

# Quine's Tarskian Angle on Truth: Immanence, Semantic Ascent, and the Importance of Generality

Gary Kemp

*University of Glasgow*

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Commenting in *Pursuit of Truth* on that most familiar of T-sentences—*'Snow is white' is true if and only if snow is white*—Quine writes: “To ascribe truth to the sentence is to ascribe whiteness to snow; such is the correspondence, in this example. Ascription of truth just cancels the quotation marks. Truth is disquotation” (PT: 80). It is easy to misunderstand him for having said this, easy indeed to run together his view with the deflationary theory of truth, the minimalist theory of truth, the redundancy theory of truth, or the disappearance theory of truth.<sup>1</sup> Such views are sometimes obscurely put forth, but insofar as such a view has it that the ‘T-schema’ can serve as definition of truth — that no philosophically reputable statements involving truth require more than the acceptance of ‘*S* is true iff *S*, where an arbitrary (‘true’-free) declarative sentence of the language is substituted for the dummy letter ‘*S*’ — and setting aside the need for dealing with tense, indexicals, and ambiguities — then manifestly Quine did not accept such a view. He was a card-carrying Tarskian. The validation of the T-schema was only a “criterion of adequacy” for a definition, as Tarski called it: a condition that a definition must meet — not itself a definition. Irrespective of the need to avoid the paradoxes, Quine was as impressed as Tarski was with the fact that the T-schema, which shows what it is to ascribe truth to an explicitly given individual sentence, is not sufficient for ascribing truth to *kinds* of sentences: “[W]e may want to say that everything someone said on some occasion was true, or that all consequences of true theories are true”, he writes. “Such contexts, when analyzed logically, exhibit the truth predicate in application not to a quotation but to a pronoun, or bound variable” (PT: 80; see also PL: 11–13, 35; along with the second edition of *Philosophy*

1. For representatives of such views, one can cite Field (1994), Simmons (1999), Horwich (1999), and many others. Armour-Garb (2012) has a compact survey of the principal issues. In a recent piece, Parsons (2020: 222) explores rather different aspects of Quine on truth, but does observe that Quine “does not make the negative statements characteristic of deflationists ... And he does not say that the meaning of ‘true’ is given by some version or other of the schema expressing the equivalence of a statement with the attribution of truth of the statement itself.” I should say that in this piece, to reduce clutter, I tend to discuss secondary sources not in the text but in these notes (with one obvious exception).

of *Logic* from 1986, *Pursuit of Truth* in 1992 and his last book *From Stimulus to Science* in 1995 must be taken as expressing his most considered views, not the perhaps more renowned works of the 1950s and 60s).<sup>2</sup>

Tarski held that the T-schema is insufficient for the expression of such generalizations (1983: 257).<sup>3</sup> Sufficient rather for such generalizations is that the concept of satisfaction or some analogue be introduced. This concept can in turn be inductively defined, but only within a more powerful metalanguage (or for the same language, so long as some sentences of the language are kept out of reach of the introduced expression<sup>4</sup>). This gives the lie to those who think Tarski was himself a deflationist. That an adequate truth-predicate must have built into it some further non-trivial mathematical content are surely not the words of a deflationist, at least not in my book.

In Section I, I will expand on the foregoing (some more recent theorists disagree that Tarski established the outright inexpressibility of the generalizations by such means — i.e., Picollo and Schindler (2018a; 2018b), and Schindler and Schlöder (2021) — but their surrounding philosophical commitments may sometimes make it misleading to compare them to Tarski or Quine on this issue alone; at any rate, that Tarski's reasoning is sound will be assumed in this piece). In

2. Some readers have overreacted to Quine's having said:

In a looser sense the disquotational account does define truth. It tells us what it is for any sentence to be true, and it tells us this in terms just as clear to us as the sentence in question itself. 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. (*PT*: 82)

It is only in a *looser* sense.

3. Because the T-schema + PA (for example) is  $\omega$ -incomplete: the provability of each instance of ' $\Phi(s) \rightarrow \text{true}(s)$ ' does not establish the provability of the universal closure (Tarski 1983 [1933]: 257), as can be shown by providing a relevant model.
4. Or, as Quine says: "A language can contain its own satisfaction predicate and truth predicate with impunity if, unlike what we have considered, it is weak in auxiliary devices that would be needed in reaping the contradictions" (*PL*: 46). Quine refers to Myhill (1950). The inductive definition can be made direct analogously to Frege's ancestral, if the metalanguage has in addition further set-theoretic resources (*PL*: 42–3).

addition, the fact that purely deflationary theories are often held to be conservative (over arithmetic), whereas a Tarskian theory of truth is not, will not figure in what follows, as the issue is not foregrounded in Quine (see for example Shapiro (1998)). In Section II, I will consider a most stimulating but under-appreciated analysis of Quine on truth advanced by Lars Bergström back in 1994. Bergström, I'll presume, accepts the points above, but he also thinks Quine must accept, so to speak, a two-dimensional answer to the question 'What is Truth?'. The first dimension is that truth is disquotation (rightly understood as just outlined). The second dimension is that truth has an empirical dimension, advanced in order to make it inevitable that, within Quine's conception of language encompassing observation sentences and so on, Truth and Reality match up, and that Truth is indeed worthy of Pursuit — indeed that a proper characterisation of science overall is available. A mere generalizing function, one might well think, cannot capture these vital aspects of truth. As I will point out along the way, Quine (1994a) has replied to Bergström on some points, but much too briefly for anyone but specialists to benefit. I believe that a more thorough understanding of Quine on the very central topic of truth, indeed of basic aspects of his philosophy, can be won through a close analysis of Bergström's view. The point of this discussion is not so much to refute Bergström as to appreciate Quine. I think Bergström's view goes wrong, but most revealingly so; seeing this helps to reveal the power of Quine's actual view.<sup>5</sup>

### I. Quine and Tarski

Quine's task is not so much to analyze the ordinary concept of truth as to formulate one for scientific use, although naturally the ordinary concept will contain much that will be retained. And for what I will

5. One comparatively odd claim of Bergström's that I will ignore is that Quine denies that truth is a *property* (1994: 423). That cannot be an official position of Quine's, for he denies that talk of 'properties' — over and above classes or sets — can be anything but a *façon de parler*. Quine also says in response to Bergström: "'Property' makes no sense to me except as 'class'" (1994: 497). Chen (2020: 111) makes a similar mistake.

assume are familiar reasons, sentences of a certain variety, for Quine, are the proper objects of truth, not propositions, statements, or beliefs. The objects rather are declarative sentences, freed of ambiguity, which either come with their indexical parameters given or, like "sentences" of arithmetic, are themselves eternal sentences, that is, are tenseless sentences bereft of non-anaphoric pronouns. I'll assume the latter for convenience. As almost always for Quine, this involves a streamlined refinement or "regimentation" of ordinary language, not a wholly made-up artificial language, even if one finds it useful to employ the notations of  $x$ ,  $F$ ,  $\sim$ ,  $\exists$ , and so on for conciseness and freedom from ambiguity. Indeed, I will assume in what follows that the syntax for the language in view is well-defined, following a typical syntax for the first-order predicate calculus.

