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	Address	Storrs, USA
	Email	keith.simmons@uconn.edu
	ORCID	

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Abstract	In this paper, I raise some interconnected concerns for Paul Horwich's minimal theory of truth, framed by these three ttquestions: How should the minimal theory be formulated? How does the minimal theory address the liar paradox? What is the explanatory role of the concept of truth? I conclude that we cannot be linguistic or conceptual deflationists about truth.
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Three questions for minimalism

Keith Simmons¹

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Abstract In this paper, I raise some interconnected concerns for Paul Horwich's minimal theory of truth, framed by these three questions: How should the minimal theory be formulated? How does the minimal theory address the liar paradox? What is the explanatory role of the concept of truth? I conclude that we cannot be linguistic or conceptual deflationists about truth.

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Paul Horwich's *Truth*, published twenty five years ago, is arguably the principal reason that the deflationary view of truth occupies center-stage today. It provided the first full-length systematic presentation and defense of the minimal theory of truth.

The minimal theory is essentially a thesis about the predicate 'true', and its application to propositions, which Horwich takes to be the truth-bearers. In a nutshell, the theory is this: Given a sentence 'p', the truth predicate provides us with an equivalent sentence, 'The proposition *that p* is true'. So 'true' acts as a *de-nominalizer*—applied to the noun phrase 'the proposition *that p*', the truth predicate restores the structure of

✉ Keith Simmons
keith.simmons@uconn.edu

¹ University of Connecticut at Storrs, Storrs, USA

19 a sentence. In Horwich's words: "The entire conceptual and theoretical role of truth
20 may be explained on this basis".¹

21 In this paper, I want to raise three concerns for the minimal theory, framed by these
22 three questions: How should the minimal theory be formulated? How does the minimal
23 theory address the liar paradox? What is the explanatory role of the concept of truth?
24 I'll conclude that the word 'true' is more than a de-nominalizer, and the concept of
25 truth has important explanatory work to do. We cannot be linguistic or conceptual
26 deflationists about truth.

27 1 Formulating the theory

28 The minimal theory of truth seems very simple—if very long. The infinitely many
29 axioms of the theory are just propositions such as

30 The proposition that snow is white is true if and only if snow is white and

31 The proposition that lying is wrong is true if and only if lying is wrong.

32 But the minimal theory is not as simple as it looks.

33 According to Horwich, the structure of these axioms is given by the "propositional
34 structure"

35 $(E^*) \langle \langle p \rangle \text{ is true iff } p \rangle$.²

36 Here Horwich employs the following convention: "surrounding any expression, e ,
37 with angled brackets, ' $\langle \rangle$ ' and ' $\langle \rangle$ ', produces an expression referring to *the propositional*
38 *constituent expressed by e* ."³ So, for example, ' $\langle \text{snow is white} \rangle$ ' refers to the
39 proposition expressed by the English sentence 'snow is white'. Horwich claims that
40 E^* "is a function from propositions to propositions".⁴ For example, E^* takes as input
41 the proposition $\langle \text{snow is white} \rangle$, and yields as output the axiom the proposition

42 $(1) \langle \langle \text{snow is white} \rangle \text{ is true iff snow is white} \rangle$.

43 Given any proposition as input, the function E^* will yield the corresponding axiom of
44 the minimal theory MT. These axioms, according to Horwich, are given by the formal
45 principle

46 "For any object x : x is an axiom of the minimal theory if and only if, for some
47 y , when the function E^* is applied to y , its value is x ."⁵

48 In logical notation:

49 " $(x)(x \text{ is an axiom of MT} \leftrightarrow (\exists y)(x = E^*(y)))$."⁶

¹ Horwich (1998, p. 5). *Truth* was first published in 1990, and the second edition appeared in 1998. In what follows, I'll be making references to both editions. There are occasionally differences between the two that matter. When the texts coincide, I cite Horwich (1998).

² See Horwich (1998, p. 17).

³ Horwich (1998, p. 18, n. 3). Horwich (1990) puts it slightly differently: "produces an expression referring to *the propositional constituent corresponding to e* ". (p. 19, n. 3).

⁴ Horwich (1990, p. 19).

