi, \Delta < \psi$, then $\phi \prec \psi$.

25. The generalization may be complicated by the presence of context-sensitive expressions in the language (Heck 2004). I am assuming in what follows that we have fixed a context and are considering sentences and arguments evaluated with respect to that context.

26. See notes 28 and 33 for an explicit delineation of the class of true instances of (25) and (26).

27. More precisely, HT says all there is to be said about what the fact stated by a truth-ascription grounds or is *immediately fully* grounded by; see Fine 2012a for discussion of the distinction between immediate and mediate grounds. There may be mediate grounds for truth-ascriptions that are yielded by Aristotle's insight on plausible ancillary premises. For instance, the truth of

$$\text{It is windy} \prec \text{'it is either windy or snowy' is true} \qquad (27)$$

is consistent with the theory that I am describing.

the only role in grounding played by the fact stated by

$$\text{it is true that there are human beings} \qquad (28)$$

is that it is grounded by the fact stated by (16). In particular, the fact stated by (28) plays no role in grounding any further fact. Nothing depends on and is determined by that fact, in the sense at issue in grounding explanations. This is the sense in which the facts stated by truth-ascriptions play *no robust explanatory role* according to HT.[28]

      This deflationary claim about the facts stated by truth-ascriptions might seem implausible in light of the fact that truth-ascriptions appear to play a role in explanatory stories. Consider again the question of what makes the GPS system useful. A tempting proposal, recall, was to explain this (in part) by appealing to the truth of the General Theory of Relativity. It is not completely clear how the explanatory story that accompanies the envisioned grounding explanation is supposed to go. Plausibly, it might involve the inference

The General Theory of Relativity is true
The GPS system is useful

Suppose so.[29] Then we appear to have a truth-ascription playing a supporting role in an explanatory story.[30] If the structure of grounding relations among facts mirrors the structure of explanatory inferences among sentences, then the deflationary claim made by HT is false.

      Plausibility requires, then, that HT identify a mismatch between the inferential structure of explanatory stories and the structure of grounding relations among facts. But we already have the notions

28.   This aspect of the view requires exceptions to the schemas (25) and (26). For instance, if P is itself a truth-ascription, then, according to HT, the fact stated by P does not ground anything, including the fact that P is true. Thus, on HT,

'There are human beings' is true $\nless$ "There are human beings' is true' is true.   (29)

HT systematically delineates the exceptions; see note 33.

29.   For the sake of clarity, I have omitted from the statement of this inference certain ancillary premises concerning, for example, how the GPS system relies on the General Theory of Relativity. Plausibly, those ancillary premises would be required to fill out the explanatory story.

30.   Similarly, Shapiro (1998: 505–6) argues that truth-ascriptions play an ineliminable role in good explanatory stories for the truth of the Gödel sentence for a given, recursively axiomatizable, suitably strong system of arithmetic A.

needed to characterize that mismatch. HT proposes that truth-ascriptions can be premises in explanatory inferences, but their function in such inferences is to stand in for their grounds. Thus, though

The General Theory of Relativity is true
The GPS system is useful
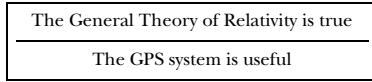
is, we might grant, a good explanatory story, it does not accompany the grounding explanation

$$\text{The General Theory of Relativity is true} \prec \text{The GPS} \atop \text{system is useful.} \tag{30}$$

Instead, since the truth-ascription is standing in for its grounds, one should look to the *grounds* of the truth of the General Theory of Relativity for grounds for the utility of the GPS system. That is, one should conclude

$$\text{Mass warps space-time, etc.} \prec \text{The GPS system is useful.} \tag{31}$$

We have already seen reason to suspect that, in the envisioned explanatory story, the truth-ascription

$$\text{The General Theory of Relativity is true} \tag{32}$$

is a mere placeholder for nonsemantic claims stating certain features of physical reality. This suspicion turns out to be right on target, according to HT.

The view that I have just described can be developed systematically, so that its commitments fall out naturally. I have been presenting arguments in a standard format: each argument is a (converse, rooted, decorated) tree whose nodes contain sentences. The root of the tree (depicted at the bottom in the standard format) contains the conclusion of the argument, and each occurrence of a sentence is inferred from the sentences occurring in its parent nodes. Let's continue to use this format for explanatory stories but explicitly allow that an explanatory story may be infinitely tall. Formally, this means that a branch may contain infinitely many nodes leading up from the root. An explanatory story is *complete* if and only if all of its leaves are occupied by sentences that are *basic* in the sense that there is nothing from which they may

be inferred in an explanatory inference.[31] Suppose that we are given a good explanatory story. A *completion* of that explanatory story is a good, complete explanatory story that (properly or improperly) extends it. For instance, assume that e is an electron and that

$$e \text{ is spin-up} \qquad\qquad (33)$$

is basic. Consider the explanatory story

¬¬(e is spin-up)
¬¬(e is spin-up) ∨ I'm a monkey's uncle

Then, plausibly

e is spin-up
¬¬(e is spin-up)
¬¬(e is spin-up) ∨ I'm a monkey's uncle

is one of its completions. Furthermore, since this second explanatory story has no good, proper extension, it is its own completion.

In accord with Aristotle's insight concerning how truth-ascriptions are grounded, instances of TRUTH-INTRODUCTION and STRUTH-INTRODUCTION are explanatory inferences. To accommodate the plausible claim that sentences ascribing truth may figure as premises in explanatory inferences, we allow that such sentences may occupy non-root nodes in complete explanatory stories. So, for instance, we allow that there is a complete explanatory story of the form

. . .
The General Theory of Relativity is true
The GPS system is useful

where the dots might be filled in by an argument tracing the relations of ground between certain fundamental features of physical reality and

---

31. I allow infinitely tall explanatory stories in order to accommodate the possibility of infinite descent in the grounding structure among facts. Notice that the definition of a complete explanatory story permits complete explanatory stories whose branches have no initial node. Suppose that there is infinite descent of grounds with no fundamental, ungrounded basis. Then, assuming that the target language has the resources to express all of the facts in an infinitely descending chain of grounds, the infinite descent may be mirrored by branches in complete explanatory stories that contain no underived premise. For discussion of the possibility of infinite descent, see Bliss 2013; Dixon 2016; Fine 2001; Litland 2016; Rabin and Rabern 2016; Schaffer 2003.

the truth of the General Theory of Relativity. In accord with the defla-
tionary claim made by HT, we mark nodes in a complete explanatory
story derived by applications of TRUTH-INTRODUCTION and STRUTH-
INTRODUCTION as *conduit nodes*: the sentence occupying a conduit node
of an explanatory story serves as a mere placeholder for its grounds. Sup-
pose again that

The General Theory of Relativity is true
The GPS system is useful

is an explanatory inference. If we extend this explanatory story to yield
one of its completions, then the truth-ascription will turn out to be a
conduit node. Thus, the role of the ascription of truth to the General
Theory of Relativity in explanatory stories in which it figures is to serve as
a mere placeholder for its physical grounds. When it appears as a premise
in a good explanatory story, it indicates that whatever grounds the fact
it states also grounds the fact stated by anything derived from it. In that
sense, it serves as a mere conduit.