I will also, except for a moment in subsection IId and in the footnotes, set aside the "correspondence" theory of truth: the theory that truth is to be explained in terms of correspondence with facts (see *PT*: 79–80). Tarski has been called a promoter of correspondence, and perhaps in *some* sense he was.<sup>6</sup> Nevertheless one of his main moves — a crucial move that rules out his strictly having been a correspondence theorist — was to delete the reference to facts or states-of-affairs in his theory (as is done famously in Russell (1912)). In the quotation with which this piece began, Quine does say "such is the correspondence";

6. Tauriainen (2022: 19–20, emphasis added) plays up the correspondence-like elements in Quine, saying:

[a] view counts as a variant of a correspondence theory if it explains the nature of truth via reference to a *correspondence-like* relation between truth-bearers and extra-linguistic or *factual affairs*, that is, that the truth of sentences consists in their correspondence with the relevant *aspects of the world*; that Quine's view "sounds much like a classical correspondence theory" (2022: 7, emphasis added); and that he "subscribes to a substantive constitution claim where the truth of sentences consists in a *correspondence-like* relation that a sentence has with the relevant aspects of the world, namely, objects" (2022: 16, emphasis added). Much better to erase the weasel-words 'correspondence-like' (for to be like  $x$  is not, after all, to be  $x$ ). The substantive, non-verbalistic, and non-figurative point, for both Tarski and Quine, is that the theory does not assume facts ("aspects of the world", "factual affairs"), the items to which sentences correspond.

but this means merely that the T-schema is *all that's left* of the idea of correspondence — in particular, it does not survive as a proper two-place relation. What's left is that the truth of a claim depends on extra-linguistic reality. More on this later.<sup>7</sup> I will also, for the most part, set aside the paradoxes — the liar paradox and related "semantic" paradoxes — although of course they operate behind the scenes, constraining the feasible theories.

#### *Ia. Tarski/Quine Basics.*

It is, I said, the capacity for generality that calls for the substance of the Tarskian approach to truth, beyond underwriting the T-schema. The dummy letter 'S' in the T-schema is assuredly not a variable or pronoun; it is why we speak of a T-*schema* — not a T-*formula*, a T-*axiom*, or a T-*principle*. To advance it is only to advance its infinitely many instances (to replace the dummy letter with a variable or pronoun, bound by a quantifier, is on its face a confused attempt to have variables doing two duties at once).<sup>8</sup> This leaves us without instructions for dealing with 'x is true' where 'x' is a variable. For Quine, Tarski's positive results show that we can nevertheless get the effect of generalizing using a truth-predicate, as when we say that all theorems of a theory are true. As Quine puts it, what a suitably explained 'true' does is to make available another "dimension" of generalization — "oblique generalization" he once called it (*PL*: 97). We can generalize on 'Socrates is mortal' by writing 'Every man is mortal'. Similarly, we can generalize on 'If time

7. Quine does say: "As already hinted by the correspondence theory, the truth predicate is an intermediary between words and the world. What is true is the sentence, but its truth consists in the world's being as the sentence says" (*PT*: 81). But again, this is not to accept the correspondence theory, the defining feature of which is to posit facts or states-of-affairs, which Quine rejects along with propositions; it is only to acknowledge the soundness of its primary if garbled motivation.
8. An attempt would be to write " $\forall x(x \text{ is true iff } x)$ ", with 'x' a first-order objectual variable. An instance would be '*Snow is white* is true iff '*Snow is white*'. But then the second appearance is a quotation-mark name of a sentence, not, as demanded by the context 'iff', a sentence. Better approaches involve substitutional quantification, or Grover and others' (1975) prosentences.

flies then time flies' by writing 'Every sentence of the form "if p then p" is true' (more explicitly: 'For every x, if x is a sentence of the form "if p then p", then x is true'); on "If  $2+2=4$  is provable in Q then  $2+2=4$ ' by writing 'Every sentence provable in Q is true' (more explicitly: 'For every x, if x is a sentence provable in [the intended interpretation of] Q, then x is true'). Such are particular examples of what Quine calls "semantic ascent" (*PT*: 80–2; *PL*: 10–13; 1960: §56 270–6). We ascend to a meta-level, quantifying over sentences, mentioning rather than using them. Oblique generality, one might go so far as to say, is the core theoretical reason for the truth predicate, just as the more familiar kind of generalization is the reason for the quantifiers.

A truth predicate must however be only "incompletely" disquotational, notes Quine (*PT*: 83).<sup>9</sup> The lurking spectre of the liar paradox shows that such a predicate "must not disquote all the sentences that contain it" (*PT*: 83). Tarski's way to bring about the capacity for oblique generalization whilst keeping consistent involves an inductive definition of satisfaction. Simplifying, and following Quine in *Pursuit of Truth* (*PT*: 84–6; the presentation in *PL*: 35–43 sticks closer to Tarski), and in particular referring with Quine to arbitrary assignments of values to variables rather than to Tarski's original infinite sequences of objects, the base will contain clauses appertaining to the true-free object language such as that an assignment satisfies 'x is a dog' iff the object assigned to 'x' is a dog — and so on for each of the finitely many simple predicates in the language, including relational predicates (we assume that the language lacks names, since for scientific purposes

9. I broadly agree with Schwarz (2016: 19), with his distinction between the Utility and Disquotation aspects of truth — but not with his basing the structure of his discussion on a purported tension:

Quine is perplexed by the disquotational feature of the truth predicate in virtue of its appearing to [having both] the power to determine the application of the truth predicate uniquely ... and the power of determining the application of truth predicate more than uniquely thereby producing inconsistency.

