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Quine and The Problem of Truth

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Widespread deflationistic readings of Quine misrepresent his view of disquotation's significance and the truth predicate's utility. I demonstrate this by answering a question that philosophers have not directly addressed: how does Quine understand the philosophical problem of truth? A primary thesis of this paper is that we can answer this question only by working from within Quine's naturalistic framework. Drawing on neglected texts from Quine's corpus, I defend the view that, for Quine, the problem of truth emerges from the development of science, in particular, from logical theorizing. I show that disquotation itself, from this Quinean point of view, is the problematic phenomenon calling for philosophical reflection. I conclude by arguing that Quine does not envisage the kind of explanatory role for disquotation taken up by contemporary deflationists, and he shows no interest in the task that animates deflationism, namely, to show that concerns with truth's nature are fundamentally confused.

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1. Introduction

Willard van Orman Quine introduced the term "disquotation" into analytic philosophy in his 1970 book, *Philosophy of Logic*.[1] Quine uses "disquotation" in that book to describe a feature of the truth predicate—the expression "is true"—that stands out in the following sentence:

(1) "Snow is white" is true if and only if snow is white.

This sentence is the paradigm of what philosophers call a "T-sentence". Its illustrative use in analytic philosophy derives from Alfred Tarski's hugely influential essay, "The Concept of Truth in Formalized Languages" (Tarski 1983; hereafter *CTFL*).[2] About Tarski's paradigmatic T-sentence, Quine writes:

> By calling the sentence ["Snow is white"] true, we call snow white. The truth predicate is a device of disquotation. (Quine 1986, 12)

I will use "*Disquotation*" to name Quine's claim that "the truth predicate is a device of disquotation". Remarks in Quine's later writings give us a good reason to think that the disquotational feature of the truth predicate is central to his view of truth. For example, in one place, Quine describes disquotation as "the keynote of truth" (Quine 1999, 162). Elsewhere, we come across his repeated assertion of a stronger saying: "Truth is disquotation" (Quine 1987, 213; 1992, 80; 1995b, 243).

Contemporary analytic philosophers working on truth widely assume that Quine's philosophical attraction to disquotation

[1]Quine published a revised edition of *Philosophy of Logic*, but he did not alter the section introducing "disquotation" (Quine 1986, 12).

[2]The term "T-sentence" was coined by J. F. Thomson (1949, 67). I've found no uses of the term prior to Thomson's. Furthermore, A. J. Ayer cites Thomson's paper when explicitly introducing the designation "T-sentence" in a 1953 paper (Ayer 1953, 188n3). Ayer is responding to a flurry of essays published around 1950 by English-speaking philosophers addressing Tarski's work on truth. Thomson's essay was part of the flurry, which mostly occurred in the journal *Analysis*. The debate was sparked by Max Black's "The Semantic Definition of Truth" (1948), and it culminated in the well-known exchange between J. L. Austin and Peter Strawson (Austin, Strawson and Cousin 1950).

In §1 of *CTFL* (p. 168), Tarski introduces the following variant of (1) as part of a preliminary investigation of the problem of correctly and adequately defining the term "true sentence":

(1*) "it is snowing" is a true sentence if and only if it is snowing.

Tarski explicitly imposes two restrictions on his definiendum "true sentence". First, throughout *CTFL*, Tarski always considers his definiendum in the context of a single language, that is, he always aims to characterize the true sentences *of such-and-such language*. Tarski argues that this form of language relativity is unavoidable since a single sentence (type) might be a true sentence in one language but a false sentence or a meaningless string in some other language (Tarski 1983, intro., 153). Second, for controversial reasons beyond this paper's purview, Tarski argues that a positive solution to the problem of defining "true sentence" is possible only for the sentences of an individually specified, *formalized* language $\mathcal{L}$ that does not itself contain the term "true sentence" or any other expression that applies to all true sentences of $\mathcal{L}$. Given these two restrictions, we should note carefully that Tarski not only rejects the possibility of a general definition of "true sentence" (for any sentence in any language), he also rejects the possibility of defining "true sentence" for the sentences of a language that is not (yet) formalized. I cannot here address the role of the colloquial T-sentence (1*) in Tarski's argument in *CTFL*.

Discussions of Tarski's work on truth typically present Tarski's task as one of defining a (monadic) predicate of the form "true in $\mathcal{L}$". As used in the expression "true in $\mathcal{L}$", the letter "$\mathcal{L}$" is a schematic letter that marks the place of a name of a particular formal or natural language. (We will see an example of this style of truth predicate in Quine later on.) Marian David points out, however, that "Tarski himself does not actually use truth-terms with built-in language parameters, terms of the form 'true in *L*'" (David 2008b, 148). I agree with David that this discrepancy between Tarski and his successors raises important issues about the correct interpetation of Tarski's essay.

stems from his commitment to a view about truth called deflationism. What is common to various expressions of deflationism is a worry about "the traditional problem of truth". This "traditional problem" is the metaphysical problem of identifying the nature of truth.[3] Deflationists worry that, in fact, there is no such problem, that the metaphysical problem of truth is a *Scheinproblem*.[4] Quine is often presented in the literature as the progenitor of a variety of deflationism dubbed disquotationalism (see Field 1986, 59; David 1994, 3–5, 52–53, 62–68, 94–104; Blackburn and Simmons 1999, 12; Lynch 2001, 421, 424; Horwich 2010, 20, 30; Armour-Garb and Woodbridge 2010, 66–67; Horsten 2011, 50, 63; Burgess and Burgess 2011, 41–44). According to this presentation, Quine thinks that a good account of disquotation is an axiomatic theory of truth that looks like the collection of T-sentences patterned after (1); one T-sentence for each sentence of the language. And, the story continues, Quine's saying, "truth is disquotation", expresses his view that a good account of disquotation exhausts what there is to say about truth; no formulation correctly identifying truth's nature is forthcoming.[5]

In this paper, I will challenge the widespread picture of Quine as proto-deflationist by asking a question that commentators have not directly addressed: how does Quine understand the philosophical problem of truth in the first place? Quine appears to agree with the deflationist that philosophers should not put in any work on the metaphysical problem of identifying truth's nature. This does not imply, however, that Quine does not recognize a philosophical problem of truth. The primary thesis that I will elaborate and defend in this paper is that, for Quine, disquotation itself is the problematic phenomenon calling for philosophical investigation (rather than serving as a primitive of a deflationistic truth-theory). In Section 2, I draw on neglected texts from Quine's corpus to establish that Quine attributes to disquotation a puzzling dual nature. This perplexity of disquotation is the basis of the Quinean problem of truth. In Section 3, I will argue that, for Quine, the perplexity of disquotation is implicated in the need to provide for the truth predicate the kind of "construction" that Quine describes in §53 of *Word and Object* as "paradigmatic of what we are most typically up to when in a philosophical spirit we offer an 'analysis' or 'explication' of some hitherto inadequately formulated 'idea' or expression" (Quine 1960d, 258). Building on recent work by other Quine scholars, I show that, according to Quine, the truth predicate calls for explication in virtue of disquotation's perplexity coupled with the truth predicate's "utility" for logic. To conclude, I briefly return to the relationship between Quine's alethiology and contemporary deflationism.

Before I turn to my re-reading of Quine, let me define the term "disquotation" more carefully. I rely on a definition that Quine provides in *Pursuit of Truth*:

> The truth predicate will be said to *disquote* a sentence ***S*** if the form
>
> ______ is true if and only if ______
>
> comes out true when ***S*** is named in the first blank and written in the second. Thus what the disquotational account of truth says is that the truth predicate disquotes every eternal sentence. (Quine 1992, 83)

[3] Accounts of the metaphysical problem of truth are provided by David (1994, 7–13) and Lynch (2001, 1–5).

[4] For statements of deflationism's skepticism about the problem of truth, see David (1994, 3–4); Blackburn and Simmons (1999, 3); Wright (1999, 205); Lynch (2001, 5, 421); Vision (2004, 8); Beall and Glanzberg (2008, 171); Damnjanovic (2010, 46); Horsten (2011, 146).

[5] Unless the collection of T-sentences itself furnishes the correct formulation. However, substantivists (anti-deflationists) do not accept that a collection of T-sentences provides an adequate answer to the question "What is truth?"; they insist that something else is needed. Furthermore, deflationists argue that T-sentences fail to provide *any* answer to this question. The argument I have in mind is what Gila Sher terms "the radical disunity argument" (Sher 2004, 8–10).

Quine's definition of disquotation presupposes that "***S***" ranges over *eternal* sentences. An eternal sentence is one whose productions all share the same truth-value regardless of who produces it, when it is produced, and where it is produced. I will presuppose Quine's restriction of disquotation to eternal sentences.[6] One way to name a sentence is to write it down between quotation marks. If we restrict our attention to this way of naming sentences, then the form that Quine mentions is the "disquotation schema":

(D) "......" is true if and only if ....

Suppose that ***S*** is the sentence "Snow is white". Then, writing down ***S*** in both blank spaces of (D) yields the paradigmatic T-sentence from Tarski, viz., (1).[7] Since (1) is true, it follows from Quine's definition that the truth predicate disquotes "Snow is white". Strictly speaking, then, disquotation is a relation that obtains between the truth predicate and a sentence ***S*** when the T-sentence for ***S*** patterned after (1) is true. By "the disquotational feature of the truth predicate" or simply "disquotation" (lowercase "d"), I will understand the relational property of "is true" defined by the truth of illustrative T-sentences. If the truth predicate disquotes every eternal sentence—if it satisfies Quine's "disquotational account of truth"—then I will say that the truth predicate itself is "disquotational".

[6]Since few of the sentences we routinely produce are eternal, what Quine has in mind are largely idealized linguistic forms or orthographical types. For Quine's view of what a linguistic form is, see Quine (1960d, 194–95). Quine's restriction of applications of the truth predicate to (eternal) sentences should not be confused with his view of the primary bearers of truth and falsity. According to Quine, "[w]hat are best seen as primarily true or false are not sentences but events of utterance" (Quine 1986, 13). Treating (eternal) sentences as the bearers of truth and falsity, Quine writes elsewhere, "is the convenient line for theoretical purposes" (Quine 1992, 79); see also Quine (1982, 1, 4). We will see in Section 3 that these "theoretical purposes" include the purposes of logic. Consequently, for Quine, if we call sentences true or false, then we have already adopted a logical point of view. Thanks to Juliet Floyd for pressing this point.