　　We turn out to need a further commitment to do justice to the
intuition here. In particular, we need a principle that ensures that a
mere placeholder cannot be transformed into something "heftier" by the
application of a further explanatory inference rule. Suppose we accept,
in accord with the deflationary viewpoint that we are exploring, that
truth-ascriptions like

$$\text{It is true that there are human beings} \qquad (28)$$

play no robust role in grounding. Clearly, one cannot obtain something
that does play such a role by applying, say, EXISTENTIAL INTRODUCTION
to yield the (vacuous) quantificational claim

$$(\exists x)\text{it is true that there are human beings.} \qquad (34)$$

Likewise, the intuitive case in favor of the "lightness" of the existential
generalization 'Something is true' is, if anything, stronger than that in
favor of the "lightness" of its instance, 'The General Theory of Relativity
is true.' Yet, plausibly, good explanatory stories for 'Something is true'
always terminate in an application of EXISTENTIAL INTRODUCTION to
some truth-ascription. Evidently, that inference does not yield a conclu-
sion any "heftier" than its premise. Similarly, in the "postcard" case it is

clear that

$$(17) \text{ is true} \qquad (35)$$

is "lightweight" just in case

$$\text{The sentence on side } A \text{ is true} \qquad (36)$$

is "lightweight." The plausibility of this claim is not reduced at all if we give (36) a Russellian analysis, so that every good explanatory story for it has the form

...	...
(17) is uniquely a sentence on side A	(17) is true
(17) is uniquely a sentence on side $A \wedge$ (17) is true	
$(\exists x)(x$ is uniquely a sentence on side $A \wedge x$ is true$)$	

So, we need some way of accounting for the fact that the applications of EXISTENTIAL INTRODUCTION and CONJUNCTION INTRODUCTION in these cases do not add "metaphysical heft." A natural way to do so is to endorse the idea that being a conduit node is *inherited*: any descendant of a conduit node in a complete explanatory story is, as it were, fruit of a poisoned tree, and so also a conduit node.[32] Then $\psi_1, \psi_2, \ldots$ ground ϕ if and only if there is a good explanatory story $\mathcal{E}$ for ϕ containing only truths, whose branches terminate in leaves occupied by $\psi_1, \psi_2, \ldots$, and which has no completion in which any of $\mathcal{E}$'s leaf nodes are conduit nodes.[33]

In summary, the core commitments of HT comprise four claims:

---

32. It might be objected that this inheritance principle is too strong and that being a conduit node is only sometimes inherited by descendant nodes. See section 7.4 for explicit discussion of this objection.

33. In note 28, I remark that there are exceptions to the schemas (25) and (26) and thus to the general claim that truth-ascriptions are grounded in the facts expressed by the sentences or propositions to which they ascribe truth. These exceptions are cases in which the erstwhile grounds are themselves mere conduits. The systematic development of HT in the main text implies that these are, in fact, the only cases in which those schemas fail. So, not every instance of the schemas is true, but the schemas hold in a broad class of cases, including standard cases like the one involving (16) and (28) that Aristotle discussed. Thanks to an anonymous referee for another journal for indicating that the treatment in the main text did not make the specification of the class of exceptions obvious.

1. Instances of TRUTH-INTRODUCTION and STRUTH-INTRODUCTION are explanatory inferences.
2. Nodes in a complete explanatory story derived by applications of TRUTH-INTRODUCTION and STRUTH-INTRODUCTION are conduit nodes.
3. Any descendant of a conduit node in a complete explanatory story is also a conduit node.
4. $\psi_1, \psi_2, \ldots < \phi$ if and only if there is a good explanatory story $\mathcal{E}$ for ϕ containing only truths, whose branches terminate in leaves occupied by $\psi_1, \psi_2, \ldots$, and which has no completion in which any of $\mathcal{E}$'s leaf nodes are conduit nodes.

Call a claim *hollow* if and only if it appears in a conduit node in some good, complete explanatory story. If a claim is both hollow and true, it is a *hollow truth*. The role of a hollow truth in explanatory stories in which it figures is simply to stand in for its grounds. Intuitively, we may think of a hollow truth as a light, thin shell encasing its grounds: the shell functions merely to carry its grounds, which actually do the metaphysical work of determining (in the way characteristic of grounding) what is the case. On HT, grounding claims are true when there is a corresponding explanatory story that is good, whose nodes contain only truths, and whose leaves contain only nonhollow claims. When there is a good explanatory story for ϕ that meets this condition and whose leaves contain $\psi_1, \psi_2, \ldots$, we will say that the explanatory story *backs* the grounding claim $\psi_1, \psi_2, \ldots < \phi$.[34]

A couple of examples illustrate HT's commitments. Let's suppose that

$$e \text{ is spin-up} \qquad (33)$$

is basic and was asserted by Joe. Then the following, we may assume, is a good explanatory story:

---

34. I do not intend this terminology to suggest that the fact that an explanatory story is good is, in any interesting sense, prior to the corresponding grounding explanation. The only priority I claim here is methodological and local: I will, for the rest of this paper, use good explanatory stories to establish the truth (according to HT) of corresponding grounding claims. I remain neutral here on the question of whether good explanatory stories are prior in any more interesting sense to true grounding explanations.

e is spin-up	
it is true that *e* is spin-up*	Joe said that *e* is spin-up
Joe said something true*	

Conduit nodes are marked with asterisks. Any completion of this argument will either terminate in basic premises from which 'Joe said that *e* is spin-up' is inferred, or will have branches tracing an infinitely descending structure of explanatory inferences. Call the class of good, complete explanatory stories for φ the *explanatory backstory* for φ, and make the plausible assumption that no application of TRUTH-INTRODUCTION or STRUTH-INTRODUCTION appears in the explanatory backstory for 'Joe said that *e* is spin-up'.[35] On our assumptions, this explanatory story backs the grounding explanation

$$e \text{ is spin-up, Joe said so} < \text{Joe said something true} \qquad (37)$$

because it has no completion of the form

e is spin-up	. . .
it is true that *e* is spin-up*	Joe said that *e* is spin-up
Joe said something true*	

where either of the nodes containing '*e* is spin-up' and 'Joe said that *e* is spin-up', respectively, are mere conduits. Moreover, since the node containing

$$\text{It is true that } e \text{ is spin-up} \qquad (38)$$

is a mere conduit node, HT entails that no explanatory story backs the grounding explanation

$$\text{It is true that } e \text{ is spin-up, Joe said so} < \text{Joe said something true.} \qquad (39)$$

So, that grounding explanation is false. Suppose now that *e′* is a spin-down electron, and consider the following explanatory story:

---

35. This assumption is made solely for the purposes of illustration. But another, related claim is necessary if HT is to have any plausibility. It would be implausible to deny that the fact expressed by 'Joe said that *e* is spin-up' has a ground. Given the commitment to the hollowness of truth-ascriptions and the correspondence between true grounding claims and the availability of a good explanatory story whose leaves are all "hefty," this will require the availability of a good explanatory story containing only truths for 'Joe said that *e* is spin-up' whose leaves are all "hefty."

---

e is spin-up	
it is true that *e* is spin-up*	Joe said that *e* is spin-up
it is true that *e* is spin-up and Joe said that *e* is spin-up*	
Joe said something true*	
Joe said something true or *e′* is spin-down*	

As above, no explanatory story backs the grounding explanation

Joe said something true < either Joe said something true or *e′*
is spin-down. (40)

But this explanatory story does back

e is spin-up, Joe said so < either Joe said something true or *e′*
is spin-down. (41)

Moreover, another explanatory story

e′ is spin-down
Joe said something true or *e′* is spin-down

backs

e′ is spin-down < either Joe said something true or *e′*
is spin-down. (42)

This is the core of HT. (I later consider some generalizations.) I take it to be supported in some measure by the fact that it accommodates both Aristotle's insight concerning how the facts expressed by truth-ascriptions are grounded and the deflationist's insight that truth-ascriptions play no robust explanatory role. The theory captures Aristotle's insight straightforwardly, by entailing the truth of explanations like

There are human beings < it is true that there
are human beings. (43)

The deflationist insight is also captured. Suppose again that we want to know what makes it the case that the GPS system is useful. Recall the plausibility of appealing to the truth of the General Theory of Relativity in answering our question. The view at hand does particular justice to

the deflationist's insight by holding that

$$\text{the General Theory of Relativity is true} \qquad (32)$$

is serving in any explanatory story that we may give as a placeholder—a mere conduit—for the nonsemantic claim that mass warps space-time, and so on. Thus, the truth of the General Theory of Relativity plays no robust explanatory role. In this sense, it is "metaphysically lightweight."

So, both Aristotle's insight and the deflationist insight are explicated and accommodated by HT. Moreover, unlike more familiar, disquotationalist views, HT takes no detour through a theory of the psychological, epistemic, or semantic role played by truth-ascriptions. So, it is compatible with a wide range of plausible views on the semantic, epistemic, and cognitive significance of truth-ascriptions.[36] Finally, the sense in which truth-ascriptions are "metaphysically lightweight" is explained in terms of ground: truth-ascriptions express facts that are grounded but that ground nothing. As a result, the sense in which a truth-ascription is "metaphysically lightweight" is as clear as the ground-theoretic notions in play.