A problem to be solved, yes, but a problem which is front, center and solved in Tarski — surely not "perplexity", not for one who knew his Tarski back to front.

we can always replace them with singular descriptions, contextually eliminable in Russell's way; similarly we can ignore function-symbols). Then, for the recursion (following the syntax of the language), we say that an assignment satisfies the negation of a formula iff it does not satisfy the formula, and that an assignment satisfies a disjunction iff it satisfies either disjunct; and finally that an assignment A satisfies an existential quantification '∃x(...x...)' iff some assignment A\* satisfies '...x...' that matches A save, at most, what it assigns to 'x'. Other truth-functional connectives and the universal quantifier are definable in terms already given. Truth then is just satisfaction by all assignments (or what comes to the same, by some assignment). It's not for nothing that Tarski's is sometimes called a "compositional" theory of truth.

Quine also presents Tarski's idea not in terms of a sequence of metalanguages — with  $L_1$  defining a truth predicate for  $L_0$ ,  $L_2$  for  $L_1$ , and so on — but in terms of a single language, with an ascending sequence of truth predicates (and of satisfaction relations): "The hierarchy begins with a predicate 'true<sub>0</sub>', which disquotes all sentences that contain no truth predicate or equivalent devices"; then a "predicate 'true<sub>1</sub>' disquotes all sentences that contain no truth predicate or equivalent devices beyond 'true<sub>0</sub>'" ... and so on (*PT*: 84; for more detail 1991b: 219–22, 224–30).<sup>10</sup> Then, with variables separated in such a way that each sort of variable ranges over a given Russell-style type and lower, every membership condition determines, if not a set, always a class — that is, a class which may be a proper class, in von Neumann's (1967 [1923]) sense (*PT*: 88–9).<sup>11</sup> We would thus have a single language adequate

10. In his last book, *From Stimulus to Science*, Quine used *denotation*, the converse of satisfaction (*FSS*: 65):

... an n-place predicate denoted a given n-place sequence if and only if it was true of it. In the zero case, there being nothing for the no-place predicate to be true of, denotation reduces simply to truth outright ... Truth, one might risk being quoted as saying, is just a degenerate case of denotation. Denotation is *true-of*. This dramatizes the idea that all semantical notions are on the same level.

11. Quine writes (*PT*: 86):

What saves the situation [from contradiction] is that the definition of satisfaction is inductive rather than direct. The inductive definition explains

for representing the set-theoretic hierarchy simultaneously with the closely related hierarchy of truth-predicates. Similar to a hierarchy of sets, the hierarchy of truth predicates is unbounded above: “[w]e get a self-contained language with a hierarchy of better and better truth predicates but no best” (PT: 89). “This is how I like it”, says Quine (PT: 90; also 1991b: 221); not only for the structural insight it affords, but because it comes as close as is feasible to a framework adequate to a single statement and analysis of what is known, to a “limning of the most general traits of reality” (1960: §33 161).

#### *Ib. Semantic Ascent*

This last move fits with Quine's famous if difficult pronouncement that “[t]ruth is immanent, and there is no higher. We must speak from within a theory, albeit any of various” (1981a: 21–2). Elsewhere he states:

Whatever we affirm ... we affirm as a statement within our aggregate theory of nature as we now see it; and to call a statement true is just to reaffirm it. Perhaps it is not true, and perhaps we shall find that out; but in any event there is no extratheoretic truth, no higher truth than the truth we are claiming or aspiring to as we continue to tinker with our system of the world from within. (1975: 327)

Semantic ascent is not metaphysical ascent, whatever that would mean. All the same, the vital importance of fashioning a truth-predicate that allows for semantic ascent cannot be overstressed. For one thing:

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satisfaction of each specific sentence, but it does not provide a translation of ‘x satisfies y’ with variable ‘y’.

Why not substitute a set variable for the predicate ‘satisfies’, availing one of  $x, y \in Z$ ? “The catch this time is that there might not be any relation  $z$  such that  $\Phi z$ ” where ‘ $\Phi$ ’ abbreviates the whole of the conditions contained in the inductive definition of satisfaction (PT: 87).

Semantic ascent serves also outside of logic. When Einstein propounded relativity, disrupting our basic conceptions of distance and time, it was hard to assess it without leaning on our basic conceptions and thus begging the question. But by semantic ascent one could compare the new and old theories as symbolic structures, and so appreciate that the new theory organized the pertinent data more simply than the old. (PT: 81; see also 1960: 271–2)

The reference to Einstein shows that big fish are to be fried. For another thing, perhaps the most central use of semantic ascent, therefore the most central generalizing use of ‘true’ — especially for one with the interests of Quine, author of so many books on the subject — concerns logic itself, as intimated in the first sentence. Quine's answer to the question “What is Logic?”, as expressed in *Philosophy of Logic*, is as well-known given not in terms of logical implication or a set of axioms but in terms of logical truth. And “[a] logical truth is, on this approach, a sentence whose grammatical structure is such that all sentences with that structure are true” (PL: 58). This gets refined as “a logical truth is a sentence that cannot be turned false by substituting for lexicon, even under supplementation of lexical resources” (PL: 59; Quine's emphasis). By “lexicon”, he means an open-ended list of expressions with (possibly null) extensions; this then excludes the “syncategorematic” particles and in particular the logical particles (PL: 27). We have truths of chemistry, truths of physics, truths of mathematics, and finally the truths of logic. We can pare away lexical content until we reach the hard skeleton of lexicon-indifferent grammar, the instances of which can nevertheless be generalized about by means of semantic ascent. We can say, and indeed prove, for example, that *every sentence* of the form ‘If p then p’ is true.<sup>12</sup>

12. This example seems to run counter to Tauriainen, who says: “Of course, Quine and the deflationists agree on the logico-expressive functions of the truth predicate” (2022: 13). Not if the deflationist cannot explain, in a way that Quine would have accepted, ‘is true’ as applied to a variable. The crucial reason Quine accepts Tarski is not for a desire to acquiesce in correspondence-like

The possibility of such a definition shows in spades the value of semantic ascent, of generalizing by means of truth. But the existence of this along with the possibilities lately canvassed is separate from the theoretic account of truth (from "what truth is," one almost can't help but say). Semantic ascent is vital to all these activities, but these activities do not enter into the description of semantic ascent itself — in particular not into the very definition of truth (or rather the inductive definition of satisfaction). Quine writes of oblique generalization as the "crucial purpose" of the truth-predicate (*PL*: 97), not the multitudinous inferences licenced by the T-schema (for illuminating detail on such generalization, see Heck (2021)).