[7]See Quine (1980d, 134). Note that Tarski would argue that the application of (D) to the sentences of colloquial or natural language is inconsistent and that, therefore, (D) is unacceptable.

2. The Perplexity of Disquotation

To advance my interpretation of Quine, I will draw from his discussion of truth in a five-page paper that he presented at a symposium on J. L. Austin's philosophy in 1965 (Quine 1969a). I will begin by introducing key passages from Quine's paper to ground my basic claim that Quine recognizes a problem of truth and that this problem is to understand disquotation. I will then show that Quine's conception of the problem of truth as disquotation rests on his view that this property of the truth predicate possesses a perplexing dual nature.

In his short essay on Austin, Quine offers the following provocative analogy:

> [I] The problem of the perturbations of Mercury turned out to be one of the keys to the relativity of space and time, and the problem of truth turned out to be one of the keys to the relativity of set theories. (Quine 1969a, 90)

"The perturbations of Mercury" describes the precession of Mercury's elliptical orbit around the Sun and the resulting circular motion of the point where the former moves closest to the latter. Discrepancies between measurements of this circular motion and Newtonian celestial mechanics remained unresolved until Einstein famously demonstrated that his General Theory of Relativity accounts for the measurements in question (Crowe 2007, 290–91). Set theory, as Quine describes it elsewhere, is "the mathematics of classes" (Quine 1969b, 1).[8] A particular

[8]Quine (1969b, 4) quotes Ernst Zermelo's description of the motivation for this study: "Set theory is that branch of mathematics whose task is to

theory of sets is a collection of axioms formulated in the notation of first-order quantification theory augmented by a single two-place predicate that symbolizes the membership relation. Axioms of set theory express conditions on the existence or construction of sets (as well as their identity and distinctness).

Quine's curious remark about the problem of truth in passage [I] caps a brief discussion of Austin on truth. The discussion is largely negative. According to Quine, Austin's approach to the topic of truth suffers from Austin's failure to seriously reflect on Tarski's contributions to alethiology in *CTFL*. At the end of *How To Do Things With Words*, Austin reveals that there are "two fetishes, which I admit to an inclination to play Old Harry with, viz., (1) the true/false fetish, (2) the value/fact fetish" (Austin 1975, 151).[9] Responding to Austin's confession Quine writes:

> [II] That book would have been different, in respect of one of its avowed motives at any rate, if Austin had appreciated Tarski's work on truth. Ironically, I think it was overattention to a demarcation of disciplines that deprived him of Tarski's insights. It was overattention to the demarcation of the study of English usage. But this in turn was due, I think, to a basic impatience with philosophical perplexity. (Quine 1969a, 89)

Whether or not Quine's critique of Austin actually makes contact with Austin's way of doing philosophy is not an issue I will address. For my purposes, the key issue is what Quine's critique discloses about *Quine's* view of truth and the "patience" required for appreciating its "philosophical perplexity". Quine substantiates his charge against Austin concerning Tarski's work by contrasting Austin's and Tarski's respective attitudes towards the disquotational feature of the truth predicate:

> [III] In his scintillating essay "Truth", Austin himself went part way down Tarski's path. In a footnote he even cited Tarski's paradigm, " 'It is raining' is true if and only if it is raining," and commented: "So far so good." Then he looked into usage to add to the story. Tarski, in contrast, focused on the mathematical significance of his paradigm. ... A conclusion that follows from [Tarski's work] is the openness of set theory: for each consistent set theory there is a stronger. (Quine 1969a, 89–90)[10]

The claim that Tarski's work on truth demonstrates "the openness of set theory" is what Quine has in mind when he says in passage [I], which directly follows [III] in the article, that "the problem of truth turned out to be one of the keys to the relativity of set theories." This alleged relationship between "the problem of truth" and the "openness" or "relativity" of the theory of sets constitutes a central strand of Quine's alethiology, but the topic is too large to address in this paper.[11] What I want to draw attention to presently is Quine's use of phrase "the problem of truth". Quine identifies the problem of truth with the focus of Tarski's concerns in *CTFL*. But, in passage [III], Quine describes Tarski's focus as pertaining to "the mathematical significance" of illustrative, informal T-sentences. In other words, passages [I] and [III] show that, for Quine, "the problem of truth" describes the task of understanding the disquotational feature of the truth predicate.

investigate mathematically the fundamental notions of 'number', 'order', and 'function' taking them in their pristine, simple form, and to develop thereby the logical foundations of all of arithmetic and analysis."

[9] "Old Harry" is a name of the devil. Austin is saying he likes to play devil's advocate by opposing (1) and (2).

[10] Quine adds: "This also follows from Gödel's work; and Tarski's work strikingly illuminates Gödel's." As indicated, there is more to this passage. I present the elided material later in this section.

[11] Quine sets out the line of thinking behind his claim in the following places: Quine (1952; 1986, 40–46; 1987, 174–16, 215–16; 1992, 84–90; 1994c, 425–28).

Compared with his other writings on truth, Quine's comments in "On Austin's Method" are admittedly special. As far as I can tell, Quine does not use the phrase "the problem of truth" elsewhere in his published writings to pick out a difficulty in understanding disquotation. However, as I will show, what Quine *means* by "the problem of truth" (as disquotation) in the essay on Austin *is* something that he describes in other writings about truth and disquotation. So, my attempt to lay hold of Quine's alethiology by foregrounding his view of the problem of truth does not rest solely upon an isolated occurrence of "the problem of truth" in his paper on Austin's philosophy.

To unearth Quine's view of the problem of truth as disquotation, let me address a possible objection to my interpretation. According to my reading of Quine, the phenomenon of disquotation is a source of philosophical perplexity. But, the objection runs, this reading conflicts with various comments in Quine's writings that affirm the "transparency", "intelligibility", and "clarity" of a disquotational truth predicate. For example, referring to the paradigmatic T-sentence about white snow, Quine writes:

> We understand what it is for the sentence 'Snow is white' to be true as clearly as we understand what it is for snow to be white. Evidently one who puzzles over the adjective 'true' should puzzle over the sentences to which he ascribes it. 'True' is transparent. (Quine 1992, 82)

In this passage, Quine suggests, *against* my reading, that a disquotational truth predicate is precisely *not* something that we should "puzzle over". In another place, Quine writes that disquotation "intelligibly demarcates all our intelligible truths, by rendering the truth of each sentence as intelligible as the sentence itself" (Quine 1987, 214; cf. 1980d, 134, 138; Tarski 1983, 157). It certainly appears difficult to square this talk of the "transparency" and "intelligibility" of disquotation with my proposal that, for Quine, disquotation generates philosophical perplexity or a puzzle that merits the title "the problem of truth".

My response to this objection is that Quine's remarks about the "transparency", "intelligibility", and "clarity" of disquotation are *part* of his description of disquotation's perplexity. To see this, we need to examine the elided material in passage [III] from Quine's essay on Austin:

> [III′] In his scintillating essay "Truth", Austin himself went part way down Tarski's path. In a footnote he even cited Tarski's paradigm, " 'It is raining' is true if and only if it is raining," and commented: "So far so good." Then he looked into usage to add to the story. Tarski, in contrast, focused on the mathematical significance of his paradigm. For all its surface triviality, the paradigm is quickly shown to have extraordinary powers. For one thing, it suffices, of itself, to determine truth uniquely. If there are two truth predicates 'True$_1$' and 'True$_2$', both fulfilling the paradigm, then the two are coextensive. More remarkable still, as Tarski showed, not even one truth predicate can quite fulfill the paradigm, on pain of contradiction. Yet, as he went on to show in the more laborious stretches of his "Wahrheitsbegriff", a predicate fulfilling the paradigm can after all be constructed suitable to any preassigned language that is fixed in vocabulary and formal in its logical structure, provided that we bring to the construction certain set-theoretic aids from beyond the bounds of the preassigned language itself. A conclusion that follows from all of this is the openness of set theory: for each consistent set theory there is a stronger. (Quine 1969a, 89–90)

Again, I will set aside Quine's claim about the alleged implications of Tarski's work on the problem of truth for the theory of sets. My concern is Quine's remark that the disquotational pattern exemplified by illustrative T-sentences exhibits "extraordinary powers". He appears to identify two such powers in [III′]. One power of disquotation is that the disquotation schema (D) "suffices, of itself, to determine truth uniquely." The second power is that "not even one truth predicate can quite fulfill the paradigm [schema (D)], on pain of contradiction." I submit that, for Quine, these are two opposing powers that jointly constitute the perplexity of disquotation. I address these "powers" in turn.

What does it mean to say that disquotation "determines truth uniquely"? In [III′], Quine states that any two truth predicates "both fulfilling the paradigm . . . are coextensive." The problem, however, is that these remarks are ambiguous (see Ketland 1999; Bays 2009). On the one hand, focusing on Quine's use of "coextensive", we might interpret him as holding that disquotation or schema (D) "implicitly defines" truth in the sense of "implicit definition" that figures in standard, model-theoretical formulations of Beth's Theorem.[12] On the other hand, we might understand Quine as maintaining that disquotation "determines truth uniquely" in the following sense: for any two disquotational truth predicates restricted to the same language, say, "True_1" and "True_2", and for any sentence $\boldsymbol{S}$ of the language, either both "True_1" and "True_2" apply to $\boldsymbol{S}$ or both truth predicates fail to apply to $\boldsymbol{S}$.

If the "power" of disquotation in question is the power to implicitly define truth, then Quine's conception of the problem of truth as disquotation rests on a falsehood: schema (D) does not implicitly define truth in the sense of "implicit definition" that figures in textbook formulations of Beth's Theorem.[13] But, there is no textual support for ascribing this false belief to Quine.