These considerations strike me as powerful reasons in favor of HT. A further consideration in HT's favor is that it performs well when applied to the puzzles stated in section 2. Let us, then, turn our attention back to the puzzles and show how the application of HT yields a solution.

5. Solutions

Recall the first puzzle that we encountered, concerning how the proposition q, that something is true, is grounded. The puzzle arises because the explanatory story

$$\frac{(\exists x)\, T(x)}{\frac{T(q)}{(\exists x)\, T(x)}}$$

seems to be a good explanatory story, employing instances of TRUTH-INTRODUCTION and EXISTENTIAL INTRODUCTION. Given that we have a good explanatory story containing only true claims, it is unclear how

---

36. HT does seem to require that (32) and 'Mass warps space-time, and so on' are semantically discernible, since, on HT, they express different facts.

we are to avoid concluding that

$$(\exists x)\,T(x) \prec (\exists x)\,T(x) \tag{10}$$

is true and thus that there is a reflexive instance of partial ground.

HT avoids this puzzle. The explanatory story given above is not complete. We may not infer from the existence of such a story anything about what grounds what, since, for all we have said so far, the leaf node might contain a hollow truth. To see whether that is so, we need to look at the completions of this explanatory story. One obvious completion is simply to chain the explanatory story to itself, ad infinitum:

$\cdots$
$(\exists x)\,T(x)^*$
$T(q)^*$
$(\exists x)\,T(x)^*$
$T(q)^*$
$(\exists x)\,T(x)^*$

As above, asterisks mark conduit nodes in this explanatory story. This completion demonstrates that the leaf nodes of the original explanatory story are mere conduits, so the original explanatory story backs no grounding explanations.

If we just said that, however, then we would fall short of a satisfying solution to the puzzle, which plausibly requires that we offer a principled account of how the fact stated by '$(\exists x)\,T(x)$' is grounded. This is easily obtained. Assume that '$0 = 0$' is a basic truth, let r be the proposition that $0 = 0$, and apply our explanatory inference rules to yield this explanatory story:

$0 = 0$
$T(r)^*$
$(\exists x)\,T(x)^*$

On HT, this is a good, complete explanatory story containing only true sentences, and the truth occurring in its only leaf is nonhollow. So, on HT the fact that something is true is grounded in the fact that $0 = 0$.[37]

---

37. The assumption that '$0 = 0$' is basic is made solely for the purposes of illustration. If '$0 = 0$' turns out to be the conclusion of some explanatory inference, whatever that may be, then there is a complete explanatory story witnessing this fact. Assume that

A similar result can be obtained by using the fact that snow is white. In fact, any truth whose explanatory backstory nowhere involves truth-ascriptions will do the trick. So, we have the satisfying solution that we seek.

We also have a solution to Krämer's puzzle involving the application of SENTQ INTRODUCTION to derive '$(\exists S)S$' from itself. HT entails that the relevant application of SENTQ INTRODUCTION yields a hollow conclusion. On our assumptions, this explanatory story

$0 = 0$
It is true that $0 = 0$*
$(\exists S)S$*

is good, complete, and contains only truths. It thus demonstrates both how the fact expressed by '$(\exists S)S$' is grounded and that '$(\exists S)S$' is hollow according to HT.

HT also handles the "postcard" puzzle easily. Recall that that puzzle involved the sentence

$$0 = 0 \vee (\exists s)(s \text{ is written on } B \text{ and } s \text{ is true}) \tag{17}$$

written on side A of a postcard, while

$$(\exists s)(s \text{ is written on } A \text{ and } s \text{ is true}) \tag{18}$$

is written on side B. Let's use '$\mathcal{A}$' and '$\mathcal{B}$' to abbreviate the sentences (18) and '$(\exists s)(s$ is written on B and s is true)', respectively. The explanatory story

---

no complete explanatory story for '$0 = 0$' involves any hollow claims. (If this assumption fails, then we may adapt the illustration by using some other truth better suited for the task.) Then '0=0' is not hollow, and HT entails that the explanatory story in the main text backs '$0 = 0 < (\exists x)T(x)$'.

$$
\begin{array}{c}
\hline
0 = 0 \\
\hline
0 = 0 \vee \mathcal{B} \\
\hline
\text{(17) is true}^* \qquad \text{(17) is written on } A \\
\hline
\text{(17) is written on } A \text{ and (17) is true}^* \\
\hline
\mathcal{A}^* \\
\hline
\text{(18) is true}^* \qquad\qquad \text{(18) is written on } B \\
\hline
\text{(18) is written on } B \text{ and (18) is true}^* \\
\hline
\mathcal{B}^* \\
\hline
0 = 0 \vee \mathcal{B}^* \\
\hline
\text{(17) is true}^* \\
\hline
\end{array}
$$

is good.[38] Moreover, on our assumption that '$0 = 0$' is basic, this explanatory story demonstrates both how the facts expressed by (17) and (18) are grounded, and that there are no grounding relations between them. By that token, there is no reflexive instance of ground in the offing.

6. A Problem for Internality

A second class of puzzles, taken from Litland 2015, uses the assumption that ground is *internal*:

> **Internality** If some facts fully ground the fact that ϕ, then it is impossible for all of those facts to co-obtain with the fact that ϕ without fully grounding it:
>
> $$(\psi_1, \psi_2, \ldots < \phi) \Rightarrow \Box(\psi_1 \wedge \psi_2 \wedge \cdots \wedge \phi \Rightarrow (\psi_1, \psi_2, \ldots < \phi))$$

This claim, though somewhat abstruse, is plausible. Suppose that we have an explanatory story involving only true sentences that backs a grounding explanation in the actual situation. That very explanatory story actually has what it takes to back a grounding explanation. So, if we tell this explanatory story, then we say only true things, and the argument genuinely traces the relations of dependence and determination leading from premises to conclusion. Now consider a possible situation in which that explanatory story still contains only true sentences. In the possible situation, none of the inferences fails to be explanatory. None of the sentences involved in the explanatory story is false. This means that we could still tell this explanatory story without saying anything false and without failing to trace relations of dependence and determination

---

38. For purposes of presentation, I have omitted premises concerning what the sentences in question say.

from premises to conclusion. It is hard to imagine what more could be required in the possible situation to establish a grounding explanation than to produce such an explanatory story.[39]

Litland shows, however, that internality, together with plausible principles governing ground, turns out to be at odds with the idea that ground is transitive and asymmetric, and hence irreflexive. Suppose that, in the actual situation, we are presented with the following sentences, labeled as shown:

$(\mathbf{L}_g)$ $0 = 0$
$(\mathbf{R}_g)$ (D) is true
$(\mathbf{L})$ (L_g) is true
$(\mathbf{R})$ (R_g) is true
$(\mathbf{D})$ (L_g) is true or (R_g) is true.

Each of these sentences is straightforwardly true. The labels are chosen with the following mnemonic in mind: (D) is a *disjunction*; its *left*-hand disjunct is (L); its *right*-hand disjunct is (R); (L_g) is supposed to be the *ground* for (L); and (R_g) is supposed to be the *ground* for (R).