*Ic. General vs. Particular*

It is nonetheless best sometimes to plant our feet on the ground and focus on the particular, not to be carried away by generalization. In a passage in *From Stimulus to Science*, Quine writes:

Along with this seriocomic blend of triviality and paradox, truth is felt to harbor something of the sublime. Its pursuit is a noble pursuit, and unending. In viewing truth thus we are viewing it as a single elusive goal or grail. (*FSS*: 67)

The language of "is felt" in the first sentence shows that Quine does not quite commit as a scientific philosopher to this sentiment, even if he sympathizes with it informally and certainly does not think it misguided, however vague it is. He goes on:

In sober fact the pursuit resolves into concern with particular sentences, ones important to us in one or another way. Pursuit of truth is implicit, still, in our use of 'true'. We should and do currently accept the firmest scientific conclusions as true, but when one of these is dislodged by further research we do not say that it had been true but

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talk, but because of the inadequacy of the "logico-expressive functions" of disquotation alone.

became false. We say that to our surprise it was not true after all. (*FSS*: 67)

The three words at the beginning — *in sober fact* — more emphatically indicate a professional distance from this feeling. The lesson — what the concern "resolves into" — is more vivid if we adhere to a single example, availing ourselves of disquotation. When one of these — Quine's example is 'Light rays are straight' — was dislodged by further research, we did not say that they had been straight but are no longer. We say that to our surprise they were not generally straight after all (adapted from Quine 1994a: 498).

All the same, what is said to be "implicit ... in our use of 'true'" — the generalizing function — opens the door to philosophers. Quine continues:

Science is seen as pursuing and discovering truth rather than as decreeing it. Such is the idiom of realism, and it is integral to the semantics of the predicate 'true'. It fittingly vivifies scientific method, the method of interrogating nature by conjecture and experiment and abiding by the consequences, (*FSS*: 67; see also Parsons 2020: 223–4)

In a perhaps more alarming passage, written not long after the above, he writes:

To call a sentence true, as I said, is to include it in our science, but this not to say that science fixes truth. It can prove wrong. We go on testing our scientific theory by prediction and experiment, and modifying it as needed, in quest of the truth. Truth thus looms as a haven that we keep steering for and correcting to. It is an ideal of pure reason, in Kant's phrase. Very well: immanent in those other respects, transcendent in this. (1995b: 353)

It might seem as if Quine is not using Kant's phrase merely for its connotative appeal, as if he were having second thoughts about his

pronouncement of the immanence of truth. But again, defusing the rhetoric slightly, the serious non-figurative point is only to illustrate the possibilities afforded by semantic ascent, of generalization by means of truth. That is the respect in which he can go along with Kantian phraseology, that truth is “transcendent”. The “idiom of realism” is displayed by the transfer of a certain attitude towards ‘Light rays are straight’ just considered to assertions in general. “Where the truth predicate has its utility”, he writes, “is in just those places where, though still concerned with reality, we are impelled by certain technical complications to mention sentences”. For “the truth predicate serves, as it were, to point through the sentence to the reality; it serves as a reminder that though sentences are mentioned, reality is still the whole point” (*PL*: 97).

This and other philosophical predilections, I am saying, are implicitly only made possible and fully intelligible by our understanding of the sentential generalizing function of the truth-predicate (I admit that this is more my assertion than Quine's, as no statement of his quite amounts to it). Indeed, the generalizing function makes it intelligible to speak of *truth* in first place, i.e., by means of an abstract noun rather than an adjective, or rather by means of the predicate ‘\_\_ is true’ (one can thus venture such grand pronouncements as “[t]ruth thus looms as a haven that we keep steering for and correcting to”). To put the point in a way reminiscent of Wittgenstein, the generalizing function — a suitably augmented disquotationalism, a compositional theory of truth — adequately explains the *use* of ‘true’ (or rather explicates it; that is, replaces the term for regimented purposes with a closely related but cleaned-up alternative, as in Quine 1960: §53). These further philosophical questions and tasks put the term to work. It is just that we are apt, if we are not careful, to mistake these further philosophical questions as bearing on the definition of truth — on the “nature” of truth.<sup>13</sup>

13. Tauriainen (2022: 22) writes:

[I]t is Quine's substantive constitution claim that grounds the various explanatory uses of truth in relation to scientific practices...such as why we

## II. Bergström and “Empiricist Truth”

As mentioned, I am assuming that Bergström accepts that for Quine, a serviceable truth-predicate must serve for generalizations as well as be (incompletely) disquotational. Thus, I assume the material in subsection Ia is an adequate characterization of Bergström's first dimension, even if the material makes the compositional side much more explicit. He calls the overall dimension “disquotational truth” (1994: 423–4; for reasons that should now be evident, this strikes me as not the happiest of labels). But he also holds, it will be recalled, that Quine must accept a second dimension in his account of truth, which Bergström calls “empiricist truth” (1994: 427). No Quine-friendly answer to the question “What is truth?” can be complete without both dimensions.

What then is “empiricist truth”? To understand the idea, we need to have before us the bare essentials of Quine's naturalized epistemology, which leans upon certain rudimentary types of language. First are observation sentences like ‘It's raining’, sentences for which subjects have a disposition to assent or dissent depending on their present states of sensory stimulation. Next, granted the truth-functional connectives, are observation categoricals, sentences of the form ‘If p then q’, where both p and q are observation sentences.<sup>14</sup> Next, granted the quantifiers, are theoretical sentences with the predicates being acquired contextually as well as observationally. For Quine, exhaustively describing these aspects of an individual's facility with language is tantamount

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prefer true sentences as the contents of our theories or why truth is a standard for correctness of belief and assertion when orienting towards the world and answering questions about its nature. Such explanatory uses demand a substantive constitution for truth to justify such role, subsequently tying truth to other concepts with varying degrees of metaphysical weight and introducing metaphysical inflation.

I am not sure what precisely is meant by ‘grounding’ or ‘tying’, or how seriously is meant the ‘nature’ of the world or ‘metaphysical weight’, but what is clear is that the fact that truth figures in a claim does not import the claim into its definition. See IIa below.