[12]This is Ketland's view (Ketland 1999, 84). For a statement of Beth's Theorem, see Bays (2009, 1065).

[13]See the proof of Theorem 4 in Ketland (1999, 84–85); compare Bays (2009, 1066).

Wherever Quine elaborates the claim that disquotation "determines truth uniquely", he does so along the lines of the second reading in the preceding paragraph. Quine's discussion of truth in "Notes on the Theory of Reference" provides a clear example supporting this claim. In this paper, Quine discusses a version of (D) that features a truth predicate whose application is explicitly confined to the sentences of a predetermined language $\mathcal{L}$:

(D′) "...... " is true-in-$\mathcal{L}$ if and only if ......[14]

About (D′), Quine states that it . . .

> . . . leaves no ambiguity as to the extension, the range of applicability, of the verb in question ["is true-in-$\mathcal{L}$"]. . . . [T]his is seen as follows. Supposing two different interpretations of 'is true-in-$\mathcal{L}$' compatible with (D′), let us distinguish them by writing 'true_1-in-$\mathcal{L}$' and 'true_2-in-$\mathcal{L}$', and let (D'_1) and (D'_2) be (D′) with these respective subscripts inserted. From (D'_1) and (D'_2) it follows logically that
>
> '_____' is true_1-in-$\mathcal{L}$ if and only if '_____' is true_2-$\mathcal{L}$,
>
> no matter what statement of $\mathcal{L}$ we write for '_____'. Thus truth_1-in-$\mathcal{L}$ and truth_2-in-$\mathcal{L}$ coincide. (Quine 1980d, 136)

This passage establishes that Quine's talk about disquotation's power of "determining truth uniquely" commits him only to the claim that the applications of any two disquotational truth predicates coincide (when the uses of those predicates are confined to the sentences of a single language; cf. Quine 1992, 66–67).

[14]Alongside his discussion of truth, Quine also considers the semantical concepts of satisfaction ("truth-of") and naming. I ignore this detail in the following remarks. "(D′)" is "(7)" in the running enumeration of formulas in Quine's paper. I replace "(7)" and its indexed variants with "(D′)" in the next quotation.

Disquotation's power of unique determination is surprising since singular applications of a disquotational truth predicate strike us as trivial; the truth of a T-sentence seems to issue directly from our grasp of the truth predicate that occurs in it. Of course, our understanding of any particular T-sentence also rests on our grasp of the sentence to which the truth predicate is applied. As Quine sees things, however, this only serves to highlight the "*peculiar* clarity" enjoyed by a disquotational truth predicate (Quine 1980d, 134; my emphasis). The intelligibility and seeming triviality of disquotation is "peculiar" since, as Quine asserts in passage [III′], no truth predicate can even *be* disquotational "on pain of contradiction". This is the second "power" that attaches to disquotation. Quine is alluding in [III′] to the notorious liar's paradox, which he formulates elsewhere in terms that are "purified for logical purposes", that is, by an "eternal" liar's sentence:

> 'yields a falsehood when appended to its own quotation' yields a falsehood when appended to its own quotation. (Quine 1992, 82)

Quine's liar's sentence specifies nine words and says of this sequence that when written down twice with the first occurrence in quotation marks, the result is not true.[15] But Quine's liar's sentence *is* the result of quoting the nine-word sequence and then attaching those nine words to the quotation. So Quine's liar's sentence says that Quine's liar's sentence is a falsehood (Quine 1962, 7). We can prove that the very disquotational pattern that determines truth uniquely yields a contradiction when applied to Quine's liar's sentence.[16]

My reading of passage (III′) demonstrates that Quine conceives of disquotation as possessing a dual nature.[17] Given the power of disquotation to determine the application of the truth predicate uniquely by way of trivialities, disquotation confers maximal clarity on the truth predicate (from Quine's extensionalist point of view). Yet, in virtue of leading to inconsistency, disquotation makes the truth predicate maximally unclear—some part of the content of a disquotational truth predicate, opaque to us, permits inference of any sentence we like from its use, which trivializes the (classically understood) relation of logical

[15]Quine assumes that "is false" and "is not true" are interchangeable (Quine 1992, 83).

[16]I'm assuming that the reasoning presupposed in demonstrating the inconsistency of a schema like (D) is classical. In *Quiddities*, Quine presents his liar's sentence as a "solution" to the problem of devising "a sentence that says of itself that it is false without venturing outside the *timeless* domain of pure grammar [i.e., concatenation theory] and logic" (Quine 1987, 148; my emphasis). This is to say that Quine's liar's sentence is an eternal sentence. Again, the distinguishing feature of an eternal sentence is that all of its productions have the same truth-value. Quine's liar's sentence satisfies this property since no production of it has a classical truth-value.

To see that Quine's liar's sentence refutes the general validity of schema (D), consider the following argument that is adapted from Raymond Smullyan (1957). First, we need some definitions. If α is an expression, then $*\alpha*$ is the *formal quotation* that denotes α, and $\alpha*\alpha*$ is the *norm* of α, viz., the expression consisting of α followed directly by its formal quotation. If t is a formal quotation, then Nt is also a term that denotes the norm of the expression named by t. Now consider the following sentence, which I'll call "Liar$_Q$": not true $N*$not true $N*$. Liar$_Q$ partially formalizes Quine's liar's sentence. It says that $N*$not true $N*$ is not true, i.e., the norm of the expression "not true N" is not true. By definition, the colloquial truth predicate "true" disquotes Liar$_Q$ if the following (homophonic) T-sentence is true ("iff" abbreviates "if and only if"):

$$\text{true "not true } N*\text{not true } N*\text{" iff not true } N*\text{not true } N*$$

Since $N*$not true $N*$ is "not true $N*$not true $N*$", substituting in the right branch yields

$$\text{true "not true } N*\text{not true } N*\text{" iff not true "not true } N*\text{not true } N*\text{"}$$

from which an explicit contradiction is derivable.

[17]Quine's view derives, I think, from his careful reading of the early sections of Tarski's *CTFL*, specifically, Tarski's claim that some—but not all—T-sentences count as "partial definitions" of the truth of a sentence (Tarski 1983, 158).

consequence. The Quinean puzzle concerning disquotation is how this (relational) property *can* make one and the same term maximally clear and maximally unclear.[18]

I claimed that my interpretation of Quine's view of the problem of truth as disquotation does not rest solely on the evidence provided by his paper on Austin. I will briefly justify this claim. In his last book, Quine describes disquotation as a "seriocomic blend of triviality and paradox" (Quine 1995a, 67). There, he makes the same point about the dual nature of disquotation that he makes in his essay on Austin thirty years prior:

> Disquotation has lent truth an air of triviality. ... Far from triviality, disquotation determines truth uniquely. If two predicates 'true' and 'True' both fulfill disquotation, they are coextensive; ... Disquotation *even determines truth more than uniquely* ... plunging it into paradox. (Quine 1995a, 66–67)

The text that I set in italics is puzzling. What does it mean for a (truth) predicate to be determined "more than uniquely"? Presumably, to say that disquotation determines truth "more than uniquely" is just to say that it determines truth non-uniquely. So, in the preceding passage, Quine asserts that disquotation determines truth both uniquely and non-uniquely. I take it that Quine's language is intended to convey his sense that disquotation is a perplexing phenomenon. Let me cite two more similar passages from Quine's writings:

> [I]t is hard to think of disquotation as deflationary, or as mere, when we reflect that it pins truth ... down uniquely. No two truth predicates ... can fulfill disquotation across the board without being coextensive.
>
> It even pins them down more than uniquely. No *one* truth predicate can fulfill disquotation across the board, on pain of contradiction. Deflationary indeed! (Quine 1994b, 228)[19]

> [T]here is surely no impugning the disquotation account; no disputing that 'Snow is white' is true if and only if snow is white. Moreover, it is a full account: it explicates clearly the truth or falsity of every clear sentence. It is even more than a full account: it imposes a requirement on the truth predicate that is too strong for any predicate within the language concerned—on pain of contradiction. (Quine 1992, 39)[20]

The preceding passages together with Quine's piece on Austin provide evidence that Quine is genuinely perplexed by the phenomenon of disquotation. To my knowledge, that Quine *is* puzzled by disquotation has received little in the way of scholarly comment. Literature on Quine's view of truth fails to register this dimension of his view because commentators focus on Quine's claims about the clarity of disquotation—its "power to determine truth uniquely"—while abstracting from his claims about its unclarity, viz., its paradox-producing "power". In other words, the reason why commentators fail to appreciate Quine's view of the problem of truth is directly connected with the shape of the perplexity that Quine thinks is generated by disquotation. Quine's texts show that he conceives of the opposing powers of disquotation as aspects of a single, unified phenomenon, that is, the Quinean problem of truth rests on the apparent *coexistence* of disquotation's power to produce semantical paradox and its power to determine truth uniquely.

[18]Michael Kremer suggested in conversation formulating the perplexity in question in terms of "maximal clarity" and "maximal unclarity".

[19]Juliet Floyd once told me in conversation that Quine said, of the deflationary theory of truth, that he never understood "the mereness of the mere". I take it that Quine was thinking of statements like "truth is merely disquotation", which might be used to characterize a deflationistic view of truth.

[20]Again, what does it mean to have "more than a full account"? Puzzling phrase.