One important stipulation regarding the interpretation of these sentences bears mention. The occurrences of '(D)' and the other sentence labels in the sentences themselves are not intended to be interpreted as names of the relevant sentences but rather stand in for Russellian definite descriptions. For instance, in the statement of (R_g), '(D) is true' is to be interpreted as an abbreviation of the existential generalization

$$\text{There is something which is both uniquely a sentence with label '(D)' and true.} \tag{44}$$

This wrinkle ensures that (L) and (R) are existential generalizations. Like many other facts expressed by existential generalizations, this allows that they might have been grounded by facts other than the facts that actually ground them. For instance, the fact that someone is the US president is actually grounded in the fact that Biden in particular is; but it

---

39. See Bennett 2011 for a different defense of internality. The theoretical significance of internality goes beyond its plausibility. Litland (2015) shows that, if, in general, grounds for ϕ necessitate ϕ, then internality is a commitment of each of the extant proposals (Bennett 2011; Dasgupta 2014; deRosset 2013; Litland 2016) for systematically answering the question of what grounds grounding facts. Sider (2020) suggests a number of relatively unsystematic proposals.
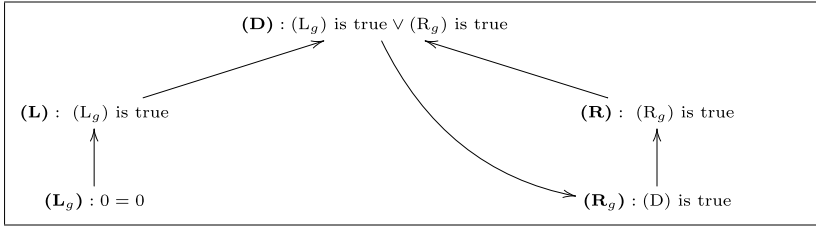
(D) : (L$_g$) is true ∨ (R$_g$) is true

(L) : (L$_g$) is true

(R) : (R$_g$) is true

(L$_g$) : 0 = 0

(R$_g$) : (D) is true

Figure 1.

might have been grounded in Trump's being the US president instead. The availability of other possible grounds for (L) and (R) turns out to be crucial for the statement of the puzzle.

What grounds what in the actual situation? Instances of STRUTH-INTRODUCTION and EXISTENTIAL INTRODUCTION are explanatory inferences. So, it is plausible that, in general, for any truth ϕ, each instance of the schemas

EXISTENTIAL GROUNDING $\phi(\alpha) \prec (\exists x)\phi[x/\alpha]$
TRUTH GROUNDING $\phi \prec \ulcorner\phi\urcorner$ is true

is also true. As before, we assume that instances of DISJUNCTION INTRO-DUCTION are explanatory inferences. So, for any truth ϕ, it is also plausible to think that instances of

LEFT DISJUNCTIVE GROUNDING $\phi < (\phi \vee \psi)$
RIGHT DISJUNCTIVE GROUNDING $\phi < (\psi \vee \phi)$

are true. This gives us (partial) grounding relations indicated by the arrows in figure 1.

Because (partial) ground is transitive and asymmetric, the presence of a cycle in the diagram indicates a contradiction.

Following Fine 2010, Litland suggests that we may avoid this problem by denying the validity of LEFT and RIGHT DISJUNCTIVE GROUND-ING. Assuming that $(\phi \vee \psi)$ is true, we should rely instead on the validity of

WEAK DISJUNCTIVE GROUNDING $\phi < (\phi \vee \psi)$ or $\psi < (\phi \vee \psi)$[40]

40. A fully satisfying solution would offer a principled motivation for rejecting the stronger disjunctive grounding principles in favor of WEAK DISJUNCTIVE GROUNDING. Litland offers one, appealing to the *way* in which a fact obtains. Let's grant that the way a fact obtains is given by those of its good explanatory stories that contain only true premises. Then, Litland suggests, the disjunctive grounding principles will fail when the
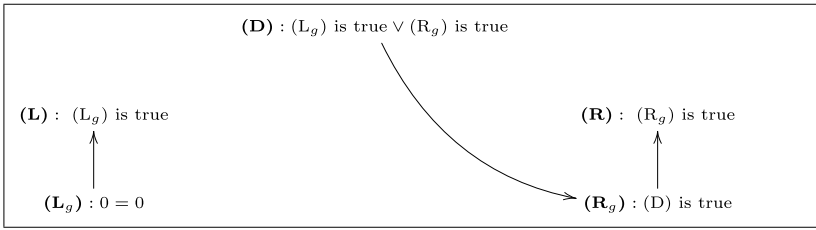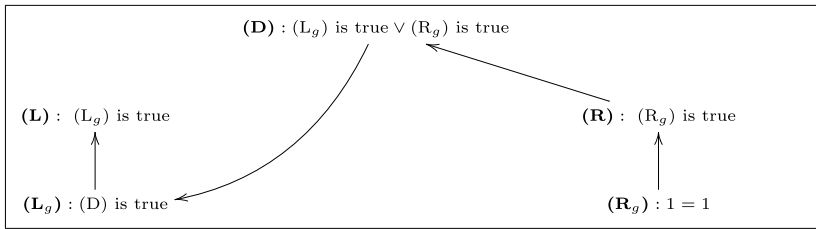
Figure 2.

Figure 3.

Then, the other grounding principles yield the picture in figure 2.

WEAK DISJUNCTIVE GROUNDING requires that the fact expressed by (D) is fully grounded by some fact expressed by one of its disjuncts. If the fact expressed by (R) grounded the fact expressed by (D), then we would have a contradiction. Litland concludes that

$$(\text{L}_g) \text{ is true} \quad < \quad \big((\text{L}_g) \text{ is true} \quad \vee \quad (\text{R}_g) \text{ is true}\big) \qquad (45)$$

is a true grounding explanation in the actual situation.

Now consider a counterfactual situation in which '(L_g)' and '(R_g)' label different sentences:

(L_g) (D) is true
(R_g) $1 = 1$

Assume that, in the counterfactual situation, the rest of the sentences are uniquely labeled as they actually are. Again, all of the sentences would be straightforwardly true in this situation. Application of our grounding principles yields figure 3.

---

way the disjunct obtains involves the disjunction. As the arrows in figure 1 indicate, the way that (R) obtains in the actual situation involves (D).

In this counterfactual situation, Litland concludes,

$$(L_g) \text{ is true} \quad \nless \quad \big((L_g) \text{ is true} \quad \vee \quad (R_g) \text{ is true}\big). \qquad (46)$$

If Litland's claims are correct, then the fact expressed by (L) actually (fully) grounds that expressed by (D), but might have co-obtained with that fact without grounding it. This contradicts internality.

We can solve the puzzle by simply giving up on internality.[41] An assumption of the puzzle, then, is that ground is internal. If one denies this, then the erstwhile *puzzle* turns out to be a *result* that specifies conditions under which internality fails.

At the beginning of this section, we noted that internality is plausible, but that abstract and impressionistic defense of internality confronts the problem posed by the puzzle. If there were no alternative, then internality would have to go. Fortunately, there are a number of other principles in play, and denying any of those would evade the puzzle. In fact, HT denies the validity of all of the schematic grounding principles that we have stated: when the left-hand side of any instance of EXISTENTIAL GROUNDING, TRUTH GROUNDING, LEFT DISJUNCTIVE GROUNDING, or RIGHT DISJUNCTIVE GROUNDING is hollow, each of those schemas fails. Similarly, WEAK DISJUNCTIVE GROUNDING fails when both disjuncts are hollow truths.[42] This is the sense in which, according to HT, hollow truths are "metaphysically lightweight." Even so, HT is consistent with the plausible paradigm cases of grounding explanations involving existential generalizations, disjunctions, and truth-ascriptions that motivate theorists to propose these schemas. More generally, the view holds that the default case is one in which these schemas are valid. They fail only when some truth-ascription figures in the explanatory backstory. So, all of these principles fail, particularly in application to (L), (R), and (D).

If we just said that, however, then we would fall short of a satisfying solution to the puzzle, which plausibly requires that we offer a principled account of how the facts stated by (D), (L), and (R) are grounded. This

41. This is Litland's solution, though he proposes a weaker sense in which ground turns out to be internal. Of course, one can also give up the claim that ground is transitive and asymmetric.