14. Actually, the categoricals come before the full run of logical connectives, their structure having a sort of primitive generality, as might be rendered ‘Whenever p, q’; I skirt over this (see Quine *PT*: 9–10).

to describing the whole of their knowledge. The sum of one's observation categoricals constitute the empirical content of one's belief-set, of one's "theory" in Quine's idealized and perhaps idiosyncratic sense.

Bergström's second dimension, "empiricist truth", involves the identification of corresponding echoes in truth-theory with Quine's linguistic epistemology as just outlined. Bergström (1994: 428; emphasis added) writes:

an observation sentence is **true** on the occasion O in language L if, and only if, every speaker (or most speakers) of L would assent to the sentence on witnessing O.<sup>15</sup> Similarly, an observation categorical of the form 'Whenever X, Y' is **true** in language L if, and only if, for every occasion O, and (almost) every speaker Z of L, if Z would assent to X on witnessing O, then Z would assent to Y on witnessing O.

And then (429; emphasis added):

...we may then define truth for other sentences roughly as follows: A theoretical sentence S is **true** in L if and only if S is entailed by a theory which entails every true observation categorical in L and no other observation categorical, and which does not contain any sentence which is 'superfluous' in the sense that what remains of the theory if it is removed entails exactly the same observation categoricals as the original theory.<sup>16</sup>

15. In his reply, Quine says: "The position has its evident appeal, but it has an alarmingly Protagorean ring, making man the measure of all things" (1994: 496). I will assume for sake of argument that this can be fixed by loosening the connection slightly (but not too much, lest we discount the importance of observation). For Bergström's actual adjustment, see his 2000: 64–8.
16. The following, I take it, is just a slip: "Roughly speaking, a sentence is true in the empiricist sense if it belongs to a theory which entails all observation sentences which would be assented to by the speakers of the language in question" (Bergström 1994: 421). Only observation *categoricals* are implied by a theory, not observation *sentences*. The matter is fixed in his 2000: 64.

Ignore for the moment the part at the end about "superfluous" sentences. Speaking loosely, these two paragraphs constitute a set of ur-principles that govern the second aspect of the use of the word 'true'. For I take it that Bergström is serious in speaking of empirical truth as a further aspect of truth, not as a replacement for the disquotational or Tarskian compositional account (and I will set aside for the moment potential conflicts between the two aspects). The idea is not precisely to supply a parallel inductive definition of 'true', but to give a kind of inductive specification how truth moves up the tree, not of grammar, but of empirical theory as understood by Quine. The dimension is well-named as 'empiricist truth', in view of the prominence it accords to observation categoricals. It articulates theories in terms of their point or goal: it seems reasonable to think that without empiricist truth, or some other account to play the role of a further dimension of truth itself, connecting it constitutively in some such way to theory or belief, empirical theories stand apart from the merely generalizing dimension displayed by the truth predicate in logic. Bergström's move sews the two structures together – the descriptive to the normative, one might go so far as to say. One doesn't fully grasp the Quinean 'is true' unless one grasps both dimensions and how they relate.

This is, I take it, the main move that Bergström makes. Thus, he writes: "We have seen that Quine insists that there is no truth higher than disquotational truth. It seems to me that this is wrong. There is *also* empiricist truth. Empiricist truth is not the same as disquotational truth" (1994: 432; emphasis added). There are some more specific points Bergström makes that I will get to in a moment, but first I want to draw out my broadest point of dispute, one that Quine does not himself make.<sup>17</sup>

17. I should say why I'm going to discount what Bergström says in a certain later piece. In the 2000 piece, Bergström fine-tunes the account, especially of theoretical sentences (73). But he also muddies the waters by advancing empiricist truth (63–4, 68) as if it were a *replacement* for disquotational truth (or rather the Tarskian compositional account), rather than advancing it as what I have called a separate dimension to disquotation. Then, towards the end, upon discussing the way in which children might learn the word 'true', he declares that "we can understand the notion of truth long before we understand [the



*Ila. Main Criticism*

An obvious worry would be over extensional equivalence: I have spoken of different “dimensions” of truth, but surely the two dimensions do not determine the same class. That is so, as indeed Bergström recognizes. But even if it were not so, there is a criticism to be made that operates, so to speak, at the intensional level. In this section, I leave aside the extensional worry.

My main criticism is rather simple and may be anticipated from subsections Ib and Ic. There is no doubt that the concept of truth is used out of necessity in conveying Quine's characterization of the route from the stimulation of one's nerves to an articulate, warranted, and realistic theory of the world. It's why his penultimate book is called *Pursuit of Truth*. However, that a theory requires the use of a concept need not affect what the concept is, as one might put it. More carefully: that a certain linguistic expression (or some equivalent) is needed for the expression of a theory does not mean that the theory is thereby imported retroactively into the very definition or logic of that linguistic expression (or its equivalent). The term ‘fruit’ may be essential to a fruit-picking manual, but is fully understood independently, apart from the material on fruit-picking. The term ‘acid’ may be vital for characterizing the engineering of industrial cleaning supplies, but the chemical theorist may define the term quite independently of that business. Likewise for claims about inference, testimony, assertion, induction, evidence, or belief-revision: often these manifestly require the generalizing function of truth, but they don't revise the theory of

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part of the definition appertaining to theoretical sentences]” (75), arguing that such a grasp enables the child to learn “the idea of entailment or logical consequence” (75). Further complications arise from his having characterized what the child learns as the idea of truth as *correspondence* (74) — not, as one might expect, something covered by the disquotational account, or a simplified, child-friendly version of the disquotational account. Since I am not interested in childhood language-learning, but in truth as required by science, I will persist in portraying Bergström as presenting empiricist truth as a set of principles intrinsic to the mature notion of truth, as a “separate dimension” to the Tarskian principles, ignoring this later article. The adjustments to the account of theoretical sentences are welcome but will not matter.

truth by making essential use of the relevant words. From Quine's point of view, that these theories — and in particular Bergström's empirical theory of truth — are made possible by the generalizing function of truth does not indicate that Tarski's work was in any way inadequate or incomplete. Assuming we accept Tarski's compositional theory of truth, the only way in which such backwards influence could happen would be, for example, if developments in some special discipline called for a material alteration of the Tarskian theory itself, which admittedly is conceivable but presumably most unlikely. Bergström's empirical theory is not felicitously described as a theory of truth, not if by that appellation is meant an analysis or explication of truth itself. (Quine himself spoke of a certain monkey wrench being thrown into empiricism if somehow extra-sensory perception or soothsaying had to be admitted as real, but he gives no hint that our conception of truth would be disturbed; *PT*: 20–1).