3. Alethiology Naturalized

We saw in text [I] from "On Austin's Method" that Quine compares the problem of truth (as disquotation) to a problem presented by Mercury's perturbations. He frames his curious comparison earlier in the paper in the following passage:

> [IV] There are two ways of rising to problems. Thus take the perturbations of Mercury. I suppose that before Einstein some astronomers pondered these with an eager curiosity, hoping that they might be a key to important traits of nature hitherto undetected, while other astronomers saw in them a vexatious anomaly and longed to see how to explain them away in terms of instrumental error. Attitudes towards philosophical problems vary similarly, and Austin's was of the negative kind. (Quine 1969a, 89)

By selecting an example from celestial mechanics to formulate his analogical critique of Austin on truth, Quine appears to be assimilating the philosophical problem of truth to a recognizably scientific one. From Quine's point of view, however, *assimilation* is not needed. As he writes elsewhere: "Philosophy . . . is not to be distinguished in essential points of purpose and method from good and bad science" (Quine 1960d, 3–4). This remark is one formulation of what Peter Hylton (2007, 7) calls "Quine's fundamental philosophical doctrine", namely, naturalism. Quine's comparison between the problems of astronomy and alethiology is a direct expression of this fundamental doctrine. In other words, I suggest that Quine's choice of an example from astronomy to compare with the problem of truth encapsulates his naturalizing idea that philosophy is continuous with science. The question is what we are to make of this vague idea in connection with Quine's view of disquotation's perplexity.

Quine offers a well-known account of "philosophical analysis" or "explication" in §53 of *Word and Object* (Quine 1960d, 257–62). In this section, Quine reflects on the nature of explication by choosing to describe what he thinks of as a paradigmatic case of explication: Norbert Wiener's identification of the ordered pair $\langle x, y\rangle$ with the set $\{\{x\}, \{y, \Lambda\}\}$. He writes of Wiener's definition that "[t]his construction is paradigmatic of what we are most typically up to when in a philosophical spirit we offer an 'analysis' or 'explication' of some hitherto inadequately formulated 'idea' or expression" (Quine 1960d, 257). After introducing Kazimierz Kuratowski's alternative rendering of the ordered pair $\langle x, y\rangle$ as the set $\{\{x\}, \{x, y\}\}$, Quine summarizes his philosophical paradigm with a story:

> The nature of explication as illustrated by the ordered pair may be made wholly evident by retelling the story of Wiener, Kuratowski, and the ordered pair in a modified terminology. In the beginning there was the notion of the ordered pair, defective and perplexing but serviceable. Then men found that whatever good had been accomplished by talking of an ordered pair $\langle x, y\rangle$ could be accomplished by talking instead of the class $\{\{x\}, \{y, \Lambda\}\}$—or, for that matter, of $\{\{x\}, \{x, y\}\}$. (Quine 1960d, 260)

My plan for this section is, first, to pick out a single thread of Quine's naturalism that leads to his view of the conditions that generate an explicandum, i.e., a "defective and perplexing but serviceable" notion. Then, drawing on recent work by Gary Ebbs, I will argue that the colloquial truth predicate counts as an explicandum in virtue of disquotation's perplexity and the utility of the truth predicate for science.

Quine describes naturalism as "the recognition that it is within science itself and not in some prior philosophy, that reality is to be identified and described" (Quine 1981b, 21).[21] His idea that

[21] For an excellent introduction to this doctrine, see Hylton (2007, 6–11).

philosophy and science are continuous is a direct implication of this view since he holds that:

> Science itself teaches that there is no clairvoyance; that the only information that can reach our sensory surfaces from external objects must be limited to two-dimensional optical projections and various impacts of air waves on the eardrums and some gaseous reactions in the nasal passage and few kindred odds and ends. (Quine 1974a, 2)

Philosophy's shared source of justification with science is also the ground of Quine's claim that science is continuous with common sense or everyday claims about things expressed in ordinary language and conversation. Quine explicitly makes this point in a paper from the 1950s, "The Scope and Language of Science":

> If all discourse is mere response to surface irritation, then by what evidence may one man's projection of a world be said to be sounder than another's? If, as suggested earlier, the terms 'reality' and 'evidence' owe their intelligibility to their applications in archaic common sense, why may we not then brush aside the presumptions of science?
>
> The reason we may not is that science itself is a continuation of common sense. The scientist is indistinguishable from the common man in his sense of evidence. (Quine 1954b, 233)

Quine's writings offer a rather careful account of what it means to say that a body of discourse expressing putative knowledge answers to sensory experience. I pass over that account here.[22] Instead, I will consider an important question that arises from Quine's view that science (inclusive of philosophy) is continuous with common sense.

Science and common sense are of a kind on Quine's telling. But, he also thinks that science is more sophisticated and successful than common sense. So, "how", Quine asks in a 1954 paper (Quine 1954b, 233), "does science get ahead of common sense"? His answer "in a word, is 'system'." According to Quine, science expands out of and beyond common sense because "the scientist introduces system into his quest and scrutiny of evidence" (Quine 1954b, 234). "System" as Quine uses it in this context does not mean that science "gets ahead" of common sense by a rule-governed procedure.[23] Rather, system is what the scientist imposes on her share of common sense in her search for simple, familiar, general, and testable principles that hold good of her subject matter.[24] In other words, "system" in this context refers to the behavior of scientists.

[22] Hylton (2007, chaps. 4–7) provides a complete reconstruction of this central bit of Quine's naturalized epistemology. In this paper, I will set aside those aspects of Quine's philosophy that are consequences of his naturalized epistemology. In particular, I will not discuss Quine's claim that ontology is relative, or that reference is inscrutable or indeterminate. (For one account, see Hylton 2007, 205–14.) My interest in Quinean naturalism here is restricted to a single thread of what Hylton refers to as Quine's "naturalized metaphysics", which comprises *methodological* (as opposed to epistemological) questions pertaining to the philosopher's task. Hylton describes the relationship between Quine's naturalized epistemology and metaphyiscs in Hylton (2007, 4–5, 26–27, 363–39).

[23] Vintage Quine:

> The scientist begins with the primitive sense of evidence which he possessed as layman, and uses it carefully and systematically. He still does not reduce it to a rule, though he elaborates and uses sundry statistical methods in effort to prevent it from getting out of hand in complex cases. By putting nature to the most embarrassing tests he can devise, the scientist makes the most of his lay flair for evidence; and at the same time he amplifies the flair itself, affixing an artificial proboscis of punch cards and quadrille paper. (Quine 1954b, 233)

[24] Quine lists these theoretical virtues in Quine (1955, 247).

Quine's writings frequently draw attention to a conspicuous feature of the *linguistic* behavior exhibited by the scientist in her pursuit of system. This systematic linguistic behavior consists in deviating from the ordinary use of ordinary expressions "whenever [the scientist] finds a more convenient device of extraordinary language which is equally adequate to his needs of the moment in formulating and developing his physics, mathematics, or the like" (Quine 1953, 150). The "device of extraordinary language" might be a nonstandard or nonstock use of ordinary expressions, it might be a new symbol or new notation, or it might be a nonstandard use of an old symbol or notation already in scientific use. Mathematical discourse provides the most striking cases of the systematic linguistic deviations that Quine is thinking about:

> Mathematicians expedite their special business by deviating from ordinary language. Each such departure is prompted by specific considerations of utility for the mathematical venture afoot. . . . In each case some special function which has hitherto been only incidentally and inconspicuously performed by a construction in ordinary language now stands boldly forth as the sole and express function of an artificial notation. As if by caricature, inconspicuous functions of common idioms are thus isolated and made conspicuous. (Quine 1960a, 44)[25]

As these remarks make clear, Quine holds that the systematic linguistic deviations from preexisting usage undertaken by mathematically inclined scientists are "prompted by specific considerations of utility" for the scientific task at hand or the scientist's "needs of the moment". But, since "[s]cientifc neologism is itself just linguistic evolution gone self-conscious, as science is self-conscious common sense", it is also clear that Quine understands these linguistic departures from preexisting usage, prompted by the needs of systematic inquiry, as one mechanism of the conceptual growth of science out of common sense (Quine 1960d, 3, cf. 158).

Despite fostering "self-conscious" linguistic innovation, scientific discourse remains firmly rooted in ordinary language on Quine's telling. Picturing the vast linguistic structure of science as Neurath's boat, which must be rebuilt at sea out of materials found on the boat, Quine writes in *Word and Object*:

> Our boat stays afloat because at each alteration we keep the bulk of it intact as a going concern. Our words continue to make passable sense because of continuity of change of theory: we warp usage gradually enough to avoid rupture. (Quine 1960d, 3)

Making a similar point, Quine states in "Posits and Reality": "Scientific language is in any event a splinter of ordinary language, not a substitute" (Quine 1955, 236). The reason that the growing stockpile of specialized scientific terminology and notation is buoyed by ordinary language is that practitioners must learn to use it by receiving explanations in the ordinary or semi-ordinary language of the classroom and textbooks. Talking about logical notation in a paper on Strawson's logic book, Quine writes:

> Not that this logical language is independent of ordinary language. It has its roots in ordinary language, and these roots are not to be severed. Everyone . . . grows up in ordinary language, and can learn the logician-scientist's technical jargon, from '$\supset$' to '$\frac{dy}{dx}$' to 'neutrino', only by learning how, in principle at least, to paraphrase it into ordinary language. But for this purpose no extensive analysis of the logic of ordinary language is required. It is enough that we show how

[25] Quine's go-to example for this type of linguistic behavior among scientists is the use of parentheses in mathematics. See Quine (1960a, 44–45; 1960d, 137, 158; 1980a, 26).

> to reduce the logical notations to a few primitive notations ... and then explain just *these* in ordinary language, availing ourselves of ample paraphrases and scholia as needed for precision. These explanations would be such as to exclude, explicitly, any unwanted vagaries of the 'not', 'and', 'is', and 'every' of ordinary language. (Quine 1953, 150; cf. Quine 1960d, 159; Ebbs 2009, 14–15, 32–33)

A logic student learning to use the truth-functional connective "$\wedge$" must acquire a novel linguistic disposition that discriminates truth-functional uses of the English word "and" from non-truth-functional uses. For example, she must learn to distinguish the truth-functional use of "and" in the statement (i) "Socrates and Plato are philosophers" from its non-truth-functional use in (ii) "Socrates and Plato are friends". The logic instructor will illustrate this particular distinction by showing that "Socrates is a philosopher and Plato is a philosopher" is an equivalent truth-functional paraphrase of (i), whereas "Socrates is a friend and Plato is a friend" is not an equivalent truth-functional paraphrase of (ii). The instructor's "paraphrases and scholia" are designed to show the student which uses of the English word "and" have utility for the theory of truth-functions.