⁵ Horwich (1998, p. 19).

⁶ Horwich (1998, p. 20).

50 This formulation of the minimal theory suggests that the axioms can be identified
 51 directly in terms of propositions: E^* is a function from propositions to propositions,
 52 and the formal principle that specifies the axioms quantifies over propositions. It might
 53 seem that once we're on board with propositions as the truth-bearers, we can formulate
 54 the minimal theory just in terms of propositions, together with a certain function from
 55 propositions to propositions, and quantificational logic.

56 But this is misleading. E^* cannot be regarded as a function from propositions to
 57 propositions. If we are told that $f(x)$ is a function from integers to integers, we expect
 58 to replace the variable x in the expression ' $f(x)$ ' by the name of an integer, and thereby
 59 obtain an expression that denotes an integer. If, for example, $f(x) = x + x$, ' $f(2)$ '
 60 denotes the number 4. Here we replace ' x ' in each of its occurrences by the name
 61 ' 2 ', and obtained a denoting expression ' $2 + 2$ ' that denotes 4. Similarly, if $E^*(y)$ is a
 62 function from propositions to propositions, we expect to replace the variable y , in each
 63 of its occurrences, by the name of a proposition. Now $E^*(y) = \langle\langle y \rangle\rangle$ is true iff y .
 64 Suppose we put the name of a proposition—say, the name $\langle\text{snow is white}\rangle$ —for each
 65 occurrence of y . We will obtain:

$$66 \quad \langle\langle\langle\text{snow is white}\rangle\rangle\rangle \text{ is true iff } \langle\text{snow is white}\rangle.$$

67 This is not well-formed. On the left hand side of the biconditional, the expres-
 68 sion ' $\langle\langle\text{snow is white}\rangle\rangle$ ' reads: "the proposition that the proposition that snow
 69 is white"—but this fails to refer to a proposition (or anything else). And on the right
 70 hand side, the name ' $\langle\text{snow is white}\rangle$ ' appears—but a name cannot serve as the right
 71 hand side of a biconditional.

72 In Horwich (1998) (though not in 1990), Horwich seems to suggest that E^* is
 73 a function because its application to, say, the proposition $\langle\text{snow is white}\rangle$ yields
 74 the proposition $\langle\langle\text{snow is white}\rangle\rangle$ is true iff snow is white. Horwich unpacks this
 75 claim in terms of the sentence schema (E) $\langle p \rangle$ is true iff p .

76 According to Horwich, the application of (E) to the sentence 'Snow is white' yields
 77 the sentence

$$78 \quad (1^*) \langle\text{snow is white}\rangle \text{ is true iff snow is white.}$$

79 Now, moving from the level of the linguistic items (E), 'Snow is white' and (1^*) to the
 80 level of their *meanings* or what they *express*, Horwich concludes that the application
 81 of what (E) expresses (namely, E^*) to what 'Snow is white' expresses (the proposition
 82 $\langle\text{snow is white}\rangle$) yields what (1^*) expresses (the proposition (1)). But this does not
 83 establish that (E^*) is a *function* from propositions to propositions. (E^*) is no more a
 84 function than (E) is. (E) is not a function from sentences to sentences: (E) does not
 85 *apply* to sentences in the way that a function applies to its arguments. (Contrast, for
 86 example, a function that takes a sentence to its negation.) (E) is a schema, and we obtain
 87 (1^*) by replacing occurrences of ' p ' in (E) by tokens of the sentence 'snow is white';
 88 similarly (E^*) is a schema, and we obtain (1) from (E^*) by replacing occurrences of
 89 ' p ' in (E^*) by tokens of the sentence 'snow is white'.

90 So we should regard (E^*) as a schema, not a function. We can move from (E^*)
 91 to an axiom of the minimal theory if we replace each occurrence of p by tokens of
 92 the same interpreted sentence-type. For example, if we replace each occurrence of p

93 by tokens of the interpreted English sentence ‘Snow is white’ we obtain the axiom
 94 $\langle \langle \text{snow is white} \rangle \text{ is true iff snow is white} \rangle$. But there is no avoiding this detour
 95 through sentences.