Enthusiasts of ‘Two Dogmas of Empiricism’ (1961 [1951]) might complain that this sounds too essentialist. If everything is connected with everything — if the famous “holism” holds — then we cannot rightly talk as if conceptual borders were impermeable, as if concepts retained their identities irrespective of the theories in which they figure. And it is true that from a highly abstract philosophical point of view — as at Quine (1976: 76) — no such boundary is sacrosanct; they are ultimately matters of more and less, even if in practice at least some may be regarded as categorical. But still, this exaggerates or over-stresses Quine's holism. Not only would it follow from this maximal holism that every discipline which uses a given form of words cannot develop without disturbing the semantics of that form of words (that indeed one cannot alter one's beliefs without changing the subject and without changing the significance of every belief and thus making it virtually impossible properly to disagree, as Fodor and Lepore put it in their 1992 criticism of Quine; 1992: 37–58). More to the point, this reply on behalf of Bergström fails to take account of the considerable back-peddalling in which Quine engaged after the broad if not reckless statement of holism in ‘Two Dogmas of Empiricism’. In ‘Empirically

Equivalent Systems of the World' of 1975 and 'Two Dogmas in Retrospect' of 1991, Quine speaks of holism as only a "legalism" — that if in principle any theoretical change can have repercussions for any region of theory, that is hardly so in practice (1975: 316; 1991a: 268). "In later writings", he emphasizes, "I have invoked not the whole of science but chunks of it, clusters of sentences just inclusive enough to have critical semantic mass" (1991a: 268; inclusive enough, that is, to entail the relevant observation categoricals). There is no reason on the score of this now "moderate" holism to discount the existence of boundaries, often propped up by sound theoretical principles, between domains — not least of all the boundary that sets logic off from the rest, which Quine devoted more or less an entire book (*Philosophy of Logic*) to articulating (I mean this as consistent with the fine-grained account of Quine in Verhaegh (2017)).

That is all I'm claiming for Quine's account of truth. Its purpose — officially, in promoting an explicated concept engineered for regimented use — is to underwrite a certain kind of generalization, and there is no reason to deny that it is suitably insulated from Quine's other philosophical projects. That it so underwrites is the essence of truth, if we want to find a place for that form of words.

#### *Iib Morality, Aesthetics, and Superfluous Sentences*

The foregoing might be said not really to disturb the kernel of what Bergström claims — that it implies only that insofar as any such a claim is true, the claim may be part of epistemology or whatever but it is not part of the theory or analysis of truth itself, not from Quine's perspective. But there are some more specific claims of Bergström's that I think are false. They are indeed entailed by Bergström's thesis, and to see this will in turn illuminate further dimensions of Quine on truth. In his reply to Bergström, Quine (1994a: 497) says:

I see truth in general as far exceeding, in turn, anything that can be checked in observation categoricals...[m]uch that is accepted as true or plausible even in the hard sciences, I expect, is accepted without thought of its joining forces with other plausible hypotheses ... to form a testable set.

Such statements are matters of filling in, of the rounding out of theories — normally for the sake of explanatory or aesthetic ideals if not for mere convenience — but they are not strictly speaking essential to any testable set of statements.<sup>18</sup> The Continuum Hypothesis is a likely example; we hear that string theory might be another, and it stands to reason that there are many less sensational examples. Bergström, as in the above quotation, holds that some statements — the "superfluous" ones — pass the disquotational test but not the empirical test, and thus are not strictly true (1994: 429). Further and striking support seems to emerge from what Bergström says in connection with statements of "moral and aesthetic value", that famous inflection point for logical empiricism or positivism (1994: 433):

Many empiricists have felt that moral and aesthetic value statements are neither true nor false. Quine is also attracted to this view [in private conversation]. But it seems clearly wrong on the disquotational account. On the other hand, it seems very plausible on the empiricist account of truth. This is a further reason why Quine should accept the empiricist account.

Set aside any remarks in private conversation (and note that Quine is silent on the issue in his response). A perhaps wooden reply, but

18. Tauriainen (2022: 19) writes, "It is unclear to what extent Quine can commit the existence of in principle unknowable truths based on his commitment to the immanence of truth". But in addition to the sort of case cited in this quotation, it is part of our (immanent) system of the world, for example, that many events outside our space-time cone will be forever unknown, and unknowable (I'm not sure what 'in principle' adds).

nevertheless an interesting and substantive reply, can readily be inferred from Quine's public remarks.

In brief, the reply runs, value-statements can indeed be true or false, even if incapable of empirical justification, but this does not generate any pressure to adjust the account of truth. Such statements are not going to fit as they stand into Quine's epistemology, as Bergström notes. To cite empirical evidence for them, let alone to verify them, is not the thing, as so many have insisted (and let us grant that they do not play the filling-in-and-rounding-out role just mentioned). But Quine recognizes this and takes steps to integrate them into his world-picture. In 'On the Nature of Moral Values', he describes an empirical third-person test for detecting values in an individual subject, which, at the level of brass tacks, involves a chicken pecking at levers as in a Skinner experiment (1981c: 55–9; presumably Quine is speaking of even the most selfish non-transitory desires as 'values'). Moving up the phylogenetic scale, he describes a process whereby what might begin as an egocentric value is instrumental to the acceptance of a moral value (Quine 1981c: 57):

We learn by induction that one sort of event tends to lead to another that we prize; and then by a process of transfer we may come to prize the former not only as a means but for itself... The transmutation of means into ends... is what underlies moral training. Many sorts of good behavior have a low initial rating on the valuation scale and are indulged in at first only for their inductive links to higher ends... But by association of means with ends we come gradually to accord this behavior a higher intrinsic rating. We find satisfaction in engaging in it and we come to encourage it in others. Our moral training has succeeded.

It is a mark of moral values that they are apt to "blend in social harmony" (1981c: 60), and indeed there are biological and sociological reasons not to rule out that some should turn out to be universal (1981c: 61–2). But any corresponding agreed statements — those expressing

value as illustrated by the form "x is good" — are not themselves going to slot into Quine's framework of empirical science, having observation sentences as its base. Quine writes: "we have to deplore the irreparable lack of the empirical checkpoints that are the solace of the scientist" (1981c: 66; see also 1974: 50–2, and for a consonant view of an ethicist, see Stevenson 1963: 214–20).