Quine describes the growing linguistic structure of science as in large part a "warping", "splintering", or "uprooting" of ordinary ways of using ordinary expressions. My suggestion is that he thinks that these linguistic pressures, exerted by the development of science, can, in some cases, produce an expression that is "defective and perplexing but serviceable". This type of situation satisfies Quine's description of philosophical analysis:

> We have, to begin with, an expression or form of expression that is somehow troublesome. It behaves partly like a term but not enough so, or it is vague in ways that bother us, or it puts kinks in a theory or encourages one or another confusion. But also it serves certain purposes that are not to be abandoned. Then we find a way of accomplishing those same purposes through other channels, using other and less troublesome forms of expression. The old perplexities are resolved. (Quine 1960d, 60)

On the one hand, a scientist finds herself using an expression (or "form of expression") for a particular theoretical purpose, which is to say that the expression proves to have utility for scientific theorizing. On the other hand, insofar as the useful expression's home is ordinary language (or another specialized discourse), it might have additional uses that are needlessly defective from the point of view of the scientific enterprise in question. According to Quine, this linguistic tension gives rise to an *explicandum*: an expression whose primitive use works for the smooth development of scientific theory in some ways but against it in others. The response to this situation is *explication*: "finding a way of accomplishing those same purposes through other channels, using other and less troublesome forms of expression." The new form of expression, adopted in place of the explicandum in practice or in principle, is the *explicans*.

Quine says that his great philosophical mentor, Rudolph Carnap, advocates essentially the same account of philosophical analysis or explication as he lays out in §53 of *Word and Object* (1960d, 259n4). I agree with Gustaffson's recent claim that we cannot accept Quine's self-assessment since there are fundamental differences between Carnap and Quine's respective conceptions of explication.[26] For one thing, Quine thinks that "*explica-*

[26] See Gustaffson (2014, 508). One important similarity between their views concerns the relation between explicandum and explicans. Both philosophers deny that this relation is one of synonymy, or that, for each explicandum, there is a unique explicans capturing "the hidden meaning" of the explicandum. See Quine (1951, 25; 1960d, 259–60); Hylton (2007, 247–48); Gustaffson (2014, 518–19); also, see Ricketts's comment about the "Schwerpunkt" of the analytic tradition in Ricketts (2004, 200).

tion is elimination" (Quine 1960d, 261). In the paradigmatic case, he is thinking about the elimination of definite singular terms like "$\langle x, y\rangle$" *together with* the elimination of ontological commitments to ordered pairs. But, Carnap famously denies that any theoretical commitments are properly called "ontological".[27]

A more nuanced difference between Carnapian and Quinean explication is the source and intelligibility of the explicandum. As Gustaffson argues, Carnap thinks that formal inexactness is a necessary feature of an explicandum.[28] But, as Quine reminds readers four different times in his short, five page section on explication, his paradigmatic case is "atypical in just one respect", namely, the "particular functions" of expressions for ordered pairs that make them "worth troubling about" rest on a single, "preternaturally succinct and explicit" postulate (Quine 1960d, 259):

$$\text{If } \langle x, y\rangle = \langle z, w\rangle \text{ then } x = z \text{ and } y = w.$$

Quine's choice of a paradigmatic explicandum that is *already* exact reflects a basic disagreement with Carnap about what makes an explicandum unclear or defective. In fact, as Gustaffson points out, in virtue of the ordered pair postulate, singular terms for ordered pairs already satisfy two of Quine's familiar demands for clarity, namely, extensionality and conditions of identity (Gustaffson 2014, 519). It is true that, for Quine, set-theoretical definitions of ordered pairs constitute ontological reduction, which Quine associates with explication. But, unless primitiveness is itself an unclear or defective feature of ordered pairs (even relative to sets), mentioning ontological reduction does not illuminate Quine's view of the defectiveness of the explicandum, the unreduced (Gustaffson 2014, 520).

So, why *does* Quine think that ordered pairs call for explication? Quine answers this question in §53 of *Word and Object* by presenting C. S. Peirce's mentalistic account of the "Dyad" as evidence that ordered pairs, singular terms for ordered pairs, and the noun "ordered pair" are defective (Quine 1960d, 257–58). This answer might appear unconvincing. After all, even if we agree with Quine that Peirce's account of the Dyad is just an unclear account of the ordered pair, it does not follow that ordered pairs are somehow defective. What follows is that Peirce is confused about ordered pairs (Gustaffson 2014, 520). Still, I agree with Gustaffson that Quine's mention of Peirce accurately captures Quine's general view about the defectiveness of the explicandum: the obscurity of the explicandum is proportional to its ability to generate perplexity in practitioners who use it for some scientific purpose or other.[29]

We have seen that Quine ties the generation of an explicandum to a typical result of the continuous linguistic development of science out of common sense: the emergence of an expression that is "defective and perplexing but serviceable" for some scientific task. We know, based on my argument in Section 2, that

[27]See Hylton (2007, 245–46, 249–50); Gustaffson (2014, 509, 517–18, 520–23); Gustaffson (2006, 57–60). Neither feature of Quine's paradigm is necessary for explication since Quine recognizes cases where the explicandum is not a definite singular term and the explicans does not provide ontological reduction. Examples of non-definite singular terms that call for Quinean explication include the indicative conditional and indefinite singular terms like "everything" and "something" (Quine 1960d, 260–61). An instructive homegrown example of Quinean explication that does not eliminate ontological commitments is Quine's explication of the bound variable through the use of predicate functors (Quine 1995c, 229; 1971, 305; 1982, 284; 1995a, 35).

[28]See Gustaffson (2014, 510–11, 513–14, 519, 521). Gustaffson's account of Carnapian explication rests on the interpretation of Carnap's work that Ricketts sets out in two papers: Ricketts (2003, 2004) and cf. Ricketts (1996).

[29]Gustaffson writes: "Quine's complaint about the obscurity of the explicandum seems best understood in terms of the explicandum's alleged power to induce perplexity in speakers, be the term itself clearly defined or not" (Gustaffson 2014, 521). We should understand the "power to induce perplexity in speakers" broadly enough to agree with Quine's description of the explicandum cited earlier, viz., that the explicandum "behaves partly like a term but not enough so, or it is vague in ways that bother us, or it puts kinks in a theory or encourages one or another confusion".

Quine is perplexed by the disquotational feature of the truth predicate. I will now argue that the truth predicate counts as a Quinean explicandum in virtue of its perplexing disquotational property and certain, linguistically deviant uses of the predicate that prove useful for science.

Deflationistic readings of Quine do not rest solely on *Disquotation*, Quine's comment that "the truth predicate is a device of disquotation". Also widely cited by deflationists are remarks that Quine makes about the use of the truth predicate in sentences that express general claims. His example of this kind of sentence in *Philosophy of Logic* (Quine 1986, 12) is:

(2) Every sentence of the form '*p* or not *p*' is true.

Quine argues that we can use this kind of sentence to "generalize on" occurrences of sentences within sentences (as opposed to occurrences of names within sentences; Quine 1986, 11–12). Usage of the truth predicate to surmount these "technical complications", he writes in *Philosophy of Logic*, is the source of the truth predicate's "utility" (Quine 1986, 11). By *Utility* or "Quine's utility claim", I will mean Quine's view that generalization on sentential position is what the truth predicate is good for.[30] Sentences that contain the truth predicate and that generalize on sentential position, like Quine's example (2), will be termed *generalized truth predications*.

The truth predicate enables the construction of generalized truth predications that generalize on sentential position. What is the utility of a linguistic construction that generalizes on sentential position? The answer, for the Quinean, is that generalized truth predications have utility for logic.[31] Quine ranks logic as a science—just as there are (for example) physical truths, so we talk about logical truths.[32] Physical and logical truth, for Quine, are not two different kinds of truth, but a single kind of truth identified by two disciplines and expressed in their distinctive vocabularies (Quine 1960d, 131). In classic works like *Word and Object*, Quine argues that the application of logic is best understood if we adhere to (classical, first-order) quantifier-variable notation as "canonical", and then settle deductive links between natural language sentences by paraphrasing them into canonical notation (Quine 1994a, 438).[33] Quine thinks that this division of labor is beneficial since the logical symbols and constructions that constitute the canonical notation provide a clear concept of the logical structure of a sentence, which can be used to give a good definition of logical truth (Ricketts 2004, 196).

Let $\boldsymbol{S}$ be a sentence paraphrased into canonical notation. Uniform replacement of the nonlogical material of $\boldsymbol{S}$ by schematic sentence letters ("*p*", "*q*") and predicate letters ("*F*", "*G*") yields a logical schema $X_{\boldsymbol{S}}$. The schema $X_{\boldsymbol{S}}$ depicts the logical structure of the sentence $\boldsymbol{S}$, as well as any other sentence that we can obtain from $X_{\boldsymbol{S}}$ by substituting appropriately prepared expressions of natural language for the schematic letters according to predetermined rules of substitution. The sentence $\boldsymbol{S}$ is logically true, as Quine defines logical truth, if every sentence with the same logical structure as $\boldsymbol{S}$ is true (Quine 1986, 47–60).[34] Em-

[30]Quine also appears to hold that *only* the truth predicate facilitates this type of generalization. If so, then he endorses what Gary Ebbs calls "the indispensability argument". See Ebbs (2009, 40–48; 52–57).

[31]Ebbs defends this Quinean position in Ebbs (2009, chap. 2). Throughout the text, Ebbs refers to generalized truth predications as "logical generalizations".

[32]The first sentence of Quine's logic textbook reads: "Logic, like any science, has as its business the pursuit of truth" (Quine 1982, 1). He describes (deductive) logic in *Philosophy of Logic* as "the systematic study of the logical truths" (Quine 1986, vii). Quine identifies logical truth with first-order quantificational truth. Therefore, logic is the "systematic study" of the quantificational truths. I assume that this "systematic study" includes metatheoretical (or metalogical) reasoning.

[33]Cf: "[I]n modern logic, first we paraphrase a problem into a canonical notation best adapted to known techniques of deduction or evaluation, and then we bring those techniques to bear" (Quine 1960b, 34).