42. Thus, HT's acceptance requires a logic of ground that is somewhat more complex than the prominent treatment in Fine 2012a. HT shares this feature with every extant proposed solution to the puzzles. In fact, it is not clear how to systematically characterize the logic of ground on HT. I leave the question to further work. Thanks to an anonymous referee for making this point.

is easily obtained. Assume that '$0 = 0$' is a basic truth in the actual situation. On HT, the conclusions of instances of STRUTH-INTRODUCTION are hollow: their function in explanatory stories is to indicate that whatever grounds the facts they express also grounds the facts expressed by anything derived from them. Assume that the explanatory backstory for '(L_g) says that $0 = 0$' contains no truth-ascription. Then, no leaf of this explanatory story

$0 = 0$	(L_g) says that $0 = 0$
(L): (L_g) is true*	
(D): (L_g) is true $\vee$ (R_g) is true*	

contains a hollow truth.[43] Thus, this explanatory story will back a grounding explanation

$$0 = 0, (L_g) \text{ says that } 0 = 0 \quad < \quad \big((L_g) \text{ is true} \quad \vee \quad (R_g) \text{ is true}\big). \quad (47)$$

Similarly, the explanatory story

$0 = 0$	(L_g) says that $0 = 0$	
(L): (L_g) is true*		
(D): (L_g) is true $\vee$ (R_g) is true*	(D) says that (L_g) is true $\vee$ (R_g) is true	
(Rg): (D) is true*		

backs

$$0 = 0, (L_g) \text{ says that } 0 = 0 < (D) \text{ is true.}^{44} \quad (48)$$

Extending the explanatory story still further backs

$$0 = 0, (L_g) \text{ says that } 0 = 0 < (R_g) \text{ is true.} \quad (49)$$

So, the grounding relations in the actual situation according to HT are depicted in figure 4.

    This is a pleasing picture if we are tempted by the deflationist's idea that truth-ascriptions play no robust explanatory role. The fact that

---

43. '(L_g) is true' stands in for a claim containing a Russellian definite description, so this explanatory story omits inferences involving the claim that the sentence '$0 = 0$' is uniquely labeled '(L_g)'. Similar remarks apply to the other explanatory stories displayed in this section.

44. To prevent clutter, I simplify this grounding claim and the one below by omitting facts concerning what certain of the sentences say from the grounds.
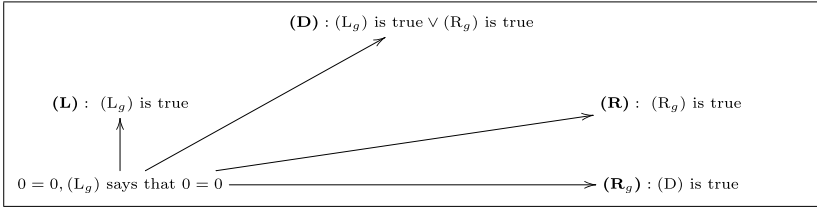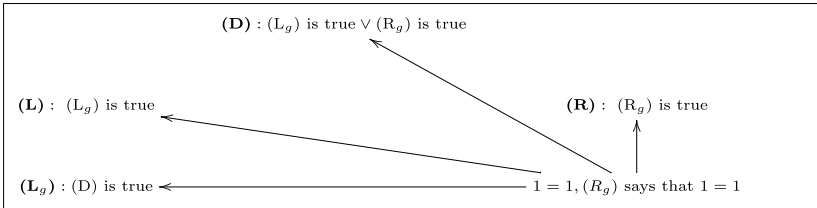
(D) : (L_g) is true $\lor$ (R_g) is true

(L) : (L_g) is true   **(R)** : (R_g) is true

$0 = 0, (L_g)$ says that $0 = 0$ **(R_g)** : (D) is true

Figure 4.

(D) : (L_g) is true $\lor$ (R_g) is true

(L) : (L_g) is true   **(R)** : (R_g) is true

(L_g) : (D) is true $1 = 1, (R_g)$ says that $1 = 1$

Figure 5.

$0 = 0$, together with the facts about what the sentences say, does all the grounding work; facts stated by truth-ascriptions do nothing, just as the deflationist says.

Something similar goes for the grounding relations in the counterfactual situation, depicted in figure 5.

Finally, there is no counterexample to internality here. The sentence actually uniquely labeled (L_g) says something that the sentence labeled (L_g) in the counterfactual situation does not say. So, the (full) ground for (D) in the actual situation does not obtain in the counterfactual situation. In fact, a virtue of the solution provided by HT is that it locates the source of the differences in grounding between the actual situation and the counterfactual situation so plausibly: the grounding connections are different in the two situations because the relevant sentences say different things in those situations.

7. Objections

There are a number of objections that one might make to HT. I will not attempt here to vindicate HT against every such objection. There are, however, five objections that illuminate some of HT's most interesting features and limitations.

7.1. Grounds Versus Causes

The first of these objections is that, contrary to what I have claimed, HT does not really capture the deflationist's insight. HT is expressed in terms of grounding explanations. Disquotationalists and deflationists have explicitly concerned themselves, however, with the claim that truth-ascriptions play no robust role in *causal* explanations (Field 1994; Horwich 1990). So, deflationists about truth might complain that HT fails to do justice to the spirit of the deflationist's insight.

It is straightforward to generalize HT to handle causal explanations. The idea would be that, though facts expressed by truth-ascriptions don't cause anything, their grounds do. It seems that the intuitive considerations favoring the claim that truth-ascriptions play no robust role in grounding have analogues that favor claiming that truth-ascriptions play no robust role in causing. Suppose, for instance, that you used a GPS device to navigate to your in-laws' home for a holiday meal. It is plausible to think that the General Theory of Relativity is not in the right place to play a role in causing your arrival. Assuming that this intuition is on target, the proponent of HT should say here that the truth of the General Theory of Relativity does not cause your arrival at your in-laws.[45] Instead, the relevant aspects of physical reality play that causal role.

7.2. Generalizations

One might hold that disjunctions are "metaphysically lightweight," in just the way that truth-ascriptions are,[46] and object to HT that it does not characterize the lightness of truth-ascriptions in a way suitably analogous to the alleged lightness of disjunctions. On HT, disjunctions are not "metaphysically lightweight" in the way that truth-ascriptions are; the objector concludes for this reason that HT is unacceptable. I myself

45. There are views concerning the nature of causation on which the intuition here is not on target. I have in mind views that analyze causation by appeal to counterfactual dependence. On standard views of counterfactual dependence, since, necessarily, the General Theory of Relativity is true if and only if mass warps space-time, and so on, the truth of the theory and the relevant features of physical reality play the same role in counterfactual dependence. See Wilson 2018 for an attempt to offer a more fine-grained account of counterfactual dependence, which may allow appeal to counterpossible divergences between the truth of the theory and the relevant features of physical reality. See Bernstein 2016 for discussion.

46. See Fodor 1974: 109–10; Kim 1993; Lewis 1986: 61. Each of these authors argues that facts or properties expressed disjunctively play no determinative role. The discussion of disjunctions in deRosset 2017 may be relevant in this connection.

doubt that analogues of the motivations for the deflationist's insight are plausible in the case of disjunctions, but let's suppose that I am wrong about that. It turns out that HT can be generalized to yield a view on which large swathes of facts in addition to truth-ascriptions are "metaphysically lightweight." For instance, we can generalize HT by saying that claims derived by DISJUNCTION INTRODUCTION, like those derived by TRUTH-INTRODUCTION or STRUTH-INTRODUCTION, are hollow. In fact, a similar sort of generalization is available to any view on which some swath of truths is "metaphysically lightweight," so long as we can characterize those truths as the conclusions of some class of explanatory inferences.[47]

One might also wonder about other, more radical generalizations. One might wonder, for instance, whether every fully grounded truth has the feature that HT attributes to truth-ascriptions. Call this view the *generalized HT*. On the generalized HT, the facts expressed by fully grounded truths ground nothing; and, though fully grounded truths figure in explanatory arguments, they serve in those arguments as mere placeholders for their grounds.[48]

The generalized HT is implausible. We have seen that the deflationist's claim that truth-ascriptions play no robust explanatory role is highly plausible, as was illustrated by the fact that the truth of the General Theory of Relativity was, on reflection, not among the grounds of the utility of the GPS system. By contrast, the analogue of the deflationist's insight for other fully grounded claims is implausible. Suppose, for instance, that the wrongness of telling lies (in circumstances *C*) is fully grounded in some further facts. It seems implausible to think that

It is wrong to tell lies (in circumstances *C*)   (50)

is hollow. That is, it is implausible to think that (50) itself does no further explanatory work but instead serves merely as a placeholder for its grounds in explanatory arguments in which it figures. So, to adapt an example discussed by Blackburn (1984), it is highly plausible to think that it is wrong to get your little brother to tell lies (in *C*) partly in virtue of its being wrong to tell lies (in *C*). Something similar goes for facts

---

47. Thanks to Gideon Rosen and Selim Berker for discussion of the issues raised here.

48. Thanks to Matti Eklund for suggesting this generalization of HT.

involving genes or clades. So, for instance, a truth of the form

$$\text{These soybean seeds have gene } G \qquad (51)$$

is as "hefty" as one could hope for, even though the fact it expresses is, presumably, fully grounded by certain physical and chemical facts. It appears that one such truth expresses a fact that partially grounds the fact that plants grown from certain seeds are "Roundup ready"—that is, resistant to certain herbicides.