In his essay on Austin, Quine writes that Tarski's paradigm "works for evaluations...as well as for statements of fact" (1981d: 90; he goes on: "it works equally for performatives. 'Slander is evil' is true if and only if slander is evil, and [likewise] 'I bid you good morning' is true of us on a given occasion if and only if, on that occasion, I bid you good morning"). Value statements fit the normal grammatical template of the declarative sentence, and indeed are *susceptible to logic* as indeed we typically so treat them — as when we demand coherence of them and seem to argue about them — yet they are not themselves science (Quine 1981c: 63). The relevant scientific facts by contrast will be facts of psychology or sociology, in the form, say, of the merely descriptive "x values y", not the statements which themselves express value. Statements which express value will be excluded from science, from the overall theory that limns reality, but as matter of their lack of empirical checkpoints, not as a matter of their failure to be truth-apt. The Frege-Geach conundrum is simply not recognized. Theoretical statements which only serve to fill in their particular branch of science, meanwhile, are included in science but only for pragmatic reasons if not merely by courtesy. With either type of statement, it would be an over-reaction to restrict the notion of truth as Bergström recommends. We may stick to Quine's strict epistemological scheme as setting forth the language-game of science but acquiesce in Quine's liberal Tarskianism when it comes to truth.

#### *IIc The Pursuit of Truth*

Related to the foregoing in its emphasis on value is a further consideration to which Bergström appeals in making his case, touched on in the penultimate paragraph of section II in the exposition of the basics

of Bergström's view. It concerns the very idea of the *Pursuit of Truth*: why is it that truth is something valuable, something worthy of pursuit? He writes (1994: 433):

If disquotation is all there is to truth, it is very hard to see why truth is valuable or why truth is something that we want to pursue ... Why should anyone attempt to find new sentences which are true in a disquotational sense? This is hard to explain. On the empiricist account, however, it seems quite reasonable that we should try to find theories which are true. For if the sentences we believe to be true are true in the empiricist sense, our expectations will tend to be satisfied. This can be taken as an indication that empiricist truth is more interesting than disquotational truth.

In his reply to Bergström, Quine answers (1994a: 498):

We choose to pursue truths conducive to our well-being and that of other deserving people, and truths that gratify our curiosity about the world. As for just how a true sentence can serve any such purpose, that varies radically from sentence to sentence.

But one could well wonder on behalf of Bergström why "gratifying our curiosity" would not suffice in answer, or some other general answer relating our cognitive states to reality; would this not have repercussions for the theory of truth? My explanation has two parts, the first trading on what I said in Ib and Ic, commenting further on what I take to be a central lesson Quine got from Tarski.

The lesson was that in order to explain the use of the scientific predicate 'is true', *mere* disquotation is not sufficient. Quine accepts the need for genuine semantic ascent, for generalization with "is true" and hence the need for a full-on Tarski-style apparatus. He thus concedes that there is nothing wrong with this sort of general question on the score of logical syntax. The first part of the answer then is to point

out that the intelligibility of such questions does not mean that every such question is a good question, or that such breezy formulations as they "gratify our curiosity" really tell us anything definite or material. Indeed, as philosophers we do have a tendency to over-generalize, to submit to what Wittgenstein memorably called the "craving for generality" (1969: 17). In some cases, and this one included, we imagine there are general, pressing questions that have substantive answers, when in fact at anything but a superficial level there are only multitudinous answers to less sweeping questions. "In sober fact the pursuit resolves into concern with particular sentences, ones important to us in one or another way", to re-quote Quine (*FSS*: 67).

But Bergström might just hold his ground here, insisting that his answer — or something like it — is indeed of the requisite weight. The second and more substantial part of my answer begins with a fulsome acknowledgement that it is a major achievement for Quine to have schematized empirical science in a completely general manner. But again, as in subsection IIa, that we accept a certain theory — such as Bergström's — does not imply that it plays a role in defining the terms it uses. In particular, Quine might be said to articulate what we do in doing science so that our "expectations will tend to be satisfied" (certainly there was no assurance to begin with that such a thing is possible, as Peter Hylton has in effect stressed in 2007: 365). However — and this is the core of the second part of my answer — it is wrong to think that an analysis of *truth* will tell us what those satisfactions will be in general. Beyond platitudes such as "Our curiosity is gratified!" or "We find out the way the world is!", there is no doubt a subject for psychology or epistemology involving these attitudes. But truth itself, once again, is fully explained via its generalizing function.

#### *IId Realism*

Finally, I will consider Bergström's remarks on the perhaps more contentious matter of Quine's attitude towards realism, especially in view of its connection with the earlier theme of the immanence of truth. Bergström writes, "Certain passages in Quine's writings suggest that

he has a realist account of truth" (1994: 425). He then quotes Quine as saying, "What is it that makes one complete physical theory true and another false? I can only answer, with unhelpful realism, that it is the nature of the world" (1981d: 179–80); and that the truth of a single sentence "consists in the world's being as the sentence says" (*PT*: 81). "These are", Bergström concludes, "formulations one might expect from someone who uses 'true' in a realist sense. They seem to point in the direction of a correspondence theory" (1994: 425).<sup>19</sup>

Quine responds to Bergström's question with the generalizing function of truth: "I am a realist about truth in whatever sense I am a realist about light rays or straightness" (1994a: 498. But to those who take the question seriously, this might seem evasive, if not smug. What follows takes slightly more pains.