[34]My grasp of Quine's schematic presentation of first-order logic stems from Ricketts (2004, 195–97), Warren Goldfarb's logic textbook (2003), and

bedded in Quine's definition of logical truth is a generalized truth predication, viz., "every sentence with the same logical structure as $\boldsymbol{S}$ is true" (Quine 1986, 49). This is one important example of the utility of generalized truth predications for logic as Quine presents the science: we use them to define the basic objects of this "systematic study" (Ebbs 2009, 49–52). The definition directs us to further examples. When developing or describing techniques for identifying logical truth, the Quinean logician formulates *logical laws*. Let $\boldsymbol{P}$ and $\boldsymbol{Q}$ be any two statements. Here is a simple example of a logical law: if $\boldsymbol{P}$ is logically true, and $\boldsymbol{P}$ implies $\boldsymbol{Q}$, then $\boldsymbol{Q}$ is logically true. If we apply Quine's definition of logical truth to this simple law, the result is the following sentence:

(3) If every sentence with the same logical structure as $\boldsymbol{P}$ is true, and $\boldsymbol{P}$ implies $\boldsymbol{Q}$, then every sentence with the same logical structure as $\boldsymbol{Q}$ is true.

Two of the component clauses in (3) are generalized truth predications.

Generalized truth predications that are "serviceable" for logic, like the components of (3), make regimented yet primitive use of the natural language truth predicate and they resemble more commonplace sentences like:

(4) Everything he says about me is true.

A conspicuous divergence between the sentential components of (3) and statement (4) is "the dimension of generalization" (Quine 1992, 80). By using (3) to engage in semantic ascent, the Quinean logician explicitly quantifies over *sentences* (of a certain form). It is not clear, however, that there exists a well-defined domain of objects, let alone a collection of sentences, which is picked out by a particular utterance of "everything he says about me" in (4).

Moreover, the sentences depicted by logical schemata are substituends of schematic sentence letters like "p" and "q" or they are values of syntactical variables and expressions like "$\boldsymbol{S}$" and "$\phi(x)$". Since the same schematic letter or syntactical variable may occur multiply in the representation of a single argument, canons of deduction would be vitiated if sentences replacing the letters or indicated by the variables were capable of being true in one occurrence but false in another (Quine 1954b, 236). To avoid this kind of difficulty, the Quinean logician uses the truth predicate to generalize over *eternal* sentences. But, the ordinary use of ordinary forms of expression furnishes eternal sentences no more than it provides sentences adapted to the restricted constructions of Quine's canonical notation. Quine holds that eternal sentences are obtained from sentences of natural language by paraphrasing away ordinary forms of expressions that cause the truth-values of sentences to fluctuate.[35] In sum, the

Ebbs (2009, 48–52). Hylton discusses Quine's reasons for adopting classical, first-order logic as a framework for theory in Hylton (2007, 259–69).

Quine's account of logical truth in *Philosophy of Logic* is more complex than I am letting on in the main text. Specifically, I am ignoring the fact that Quine actually considers *five* definitions of logical truth that he finds acceptable: a definition "in terms of structure" (pp. 47–49), "in terms of substitution" (pp. 49–51), "in terms of models" (pp. 51–53), "in terms of proof" (pp. 56–58), and "in terms of grammar" (pp. 58–60). (All references are to the first edition of Quine (1986).) Moreover, Quine argues that part of what makes each of them acceptable is that they are pairwise extensionally equivalent when restricted to a single, fixed formalized (first-order) language that includes notation for talking about the natural numbers together with appropriately chosen symbols for multiplication and addition. The crux of Quine's argument is his claim that the definition of logical truth in terms of substitution is coextensive with the more familiar one provided in terms of models. This claim rests on a theorem that Quine claims to derive from results of Löwenheim, Gödel, and Hilbert and Bernays. See Quine (1986, 53–56; 1954a; 1991, 244–46). In connection with this theorem, see Ebbs (2009, 50n10).

[35]In his philosophical and logical writings (e.g., Quine 1960d, 170–73, 194), Quine stresses two steps of eternalization. First, tense is eliminated by introducing explicit time-indicating expressions of natural language, which philosophers of language and linguists call indexicals, i.e., words like "now",

Quinean logician deviates from her previously inculcated usage of the truth predicate by restricting its application to eternalized paraphrases of natural language sentences—outside of the Logic Lab, we don't usually talk about the truth of eternal sentences.

To recognize that, for Quine, non-standard uses of generalized truth predications have utility for logic does not establish that the truth predicate counts as a Quinean explicandum, a form of expression that is "defective and perplexing, but serviceable". Quine finds disquotation perplexing, but what connects this puzzling property to the uses of "true" possessing scientific utility? Occurrences of the truth predicate in constructions like (3) are useful for logic, but must these constructions contain occurrences of a *disquotational* truth predicate?

Quine does not spell out the precise relationship between *Disquotation* and *Utility* in *Philosophy of Logic* or anywhere else in his writings for that matter.[36] To understand Quine's view, we need to attend to what Ebbs (2009, 40–45) writes about a particular passage from *Philosophy of Logic* in response to an objection (against Quine) leveled by Brian Loar (1981, 171–72). Here is the passage from Quine, which I've divided into four smaller texts:

> [IV] Where the truth predicate has its utility is in just those places where, though still concerned with reality, we are impelled by certain technical complications to mention sentences. ... The important places of this kind are places where we are seeking generality, and seeking it along certain oblique planes that we cannot sweep out by generalizing over objects.
>
> [V] We can generalize on 'Tom is mortal', 'Dick is mortal', and so on, without talking of truth or of sentences; we can say 'All men are mortal'. We can generalize similarly on 'Tom is Tom', 'Dick is Dick', '0 is 0', and so on, saying 'Everything is itself'.
>
> [VI] When on the other hand we want to generalize on 'Tom is mortal or Tom is not mortal', 'Snow is white or snow is not white', and so on, we ascend to talk of truth and of sentences, saying 'Every sentence of the form '*p* or not *p*' is true', or 'Every alternation of a sentence with its negation is true'.
>
> [VII] What prompts this semantic ascent is not that 'Tom is mortal or Tom is not mortal' is somehow about sentences while 'Tom is mortal' and 'Tom is Tom' are about Tom. All three are about Tom. We ascend only because of the oblique way in which the instances over which we are generalizing are related to one another. (Quine 1986, 11)

Passage [IV] is what I have officially labeled "*Utility*" or "Quine's utility claim". In [V], [VI], and [VII], Quine describes the "technical complications" that he thinks generate a need for generalized truth predications (cf. David 2008a, 276).

According to the remarks from Loar that are cited by Ebbs, Quine's text does not really offer an account of the "point" of the truth predicate. Loar argues that we can generalize on all sentences of the form "*p* or not *p*" without using a truth predicate, by saying something along these lines: (i) that we are prepared to accept any instance of the schema "*p* or not *p*". Loar assumes that if the use of generalized truth predications to generalize on sentences (of a certain form) constitutes the "point" of using the truth predicate, then no other form of expression without the truth predicate can do this work. Since we can, he thinks, use (i) to generalize on sentences (of a given form), Loar concludes that Quine fails to identify the "point" of the truth predicate.

"before", and "then". In conjunction with this step, we agree to render all verbs with a single morphological form (e.g., the present tense) and then to understand this fixed verbal form as tenseless. Second, we introduce conventional means for expressing dates, times, and locations in place of indexicals, which vary reference systematically with their occasion of use.

[36] Marian David's discussion of *Philosophy of Logic* directed my attention to this omission in Quine's account. See David (2008a, 276–77, 283–84).

As Ebbs points out, however, there is a problem with Loar's argument: his assumption is false, namely, that we can generalize on all sentences of the form "*p* or not *p*" by stipulating (i). Ebbs writes:

> To say that we would accept all sentences of the form '$S \vee \neg S$' is one way of *saying something general about* sentences of the form '$S \vee \neg S$', but it is not to *generalize on* sentences of that form, in the sense of 'generalize on' that is relevant to Quine's reasoning. Quine notes that "we can generalize on 'Tom is mortal', 'Dick is mortal', and so on, without talking of truth or of sentences; we can say 'All men are mortal'." The crucial consideration is that the generalization "All men are mortal" *implies* each of 'Tom is mortal', 'Dick is mortal', and so on, given the corresponding tacit premises 'Tom is a man', 'Dick is a man', and so on. These elementary implications serve as Quine's model of what it takes to generalize on sentences, and are therefore worth examining in detail. (Ebbs 2009, 42)

Ebbs concedes that Loar's statement—(i) "we are prepared to accept all sentences of the form '$S \vee \neg S$' "—states something general about the sentences in question. But, he argues that (i) fails to conform to "Quine's model of what it takes to generalize on sentences", which rests on "elementary" logical relationships of implication between, for example, "All men are mortal", "Tom is a man", and "Tom is mortal".[37] As Ebbs shows, on the one hand, Loar's proposal (i) implies each instance of "$S \vee \neg S$" only if we also accept each instance of the following schema, which is not, however, generally acceptable:

(ii) If we accept the sentence "......", then .... (Ebbs 2009, 43–44)

But, on the other hand, as Ebbs argues, *if the truth predicate is disquotational*, then the following metalogical argument conforms to "Quine's model of what it takes to generalize on sentences" ("Ws" abbreviates the statement "snow is white"):

a) Every sentence of the form '$S \vee \neg S$' is true	[premise]
b) '$Ws \vee \neg Ws$' is a sentence of the form '$S \vee \neg S$'	[premise]
c) '$Ws \vee \neg Ws$' is true iff $Ws \vee \neg Ws$	[premise]
d) '$Ws \vee \neg Ws$' is true	[from a) and b)]
e) $Ws \vee \neg Ws$	[from c) and d)]

The T-sentence standing as the premise on line c) expresses the assumption that the truth predicate disquotes the statement "Snow is white $\vee$ $\neg$ snow is white". Again, this type of metalogical reasoning is generally acceptable if the truth predicate is disquotational.[38]

Ebbs's interpretation of Quine's argument in [IV]–[VII] illustrates one use of a disquotational truth predicate: T-sentences, or, at least, one direction of them, serve as auxiliary premises in metalogical arguments that establish that a generalized truth predication generalizes on occurrences of sentences within sentences (without departing from the syntactical and semantical properties of first-order formalisms). The logician's use of T-sentences is the link between *Utility* and *Disquotation* that Quine

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[37] Ebbs describes this model in the following passage:

> The generalization 'All men are mortal' may be paraphrased as 'For all x, if x is a man, then x is mortal', which, like any universal generalization, implies each of instances. In particular, 'For all x, if x is a man, then x is mortal' implies 'If Tom is a man, then Tom is mortal'. Finally, 'if Tom is a man, then Tom is mortal' and the tacit premise 'Tom is a man' together truth-functionally imply 'Tom is mortal'. In the same way, we can derive any sentence of the form 'N is mortal', where the position marked by 'N' is filled by a proper name, if we accept a corresponding premise of the form 'N is a man'. (Ebbs 2009, 42)

[38] I am assuming, with Ebbs, that there are precise syntactical rules for establishing premise b). See Ebbs (2009, 41).

suppresses in *Philosophy of Logic*. This metalogical use of the truth predicate rests on nothing but the "power" of disquotation to determine the application of the truth predicate uniquely, which I described in Section 2.