I conclude that, though HT can be generalized, considerations of plausibility set bounds on how far such a generalization should go. Nevertheless, it is clear that HT provides resources for anyone who wishes to vindicate analogues of the deflationist's insight for other classes of facts. So long as the target class of facts can be characterized as the ones expressed by the conclusions of some class of explanatory inferences, HT exemplifies a general strategy for claiming that those facts play no robust explanatory role.

7.3. *Epistemic Versions of the Puzzles*

Another objection is inspired by the fact that there are analogues of Fine's original puzzle that involve knowledge and other epistemic notions. Krämer (2020), for instance, notes the plausibility of the idea that Joe's knowing that ϕ is partially grounded in ϕ. If we take this plausible claim in full generality, then, assuming Joe knows that he knows something, it seems to follow that Joe's knowing that he knows something is partially self-grounded. One of the difficulties in considering how HT might handle a puzzle of this sort is that it is simply unclear how explanatory stories for epistemic facts go.[49] Here, however, is a natural way to state a puzzle of this sort. One might hold that, on the assumption that S knows that ϕ, instances of the following schema are generally true:

EPISTEMIC GROUNDING $\phi \prec S$ knows that ϕ.

---

49. For example, it is unclear whether good explanatory stories for knowledge ascriptions infer them from truth-ascriptions, as they would on a Chisholm-style analysis of knowledge as true belief of a certain sort. Since HT would then straightforwardly apply to entail the hollowness of knowledge ascriptions, let us assume that this is not how good explanatory stories for epistemic facts go.

Assume that Joe knows that Joe knows something. Given EXISTENTIAL GROUNDING (or some appropriate analogue),[50] we appear to have

$$\text{Joe knows that Joe knows something} < \text{Joe knows} \tag{52}$$
$$\text{something} \prec \text{Joe knows that Joe knows something.}$$

Given the transitivity of partial ground, this entails a reflexive instance of partial ground.

HT already handles this class of puzzles, given the wide ambit of completions for good explanatory stories. To illustrate the application of HT, it will be helpful to switch to an example where, unlike in the case of knowledge, identifying the backing explanatory stories is easy. Suppose that Joe uses an intransitive verb 't-believes' and that his use of this intransitive verb intuitively corresponds to our notion of *believing something that is the case.* So, for instance, if Joe believes that grass is green, then, as he would put it, he t-believes. Suppose further that we insist that all good, complete explanatory stories for the claim 'Joe t-believes' terminate in an explanatory inference of the form

T-BELIEF INTRODUCTION	$\dfrac{\text{Joe believes that } \phi \qquad \phi}{\text{Joe t-believes}}$

Assume that Joe t-believes and is perceptive enough to believe that he t-believes. Then, the explanatory story

$$\frac{\text{Joe believes that Joe t-believes} \qquad \text{Joe t-believes}}{\text{Joe t-believes}}$$

is good and contains only truths. It therefore seems hard to resist the claim that there is a reflexive instance of partial ground:

$$\text{Joe t-believes} \prec \text{Joe t-believes.} \tag{53}$$

But HT already entails that the claim that Joe t-believes is hollow. This is because the explanatory backstory for 'Joe t-believes' will include

---

50. EPISTEMIC GROUNDING and EXISTENTIAL GROUNDING are used here solely for illustration. The exact means of regimenting the explanatory story for the claim we colloquially express by 'Joe knows something' may differ significantly. One way of regimenting the claim, for instance, uses first-order quantification over propositions. Another uses higher-order quantification into sentential position. The response below is neutral on the differences between them.

truth-ascriptions. HT therefore entails that 'Joe t-believes' is hollow. So, for instance, on HT, there is a completion of our explanatory story of the form:

. . .	. . .	$0 = 0$
. . .	Joe believes that it is true that $0 = 0$	it is true that $0 = 0$*
Joe believes that Joe t-believes	Joe t-believes*	
Joe t-believes*		

HT is thus already committed to the hollowness of the claim that Joe t-believes: the fact expressed by that claim grounds nothing.[51] So, on HT it does not (even partially) ground itself.

The explanatory stories that back grounding explanations for knowledge ascriptions are not so easily specified, but the lesson in the case of t-beliefs transfers readily. Whatever the explanatory story for the claim that Joe knows something may be, it will have a wide range of completions. Some of those completions involve truth. For instance, there will be some good, complete explanatory story for 'Joe knows something' on which it is inferred from claims that include a lemma 'it is true that $0 = 0$' via 'Joe knows that it is true that $0 = 0$'. The claim that Joe knows something has a truth-ascription in its explanatory backstory. Thus, it will be hollow on HT.

---

51. It might be objected that, in the case at hand, Joe has no such belief. Recall, however, that good explanatory stories may contain falsehoods; we introduced the idea of a good explanatory story in section 1 by appeal to this argument:

It's windy
Either it's windy or it's snowy

As we saw, this is a good explanatory story, even if (as it turns out) the weather is neither windy nor snowy. Similarly, basic claims need not be true. So, instances of the argument form in the main text that demonstrate the hollowness of 'Joe t-believes' may be completions of

Joe believes that Joe t-believes	Joe t-believes
Joe t-believes	

despite containing falsehoods. Generally, HT is a view on which hollowness is a necessary feature of any claim that has it, and its possession is independent of how things contingently turn out to be.

7.4. Inheritance

The last two objections, unlike the ones we have already considered, target core commitments of HT. The first of the two concerns the idea that the hollowness of a truth-ascription is inherited by anything inferred from it in a good explanatory story. That commitment was motivated by the fact that some explanatory inferences evidently preserve hollowness. As we saw, if

$$\text{(17) is true} \qquad (35)$$

is hollow, then clearly so too is

$$\text{The sentence on side } A \text{ is true} \qquad (36)$$

even though the latter is not the conclusion of any application of TRUTH-INTRODUCTION or STRUTH-INTRODUCTION. HT's commitment to inheritance secures the hollowness of (36).

It might be objected, however, that this commitment is stronger than is necessary for the job. The inheritance principle that we have adopted says, in effect, that if a truth-ascription appears anywhere in the explanatory backstory for a claim, then that claim is hollow. A weaker alternative would hold instead that hollowness is inherited only if *every* good, complete explanatory story for the claim somewhere involved an application of TRUTH-INTRODUCTION or STRUTH-INTRODUCTION. It is plausible to think that every good, complete explanatory story for (36) contains some application of STRUTH-INTRODUCTION So, this weaker alternative would entail the sensible idea that (36) is hollow. On the other hand, the weaker inheritance principle would not classify

$$\text{Something is true} \lor 0 = 0 \qquad (54)$$

as hollow, since, assuming that '$0 = 0$' is basic,

$$\begin{array}{c} 0 = 0 \\ \hline \text{Something is true} \lor 0 = 0 \end{array}$$

is good, complete, and nowhere contains an application of either TRUTH-INTRODUCTION or STRUTH-INTRODUCTION. The full-strength inheritance principle required by HT is far less obvious, the objector contends, than this weaker alternative. But the full-strength inheritance principle is required for solutions to some of the puzzles, including the

"postcard" puzzle, Krämer's version involving '$(\exists S)S$', and the epistemic version of the puzzle.