There are three points, which I present in ascending order of consequence. First, the passage from Bergström underplays Quine's scepticism, his subtle irony about certain philosophical questions or turns of phrase. For example, Quine meets the unhelpful turn of phrase that something "makes" a theory true with another unhelpful turn of phrase that it is the "nature of the world" that does it (*PT*: 179–80). He is merely talking the talk without quite taking it seriously (see also *PL*: 96, where — in a book about logic — he speaks of questions that are "all sound, signifying nothing"). He is more serious when he adopts in response to Davidson's "idiom of realism" (1994b; 500), avowing that

19. Going perhaps beyond Tauriainen (2022; see also my fn 6), Chen (2020: 105–13) claims that Quine accepts correspondence. Yet Chen recognizes that in the precise sense of correspondence as a relation between sentence and fact, that is a non-starter. Even in the vaguer sense, it seems that Chen's claim is ill-advised, if only as a matter of rhetoric. Partly, it mishandles a certain figure of speech as Quine sees it — as mentioned before, Quine sees the idea of correspondence as containing an important grain of truth, if a distorted one, that the right side of "Snow is white' is true iff snow is white" appertains to the colour of snow, i.e., to reality and not language in whatever sense 'Snow is white' does (*PL*: 97), but that is all; partly, it mis-ascribes to Quine characterizations of truth such as an object's "having a certain quality" (Chen 2020: 106); partly it pretends to get science or metaphysics out of the vagaries of ordinary grammar; and partly it fails to take quite seriously Quine's emphasis on immanence (see my conclusion).

we have indeed a "remarkable feature of our use of the truth-predicate", but what licenses him is merely the logic of truth, not an inscrutable connection with the idea of the real (I refer the reader to the above remark about light-rays). Second, I play yet again the card of the generalizing function of truth. To one who persists in asking, "What is it that makes one complete physical theory true and another false?", Quine can direct the questioner to a specific example — "What makes the earth round?" — and cite the relevant cosmological, geological, or astronomical facts; if the questioner protests that that is not what was being asked, Quine can reply with the Tarskian account of the generalizing function; if the questioner persists still, Quine can reply that there is no answer, that *that* question ultimately fizzles out.

Third, Quine does call himself a "realist", but one must not be misled. According to his naturalism, there is no standpoint besides the scientific one from which to judge whether certain entities are real, whether they exist, whether the procedures that issue in our theory of such entities are fully objective, how such entities stand to one another, and so on. In 'Posits and Reality' (Quine 1976a: 246–54), in an important point that strongly parallels both Austin and Wittgenstein (and also, if less strongly, Moore, the early Ayer, and perhaps Carnap), judgements involving such concepts as existence and reality do not somehow reach categorically beyond the significance that is accorded to them in ordinary language training (Quine 1976b: 251–4; also 1963[1951]: 44; 1960: 22; 2008b: 152; 2008a: 405). One learns to call narwhals real, unicorns unreal, and that is pretty much that. For Quine, the hyper-realist idea of things-in-themselves quite apart from our theories about them is an empty fantasy, playing no serious role in science or epistemology.<sup>20</sup>

20. Quine's "realism" is summed up by Parsons (2020: 227), who speaks of "the picture of Quine as at least a minimal realist. That is hardly enough to make him a metaphysician".

### III. Conclusion

Although 'immanent' and 'transcendent' are decidedly suggestive terms, and Quine certainly uses them, they are not supporting members of any Quinean theory. Yet — despite one apparent counter-occasion discussed earlier and to be revisited in a moment — it is apt to say that Quine's picture is one of the immanence of everything, the whole kit and caboodle. This encompasses such devices as the truth-predicate, or rather the truth-predicate as required by science: it is intrinsically a device of sentential generalization, of semantic ascent, nothing more. This is part and parcel of what he calls naturalism (e.g., 1981b: 72), the view that we can aspire to no outlook on reality other than that provided by science. This is not to say that it is a matter of definition that the world is as science says it is; merely that error itself can only be detected by scientific means. Not even truths about truths can break one out of science. "Truth is immanent", to quote the ringing statement once more, "and there is no higher. We must speak from within a theory, albeit any of various" (1981a: 21–2). Truth-predicates save time practically speaking, but such uses are often dispensable. Where they are essential is in the more serious business of logic, epistemology, and in the comparison of theories, as noted.

Since immanentism has it that there is in fact no super-scientific point of view from which we might rationally re-evaluate the accepted truths of science, we have the apparent implication that there are no Kantian things-in-themselves, no noumena. As indeed Quine writes, "What evaporates is the transcendental question of the reality of the external world — the question whether or in how far our science measures up to the *Ding an sich*" (Quine 1981a: 22). Yet Quine occasionally indulges in figures of speech that seem to bespeak the opposite — none more so than when, in the later *Pursuit of Truth* of 1992, he responds to the purported underdetermination of theory, to the purported possibility of total theories of nature which are incompatible with our actual scheme but empirically equivalent to it (where "empirically equivalent"

means their having the same empirical content, in the sense outlined earlier), by giving us this (*PT*: 101):

Limited to our human terms and devices, we grasp the world variously. I think of the disparate ways of getting at the diameter of an impenetrable sphere: we may pinion the sphere in calipers or we may girdle it with a tape measure and divide by pi, but there is no getting inside.

He is perilously close to reneging on his earlier dismissal of the *Ding an sich*, allowing that reality itself, strictly speaking, is unknowable. His saying this in response to the purported underdetermination of theory does put pressure, at least rhetorical pressure, on the attitude towards realism described above. Although in a paper of the 1970s, he averred that the idea "is plausible insofar as it is intelligible, but it is less readily intelligible than it may seem" (Quine 2008 [1975]: 228), evidently in this passage of the later *Pursuit of Truth*, he is warmer towards the thesis.<sup>21</sup> The matter is, however, too complicated to enter into here and indeed I think that it represents a serious unresolved tension, if not a paradox, in his philosophy. I will refer the reader to my 2016 piece (and to myself, forthcoming) for an attempt to resolve the tension by discounting the thesis, and otherwise note my sympathy with Bergström's opinion that "Quine should reject the possibility of incompatible but empirically equivalent theories" (1994: 431); and my positive agreement with his earlier view — if I've got him right — that the possibility of such theories remains at best an open question (Bergström 1990: 45). This is one case where there are solid reasons to prefer the earlier Quine, and perhaps the more consistent Quine.

By means of sustained criticism of Bergström's two-faceted interpretation of Quine's picture, as well as exegesis in some detail of Quine's picture itself, I've attempted to show that there is nothing

21. Andrew Lugg (in conversation) reports that Burt Dreben said (also in conversation) that *From Stimulus to Science* appeared partly because Quine came to regret what he wrote at page 101 of *Pursuit of Truth*. Sure enough, there is not a word concerning underdetermination in *From Stimulus Science*.

in Quine's view of *truth* to force him into recognizing anything like things-in-themselves, of transcendent as opposed to immanent entities — nothing to force him out of the view that science, limited only by the inevitable technical and cognitive barriers, can tell us about reality without remainder. More generally, I've endeavoured to show that the genuine issues addressed by Bergström's second facet do not in fact require the second facet in the analysis or definition of truth, that however much they are cogent, Quine and Tarski's austere yet powerful notion of truth as a device of sentential generalization is sufficient.

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