For my purposes, what Ebbs's reading of Quine establishes is that the logical utility of generalized truth predications presupposes that the truth predicate that figures in such generalizations is a disquotational one.[39] So, a disquotational truth predicate is "serviceable", but its utility *derives from* the utility of generalized truth predications for logical theorizing; from the point of view of the truth predicate's utility (for science), its disquotational feature is *secondary* and its use in generalization *primary*.[40] Of course, to maintain that the truth predicate's disquotational property possesses derivative utility for logical theorizing is to assume that the ordinary truth predicate *is* disquotational or that the disquotation schema (D) is generally acceptable. But, nothing that I said about the metalogical use of the truth predicate prohibits constructions like:

(5) "Every disjunction of a sentence and its negation is true" is true.

Sentence (5) is a singular truth predication that results from attaching the truth predicate to the quotation-name of a generalized truth predication; (5) is an example of an *impredicative*, explicit truth predication. Many such truth predications are perfectly acceptable. However, as we saw in the preceding section, there are some impredicative truth predications that refute the disquotation schema, and they do so in the worst possible way by generating inconsistency. Uses of the truth predicate that Quine identifies as scientifically "serviceable" are threatened by disquotation's other "power".

In light of the foregoing considerations, as I read Quine, he thinks that we face the following situation. On the one hand, a deviant usage of the ordinary term "true" happens to have utility for the going concerns of the logician. Among other purposes, the Quinean logician deploys the truth predicate to identify the basic objects of her subject, i.e., the logical truths, and she accomplishes this by generalizing *on* sentential position *over* eternal sentences *with respect to* truth. Following Ebbs's account, I maintained that the disquotational feature of the truth predicate helps enable this metalogical usage. On the other hand, it seems impossible for the ordinary truth predicate to *be* disquotational. Because of its roots in ordinary truth-talk, which allows for the unrestricted construction of impredicative truth predications, the logician's refined usage of the truth predicate engenders paradox and is thereby defective. The pursuit of system in the science of logic forces us to cope with disquotation's puzzling dual nature. My claim is that this situation exemplifies Quine's view of the generation of philosophical problems and that the truth predicate counts as a Quinean explicandum (cf. Ebbs 2009, 66n30). To fashion an acceptable explicans in this case is to construct an artificial truth predicate that retains the power of disquotation to determine truth uniquely while doing nothing more than this, i.e., engendering inconsistency.

4. Conclusion

In this paper, I have been working to show that Quine thinks that the truth predicate is problematic in ways that demand

[39] What is presupposed, strictly speaking, is the truth of T-sentences.

[40] My claim that, for Quine, disquotation's utility depends on the utility of generalized truth predications is compatible with the view that T-sentences (as opposed to generalized truth predications) are primary relative to stages of language acquisition or psychogenesis. I agree with Tom Ricketts (2011) that Quine endorses this second view as well. I think it is clear that the situation with truth matches one that Quine describes in connection with the relative pronouns of relative clauses: the contexts that make for their acquisition are *not* the contexts that make for their "utility" in Quine's sense of this term. See Quine (1974a, 92–97).

philosophical analysis or explication. I reached this goal in two steps. In Section 2, I argued that Quine is perplexed by the disquotational feature of the truth predicate in virtue of its appearing to possess two opposing powers, namely, the power to determine the application of the truth predicate uniquely by way of trivial truths about truth and the power of determining the application of truth predicate more than uniquely thereby producing inconsistency. In Section 3, I juxtaposed Quine's view of the perplexity of disquotation with other features of his philosophical system: his naturalism, his understanding of explication, and his conception of logic. Building on recent Quine scholarship, I argued that the Quinean problem of truth is the task of constructing an *Ersatz* truth predicate, a new "device of disquotation", which is immune to semantical paradox and which, in principle, the logician could use in place of her slightly deviant use of the ordinary, disquotational truth predicate to generalize on sentential position.

Naturally, there is more to say about Quine's view of the problem of truth (let alone Quine's view of truth). I did not elaborate his conception of the *solution* to this problem, the explication of the truth predicate, which involves his understanding of Tarski's work on truth. This topic requires separate treatment.[41] To conclude this paper, I will briefly defend my claim, from Section 1, that my interpetation of Quine's view of the problem of truth challenges the present tendency to read Quine as a deflationist.

To compare Quine's views with those of the contemporary deflationist, I will use Anil Gupta's account of disquotationalism, which he provides in an influential attack on deflationism (Gupta 1999). Gupta characterizes disquotationalism by four theses:

> *The disquotation thesis*: The truth predicate is a device of disquotation.
>
> *The infinite conjunction thesis*: The truth predicate enables us to express certain infinite conjunctions and disjunctions.
>
> *The generalization thesis*: The truth predicate provides a means for generalizing over sentence positions even when the variables are pronominal.
>
> *The connection thesis*: The truth predicate serves its expressive functions in virtue of its disquotation feature. (Gupta 1999, 287)

A crucial part of Gupta's critique focuses on the disquotationalist's understanding of what Gupta calls "the disquotation thesis". Gupta's presentation is a bit misleading here. As we can see, what he presents as the thesis is just the bit of *Philosophy of Logic* that I've designated by "*Disquotation*". So, what Gupta means, apparently, is that the disquotation thesis is the *disquotationalist's interpretation* of Quine's comment. Gupta attributes to the disquotationalist the following interpretation of *Disquotation*: the disquotation thesis states that the T-sentences "provide an analysis of 'true', that [they] explain (at least partially) what the word means and what our understanding of [the truth predicate] consists in" (Gupta 1999, 288; cf. 297). Quine does not explicitly say anything like this, and, in two places at least, he explicitly denies that T-sentences are analytic truths (Quine 1980d, 137n9; 1980b, 164).[42] This provides some evidence that Quine would resist the disquotationalist's claim that T-sentences give the meaning of the truth predicate.

I find a clearer divergence between Quine's alethiology and disquotationalism over Gupta's three remaining theses. Gupta presents the infinite conjunction, generalization, and connec-

[41] An account of Quine's view of Tarski's work on truth would need to explain Quine's claim, in "On Austin's Method", that Tarski's work on truth reveals the "openness" or "relativity" of the theory of sets. A treatment of this aspect of Quine's Tarskianism would also need to address the project that Quine undertakes in Quine (1974b).

[42] I should note that Gupta does not take Quine to endorse the disquotation thesis (see Gupta 1999, 285n8).

tion theses elliptically and ambiguously, so I will first reformulate them. To begin with, it is not the truth predicate alone that satisfies the theses, but its usage or occurrence in a certain linguistic context, namely, a generalized truth predication (Azzouni 2006, 14–15n5). Furthermore, the connection thesis is ambiguous since there are (allegedly) two expressive functions of the truth predicate, which are respectively associated with the infinite conjunction thesis and the generalization thesis. Here is a more explicit formulation of Gupta's three theses:

> *Infinite Conjunction Thesis*: Generalized truth predications express certain infinite conjunctions and disjunctions.
>
> *Connection Thesis*-Inf: Generalized truth predications express infinite truth-functions partly in virtue of disquotation (or the disquotational feature of the truth predicate, or the truth of certain T-sentences).
>
> *Generalization Thesis*: Generalized truth predications generalize on sentential position.
>
> *Connection Thesis*-Gen: Generalized truth predications generalize on sentential position partly in virtue of disquotation (or the disquotational feature of the truth predicate, or the truth of certain T-sentences).[43]

According to Ebbs's interpretation of *Disquotation* and *Utility* that I defend in this paper, Quine is committed to the Generalization Thesis and its associated Connection Thesis. The offset metalogical argument about white snow from the end of Section 3 illustrates the Generalization-Connection Thesis. But, I do not think that Quine would accept the Infinite Conjunction Thesis or its associated Connection Thesis. A virtue of Gupta's description of disquotationalism is that he distinguishes between the Generalization Thesis and the Infinite Conjunction Thesis.[44] The Infinite Conjunction Thesis is stronger than the Generalization Thesis. I will briefly explain the Infinite Conjunction Thesis and then argue that it implies the Generalization Thesis, but that the converse implication does not hold.