It seems to me that, if we are attracted to the idea that 'Something is true' is hollow, then we should also embrace the idea that (54) is hollow. It turns out that the ground-theoretic commitments of a version of HT that includes only the weaker inheritance principle are less plausible, on the whole, than those of the original version of HT. Let s be the proposition that either something is true or $0 = 0$, and consider the explanatory story

$0 = 0$
$(\exists x)\,T(x) \vee 0 = 0$
Ts°
$(\exists x)\,T(x)^{\circ}$
$(\exists x)\,T(x) \vee 0 = 0$

We may assume that this explanatory story is good, complete, and contains only truths. The superscripted symbol '$\circ$' marks claims that are hollow according to the revision of HT that affirms only the weaker inheritance principle. On this weakening of HT, the fact expressed by (54) grounds itself, but the fact expressed by '$(\exists x)\,T(x)$' does not. Also, the fact expressed by (54) grounds the fact expressed by its left-hand disjunct, but the fact expressed by the disjunct does not ground the fact expressed by the disjunction. This is an implausible combination of grounding claims. Perhaps we might be driven by the puzzles to admit reflexive instances of grounding, but, if this explanatory story indicates that '$(\exists x)\,T(x) \vee 0 = 0$' provides a reflexive instance, then the same should be said about '$(\exists x)\,T(x)$'. Similarly, reflection on this explanatory story might perhaps bring us to accept the initially implausible idea that the disjunction grounds its disjunct. But the plausibility of the view that the disjunct returns the favor is at least as strong.

To be clear, I am not suggesting that the hollowness of (54) is immediately apparent, or even as apparent as the hollowness of 'The General Theory of Relativity is true'. I have urged the intuitive plausibility of the broadly deflationary idea that truth-ascriptions are hollow, but the considerations that favor the full-strength inheritance principle over the weakening under consideration are less direct. It turns out that HT provides a way of systematizing the intuitive idea that truth-ascriptions are hollow, whose commitments are, taken together, more plausible than the weakening we have considered.

Inclusion of the full-strength inheritance claim in HT sometimes yields initially surprising verdicts about which claims are hollow. So, for instance, we might be surprised to learn that the epistemic claim that Joe knows something turns out to be hollow. In retrospect, though, this result is not particularly surprising. It is not at all surprising to learn that truly believing something is truth-involving, and so claims attributing it are hollow. Similar remarks apply to t-believing. Since knowing something plausibly involves either truly believing something or, at least, t-believing,[52] it seems quite natural, on the strand of deflationism we are considering, to hold that claims that someone knows something are hollow. Still, there may be other cases in which a claim of hollowness is unexpected, even in retrospect. I haven't yet seen any such cases, but this is an important direction for further work. For proponents of HT, such cases might furnish opportunities for new applications; for opponents, they might furnish premises for new objections.[53]

7.5. *Generalizations of Aristotle's Insight*

Recall that HT requires exceptions to

> **TRUTH GROUNDING** ϕ < it is true that ϕ.

This requirement follows from ideas at the heart of HT, that truth-ascriptions themselves play no robust explanatory role and that the thinness of that role should be explicated by the idea that the facts expressed by truth-ascriptions ground nothing. So, if ϕ is itself a truth-ascription, then, according to HT, the fact stated by ϕ does not ground anything, including the fact that it is true that ϕ. Thus, HT denies

> It is true that there are human beings < it is true
> that it is true that there are human beings. (55)

The objection is that TRUTH GROUNDING (and analogous principles covering sentential truth-ascriptions, *being the case*, etc.) in its full gener-

---

52. In note 49 I assumed for the sake of argument that knowing something does not involve truly believing it. Since, as I have argued, HT yields the hollowness of 'Joe knows something' whether or not we make this assumption, I have dropped it here.

53. Thanks to both Zoë A. Johnson King and an anonymous referee for independently suggesting both the need to defend the full-strength inheritance principle and the concomitant worry that it would imply surprising and implausible consequences concerning the hollowness of various claims.

ality enjoys basic plausibility and that these core commitments of HT are therefore implausible.[54] It should be noted that similar objections may be formulated with respect to all of the grounding principles used in the puzzles. So, HT requires exceptions to

LEFT DISJUNCTIVE GROUNDING $\phi < (\phi \vee \psi)$

in cases in which ϕ is a truth-ascription. In particular, HT requires the rejection of

$$\text{It is true that there are human beings} < (\text{it is true that} \quad (56)$$
$$\text{there are human beings} \vee \quad 0 = 1).$$

And it might be held that such principles are so plausible that a theory which rejects them is unacceptable.

Principles like TRUTH GROUNDING and LEFT DISJUNCTIVE GROUNDING enjoy some plausibility. It seems to me, however, that their plausibility stems from the profound plausibility of the particular cases that motivate them. So, for instance, as we have seen several times, Aristotle's insight that

$$\text{there are human beings} < \text{it is true that there are human beings} \quad (43)$$

is powerfully plausible. Similarly,

$$\text{there are human beings} < (\text{there are human beings} \vee \quad 0 = 1) \quad (57)$$

is powerfully plausible. Because of the plausibility of these particular claims, their natural schematic generalizations are also plausible. We should be wary, however, of generalizing from the plausibility of particular cases to a problematic general principle. Moreover, one lesson of the puzzles is that some plausible principle governing ground will have to go.

As we have seen, HT entails the truth of (43) and (57), given plausible ancillary premises. What's more, it provides a principled basis on which to distinguish true instances of, for example, TRUTH GROUNDING from untrue instances. That principled basis itself is intuitively motivated by the deflationist insight that truth-ascriptions may figure

54. Thanks to Gonzalo Rodriguez-Pereyra for discussion of an objection along these lines.

in explanatory arguments but don't themselves state facts that ground anything. Finally, HT relies on a neglected distinction between two of the many different things that philosophers have called "explanations": explanatory stories and the facts stated by true grounding claims.[55] Though HT denies TRUTH GROUNDING, it asserts that all instances of TRUTH-INTRODUCTION are explanatory. So, the plausibility of TRUTH GROUNDING can be diagnosed as the result of running together the idea that an explanatory story is good (and contains only truths) and the idea that its corresponding grounding explanation is true.[56]

8. Conclusion

Our discussion of HT has been brief. There is much that remains to be worked out. In particular, HT leaves central issues in the theory of truth unaddressed. First, HT is a theory of the *lightness* of truth: what truth's being "metaphysically lightweight" comes to. HT does not offer a traditional analysis of the *nature of truth*; at least, no theory is proposed here that purports to provide interesting necessary and sufficient conditions for something's being true or to exhaustively articulate the nature of truth. In this way, HT differs from some of the more traditional attempts

---

55. See Shapiro 1998: 505 for a use of 'explanation' for an explanatory story that is relevant to the present discussion. Shapiro argues there that truth-ascriptions are an ineliminable part of certain explanatory stories; HT offers a way of seeing that this is consistent with the claim that truth-ascriptions are "metaphysically lightweight" and play no robust explanatory role.

56. It might nevertheless be held that denying (55) and (56) is too implausible. If so, then we can ramify HT to yield a theory on which both claims come out true. We can assign *degree 0* to all claims for which all good, complete explanatory stories are truth-free; *degree 1* to all claims for which all good, complete, explanatory stories contain at most degree 0 claims in nonroot nodes; and so on through all of the ordinals. The degree of a claim ϕ is *unbounded* if, for every α, there is a $\beta > \alpha$ such that some good, complete explanatory story for ϕ contains a degree β claim at some nonroot node. (More formally, the inductive definition of degree is as follows: the *degree* of a claim is 0 if its explanatory backstory contains no truth-ascriptions, and is otherwise the least ordinal (if there is one) greater than the degree of every claim occupying a nonroot node in its explanatory backstory). The truth-ascriptions that give rise to the puzzles we have considered all have unbounded degree. Then HT might be weakened so that an explanatory story is permitted to back a true grounding explanation when its conclusion has a bounded degree. Since, presumably, 'it is true that that there are human beings' has degree 1, this would allow us to avoid the puzzles while affirming (55). Something similar holds for (56). I don't myself think that (55) and (56) are particularly plausible prima facie, so the extra complication involved in ramification seems to me unwarranted. You may think differently.

References

Ayer, A.J. 1936. *Language, Truth, and Logic.* London: Gollancz.
Bennett, Karen. 2011. "By Our Bootstraps." *Philosophical Perspectives: Metaphysics* 25: 27–41.
Bernstein, Sara. 2016. "Grounding is not Causation." *Philosophical Perspectives: Metaphysics* 30: 21–38.
Blackburn, Simon. 1984. *Spreading the Word: Groundings in the Philosophy of Language.* Oxford: Clarendon Press.
Bliss, Ricki. 2013. "Viciousness and the Structure of Reality." *Philosophical Studies* 166, no 2: 399–418.
Correia, Fabrice. 2014. "From Grounding to Truth-Making: Some Thoughts." In *Mind, Values and Metaphysics: Philosophical Essays in Honour of Kevin Mulligan*, vol. 1, edited by Anne Reboul, 85–98. Cham: Springer.
Daly, Chris. 2012. "Skepticism about Grounding." In *Metaphysical Grounding: Understanding the Structure of Reality*, edited by Fabrice Correia and Benjamin Schnieder, 81–100. Cambridge: Cambridge University Press.
Dasgupta, Shamik. 2014. "The Possibility of Physicalism." *Journal of Philosophy* 111, no. 9: 557–92.
deRosset, Louis. 2013. "Grounding Explanations." *Philosopher's Imprint* 13, no. 7: 1–26.
deRosset, Louis. 2014. "On Weak Ground." *Review of Symbolic Logic* 7, no. 4: 713–44.
deRosset, Louis. 2015. "Better Semantics for the Pure Logic of Ground." *Analytic Philosophy* 56, no. 3: 229–52.
deRosset, Louis. 2017. "Grounding the Unreal." *Philosophy and Phenomenological Research* 95, no. 3: 535–63.
deRosset, Louis. 2020. "Anti-Skeptical Rejoinders." In *The Routledge Handbook of Metaphysical Grounding*, edited by Michael J. Raven, 180–93. New York: Routledge.
Dixon, T. Scott. 2016. "What is the Well-Foundedness of Grounding?" *Mind* 125, no. 498: 439–68.
Field, Hartry. 1992. "Critical Notice: Paul Horwich's *Truth.*" *Philosophy of Science* 59, no. 2: 321–30.
Field, Hartry. 1994. "Deflationist Views of Meaning and Content." *Mind* 103, no. 411: 249–85.
Field, Hartry. 2004. *Truth and the Absence of Fact.* Oxford: Oxford University Press.
Fine, Kit. 2001. "The Question of Realism." *Philosophers' Imprint* 1, no. 2: 1–30.
Fine, Kit. 2010. "Some Puzzles of Ground." *Notre Dame Journal of Formal Logic* 51, no. 1: 97–118.

Fine, Kit. 2012a. "Guide to Ground." In *Metaphysical Grounding: Understanding the Structure of Reality*, edited by Benjamin Schnieder and Fabrice Correia, 37–80. Cambridge: Cambridge University Press.

Fine, Kit. 2012b. "The Pure Logic of Ground." *Review of Symbolic Logic* 5, no. 1: 1–25.

Fodor, J. A. 1974. "Special Sciences (Or: The Disunity of the Sciences as a Working Hypothesis)." *Synthese* 28, no. 2: 97–115.

Grover, Dorothy L., Joseph L. Camp, and Nuel D. Belnap Jr. 1975. "A Prosentential Theory of Truth." *Philosophical Studies* 27, no. 2: 73–125.

Halbach, Volker. 2001. "How Innocent is Deflationism?" *Synthese* 126, nos. 1–2: 167–94.

Heck, Richard. 2004. "Truth and Disquotation." *Synthese* 142: 317–52.

Hempel, Carl G., and Paul Oppenheim. 1948. "Studies in the Logic of Explanation." *Philosophy of Science* 15, no. 2: 135–75.

Hofweber, Thomas. 2009. "Ambitious, Yet Modest, Metaphysics." In *Metametaphysics: New Essays on the Foundations of Ontology*, edited by David Chalmers, David Manley, and Ryan Wasserman, 260–79. Oxford: Oxford University Press.

Horwich, Paul. 1990. *Truth*. Oxford: Blackwell.

Jenkins, C. S. I. 2011. "Is Metaphysical Dependence Irreflexive?" *The Monist* 94, no. 1: 267–76.

Kim, Jaegwon. 1993. "Multiple Realization and the Metaphysics of Reduction." In *Supervenience and Mind: Selected Philosophical Essays*, 309–35. Cambridge: Cambridge University Press.

Koslicki, Kathrin. 2015. "The Coarse-Grainedness of Grounding." In *Oxford Studies in Metaphysics*, vol. 9, edited by Karen Bennett and Dean W. Zimmerman, 306–44. Oxford: Oxford University Press.

Krämer, Stephan. 2013. "A Simpler Puzzle of Ground." *Thought: A Journal of Philosophy* 2: 85–89.

Krämer, Stephan. 2020. "Puzzles." In *The Routledge Companion to Metaphysical Ground*, edited by Michael J. Raven, 271–82. New York: Routledge.

Kripke, Saul. 1975. "Outline of a Theory of Truth." *Journal of Philosophy* 72: 690–716.

Lewis, David. 1986. *On the Plurality of Worlds*. Oxford: Blackwell.

Litland, Jon Erling. 2015. "Grounding, Explanation, and the Limit of Internality." *Philosophical Review* 124, no. 4: 481–532.

Litland, Jon Erling. 2016. "An Infinitely Descending Chain of Ground without a Lower Bound." *Philosophical Studies* 173, no. 5: 1361–69.

Lovett, Adam. 2020. "The Puzzles of Ground." *Philosophical Studies* 177, no. 9: 2541–64.

McGee, Vann. 1992. "Maximal Consistent Sets of Instances of Tarski's Schema (T)." *Journal of Philosophical Logic* 21: 235–41.

Moore, Graham Seth. 2020. "Theorizing about Truth Outside of One's Own Language." *Philosophical Studies* 177: 883–903.

Quine, W. V. O. 1970. *Philosophy of Logic.* Englewood Cliffs, NJ: Prentice Hall.

Rabin, G. O., and B. Rabern. 2016. "Well-Founding Grounding Grounding." *Journal of Philosophical Logic* 45, no. 4: 349–79.

Ramsey, F. P. 1927. "Facts and Propositions." *Supplement to Proceedings of the Aristotelian Society* 7: 153–70.

Rodriguez-Pereyra, Gonzalo. 2015. "Grounding is not a Strict Order." *Journal of the American Philosophical Association* 1, no. 3: 517–34.

Rosen, Gideon. 2010. "Metaphysical Dependence: Grounding and Reduction." In *Modality: Metaphysics, Logic, and Epistemology*, edited by Bob Hale and Aviv Hoffmann, 109–36. Oxford: Oxford University Press.

Schaffer, Jonathan. 2003. "Is There a Fundamental Level?" *Noûs* 37, no. 3: 498–517.

Shapiro, Stewart. 1998. "Proof and Truth: Through Thick and Thin." *Journal of Philosophy* 95, no. 10: 493–521.

Sider, Theodore. 2011. *Writing the Book of the World.* Oxford: Oxford University Press.

Sider, Theodore. 2020. "Ground Grounded." *Philosophical Studies* 177, no. 3: 747–67.

Stoljar, Daniel, and Nic Damnjanovic. 2014. "The Deflationary Theory of Truth." In *The Stanford Encyclopedia of Philosophy*, Fall 2014, edited by Edward N. Zalta. Metaphysics Research Lab, Stanford University.

Turner, Jason. 2016. "Curbing Enthusiasm about Grounding." *Philosophical Perspectives* 30: 366–96.

Wilson, Alastair. 2018. "Metaphsyical Causation." *Noûs* 52, no. 4: 723–51.

Wilson, Jessica M. 2014. "No Work for a Theory of Grounding." *Inquiry* 57, no. 5: 537–79.

Woods, Jack. 2018. "Emptying a Paradox of Ground." *Journal of Philosophical Logic* 47, no. 4: 631–48.

Yablo, Stephen. 1982. "Grounding, Dependence, and Paradox." *Journal of Philosophical Logic* 11: 117–38.