Suppose that we are provided with an an ordinary first-order language $\mathcal{L}$ and that we make two changes to the language. First, we add two new operators: $\bigwedge$ and $\bigvee$. Second, we drop the assumption that the length of an $\mathcal{L}$-expression is finite; we now recognize expressions that consist of infinitely many occurrences of symbols drawn from $\mathcal{L}$'s alphabet. $\bigwedge$ and $\bigvee$ are sentential operators that apply to a (possibly infinite) collection of formulas. We treat the resulting "formula" as a set-theoretical construction. Let $\{\phi \mid \phi \in \mathcal{L}\}$ be a set of sentences that contains countably many members. Then, the *infinite conjunction* $\bigwedge\{\phi \mid \phi \in \mathcal{L}\}$ and the *infinite disjunction* $\bigvee\{\phi \mid \phi \in \mathcal{L}\}$ are formulas of $\mathcal{L}$. The truth-conditions for infinitary truth-functions are straightforward: $\bigwedge\{\phi \mid \phi \in \mathcal{L}\}$ is true if and only if each member of $\{\phi \mid \phi \in \mathcal{L}\}$ is true, and $\bigvee\{\phi \mid \phi \in \mathcal{L}\}$ is true if and only if some member of $\{\phi \mid \phi \in \mathcal{L}\}$ is true. Much more care would be needed to properly set out an infinitary logic for a quantificational language like $\mathcal{L}$. For my purposes, the preceding remarks will suffice together with the following infinitary rule of inference: from an infinite conjunction infer any of its conjuncts.

The Infinite Conjunction Thesis states that a generalized truth predication like "Every sentence of the form $\phi \to \phi$ is true" expresses an infinite conjunction, in this case, $\bigwedge\{\phi \to \phi \mid \phi \in \mathcal{L}\}$. Deflationists and others typically argue for the Infinite Conjunction Thesis indirectly, by attempting to establish the

[43]My use of the modifier "partly" in the two connection theses is needed because their alleged truth rests on syntactical facts about the logical forms of sentences in addition to disquotation.

[44]Strictly speaking, we need to consider the Infinite Conjunction and Disjunction Thesis, or, briefly, the Infinite Truth-Function Thesis. But, I will continue to use Gupta's shortened version.

Connection Thesis-Inf.[45] The typical argument focuses on lists of sentences like the ones featured in passages [V] and [VI] from Quine:

(6) Tom is mortal or Tom is not mortal; Snow is white or snow is not white; All humans are mortal or not all humans are mortal; and so on.

(7) The sentence "Tom is mortal or Tom is not mortal" is true; The sentence "Snow is white or snow is not white" is true; The sentence "All humans are mortal or not all humans are mortal" is true; and so on.

(8) Every sentence of the form "p or not p" is true.

Let Φ stand for a countably infinite set of sentences and suppose that we are given an enumeration of the elements of the set:

$$\phi_1, \phi_2, \ldots, \phi_n, \phi_{n+1}, \ldots$$

Instead of denoting the infinite conjunction of all elements of Φ with "$\bigwedge \Phi$", let us use "$\wedge$" in infinitely many places:

(9) $\phi_1 \wedge \phi_2 \wedge \cdots \wedge \phi_n \wedge \phi_{n+1} \wedge \cdots$

Restricting our attention to the present example, the Infinite Conjunction Thesis states that the generalized truth predication (8) expresses the infinite conjunction of all sentences indicated by list (6). Suppose that "ϕ_1", "ϕ_2", etc., in (9) respectively stand in place of the disjunctive sentences listed in (6). Let "$\psi(x)$" mean "x is a sentence of the form 'p or not p'". Now, consider the following infinite conjunction, which contains the explicit truth predications indicated by list (7):

(10) $(\psi(\text{“}\phi_1\text{”}) \wedge \text{“}\phi_1\text{” is true}) \wedge (\psi(\text{“}\phi_2\text{”}) \wedge \text{“}\phi_2\text{” is true}) \wedge \cdots \wedge (\psi(\text{“}\phi_n\text{”}) \wedge \text{“}\phi_n\text{” is true}) \wedge (\psi(\text{“}\phi_{n+1}\text{”}) \wedge \text{“}\phi_{n+1}\text{” is true}) \wedge \cdots$

[45] Gupta provides a version of this strategy. See Gupta (1999, 285–86).

According to Gupta's presentation, the disquotationalist claims that the generalized truth predication (8) is equivalent to the infinite conjunction (10), which, in turn, is equivalent to (9). The second equivalence presupposes syntactical truths about the common form of the ϕ_i's and the truth of the T-sentence for each ϕ_i. Assuming that the relation of equivalence in question is transitive, the disquotationalist argues that the generalized truth predication (8) is equivalent to the infinite conjunction (9), where the Greek letters stand for the sentences listed in (6).

We can see that there is a close relationship between the preceding argument for the Infinite Conjunction Thesis and Ebbs's account of the Generalization Thesis. Both arguments, if sound, depend on syntactical truths and the disquotational feature of the truth predicate. Still, the two theses are distinct. To see this, assume that the Infinite Conjunction Thesis is true and let Φ be an infinite set of sentences of the form "p or not p". Then, we can trivially show that the Generalization Thesis is true (in a particular case) with the following argument:

a) Every sentence of the form "p or not p" is true [premise]
b) Every sentence of the form "p or not p" is true iff $\bigwedge \Phi$ [Inf Conj Thesis]
c) $\bigwedge \Phi$ [from a), b)]
d) ϕ (where $\phi \in \Phi$) [from c), Inf Rule]

However, the Generalization Thesis does not obviously imply the Infinite Conjunction Thesis. Indeed, it is difficult to see how we *could* argue from the Generalization Thesis to the Infinite Conjunction Thesis, unless the relevant senses of "expression" and "equivalence" figuring in the second thesis are spelled out more carefully. Gupta already points out that the intended equivalency between a generalized truth predication like (8) and an infinite conjunction like (9) cannot approximate anything like equivalence in meaning (Gupta 1999, 289–90). It remains an open question whether there is even an extensional interpretation of the Infinite Conjunction Thesis that is both true and compatible with deflationism.[46] The two connection theses places different explanatory demands on T-sentences. For the Infinite Conjunction Thesis, it appears that T-sentences figure in arguments that are supposed to establish an unspecified equivalency between generalized truth predications and certain infinite truth-functions. However, for the Generalization Thesis, T-sentences are needed to show the more modest fact that a generalized truth predication logically implies certain singly given sentences sharing a common grammatical form.

Quine accepts the Generalization Thesis and its associated Connection Thesis, but, in his writings, we find no statement of the stronger Infinite Conjunction Thesis or the claim that generalized truth predications express infinite truth-functions in virtue of disquotation.[47] If we begin where I begin in this paper, with Quine's view of the problem of truth, then his lack of interest in the Infinite Conjunction Thesis is not surprising. Influential deflationists who claim Quine as a philosophical ancestor, and most critics of deflationism who comment on Quine, attribute to him the view that the disquotational feature of the truth predicate explains the semantical contents of generalized truth predications. The Infinite Conjunction Thesis and its Connection Thesis are the conjectures behind this view, i.e., that generalized truth predications are equivalent to infinite truth-functions, provided that we accept (suitably defined) collections of T-sentences in the manner of accepting sets of axioms.[48]

This disquotationalist account of the contents of generalized truth predications as infinite truth-functions is controversial, but the *reason why* deflationists inspired by Quine find this kind of account attractive to begin with is not controversial. The conjecture that generalized truth predications are equivalent to infinite truth-functions represents one attempt to ground a distinctive deflationistic claim, namely, that the truth predicate is a logical expression like "and", "all", or "equals".[49] According to the deflationist, once we recognize the logicality of the truth predicate, we will see that there really is no such thing as the problem of truth's nature, or, at least, that there is no more of an issue about the nature of truth than there is one about the nature of conjunction, quantification, or equality.

[46]One philosopher to actually propose a precise, extensional interpretation of the Infinite Conjunction Thesis on behalf of deflationism is Volker Halbach (1999, 13). However, as Halbach acknowledges in his recent book on axiomatic alethiology, it is not clear that his earlier proposal is compatible with the basic deflationistic tenets of disquotationalism. The worry is an objection to Halbach's proposal from Heck (2004, 330–32). The issue between Halbach and Heck rests on a more recent development in the debate about deflationism, which concerns the conservativity of axiomatic theories of truth over arithmetical "base" theories. Needless to say, this issue is too much for me to probe here. For a challenge to the Infinite Conjunction Thesis from linguistic theory, see Collins (2010).

[47]The closest that Quine comes to asserting something like the Infinite Conjunction Thesis is in *Philosophy of Logic*, when Quine writes: "if we want to affirm some infinite lot of sentences that we can demarcate only by talking about the sentences, then the truth predicate has its use" (Quine 1986, 12). Commenting on this passage from Quine, Halbach (1999, 5–6) says:

> It is exactly this reduction of "infinite lots of sentences" to truth that disquotationalism takes as explanation of why there is a truth predicate at all: according to disquotationalism it is the raison d'être of truth. Later the somewhat unspecific "lots" were replaced by infinite conjunctions and disjunctions. Although this expression sounds much more scientific, it was hardly made more precise.

[48]This is the standard deflationistic reading of Quine, which originates in an exchange from the 1970s between Hartry Field, Stephen Leeds, and Hilary Putnam. See Field (2001); Leeds (1978, 120–23); Putnam (1978, 14–17). A classic exposition of the standard reading is Gupta (1999); cf. Patterson (2002). The deflationistic reading of Quine that David (2008a) advances is nonstandard. According to David's interpretation, Quine envisions a role for disquotation within a special kind of *syntactical* explanation of generalized truth predications.

[49]Nic Damnjanovic writes: "As is now familiar, ... deflationists typically hold that the truth predicate is merely a device of generalization. ... By committing to this thesis about the truth predicate, deflationists commit themselves to the idea that it is a logical predicate, and the concept of truth is a logical concept" (Damnjanovic 2010, 46).

I hope to have demonstrated, however, that Quine's alethiology is not oriented towards critiquing the traditional problem of truth. If this is right, then there is no need for him to sustain such a critique by taking up the Infinite Conjunction Thesis in defense of a claim about the logicality of the truth predicate. This claim is baggage needed only for the project undertaken by contemporary deflationists. Instead, if we reorient ourselves towards the problem of truth that does motivate Quine and trace out the systematic implications of his view of disquotation's perplexity, then we will see that Quine's alethiology demands no explanatory role for disquotation that is stronger than the two generalization theses.

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