96 Horwich does consider an alternative formulation of the minimal theory which
 97 explicitly brings in sentences:

98 “One alternative is to characterize the axioms of the minimal theory as anything
 99 that is expressed by instances of the sentence schema

100 (E) ‘ $\langle p \rangle$ is true iff p ’.”⁷

101 Presumably the idea is that if we replace each occurrence of p by tokens of the same
 102 interpreted sentence, we obtain the name of a sentence that expresses a proposition,
 103 and this proposition is an axiom of the theory.

104 Now Horwich prefers not to formulate the theory in these terms, because he wants
 105 to avoid such an *indirect* way of identifying the axioms. Rather than identifying the
 106 axioms indirectly, Horwich prefers to proceed “by directly specifying the propositional
 107 structure which all and only the axioms have in common”.⁸ However, the identification
 108 of the axioms via (E*) is just as indirect as it is via (E). The minimal theory cannot
 109 be formulated solely in terms of propositions. The axioms can be identified only
 110 indirectly, in terms of sentences that express them. And, as Horwich points out, there
 111 is a complication with this indirect identification of the axioms via sentences.⁹

112 The minimal theory is supposed to be a comprehensive theory of truth, a theory of
 113 truth encompassing *all* propositions. But there are propositions not expressible by the
 114 sentences of current English, and their associated axioms will be unformulatable at
 115 present. Still, Horwich writes: “Although we cannot now *articulate* these extra axioms
 116 (any more than we can articulate the propositions they are about) we can nevertheless
 117 *identify* them.” Since these instantiations of (E) go beyond actual English, and beyond
 118 all actual languages, we need to supplement our actual language English (in which
 119 (E) is expressed) *by all possible extensions of it*. By appeal to all *possible* sentences
 120 of English, as well as all actual ones, Horwich suggests we can *identify* the axioms
 121 of the minimal theory via the sentences that express them. It would be a problem if
 122 we had no way of characterizing all the axioms of the minimal theory. According to
 123 Horwich, even though some axioms are inexpressible, “it is none the less possible to
 124 indicate what they are”.¹⁰

125 It is far from clear what can count as a possible extension of English. What are
 126 the constraints here? Who are the possible speakers? So this way of identifying the
 127 axioms is correspondingly unclear. And anyway, as it stands, the appeal to possible
 128 sentences will not guarantee the comprehensiveness of the minimal theory. According
 129 to Horwich, the commitment of the minimal theory to propositions “presupposes very
 130 little about the *nature* of propositions”.¹¹

⁷ Horwich (1998, p. 19, n. 3). In Horwich (1990), (E) is presented without the single quotes (p. 19, fn. 4).

⁸ Horwich (1998, p. 19, n. 3).

⁹ Horwich (1998, pp. 18–19, n. 3).

¹⁰ Horwich (1998, p. 20).

¹¹ Horwich (1998, p. 16).

131 “As far as the minimal theory of truth is concerned, propositions could be com-
 132 posed of abstract Fregean senses, or of concrete objects and properties...”¹²

133 But if the theory is to be comprehensive, and the axioms are to be identifiable (even
 134 if not presently formulatable), then there cannot be absolutely inexpressible propositions.
 135 And this will be so only on certain conceptions of the nature of propositions.
 136 One way to see this is through cardinality considerations. It is natural to suppose
 137 that there are only denumerably many possible sentences of English (or of any nat-
 138 ural language)—but on some conceptions of propositions, there are non-denumerably
 139 many propositions.¹³ For example, take propositions to be abstract, structured enti-
 140 ties composed of objects (including, say, the real numbers, or ZF sets, or all points
 141 of space-time) and properties; or, supposing there are non-denumerably many sets of
 142 possible worlds, take propositions to be sets of possible worlds. Then in any possible
 143 world, there will be denumerably many sentences of English or extended English,
 144 and so only denumerably many propositions expressed. Every possible extension of
 145 English will fail to identify (infinitely many) axioms of MT. And it will not help to
 146 claim that for each axiom, there is some possible world in which it is identified via
 147 an (extended) English sentence. That would require non-denumerably many distinct
 148 possible extensions of English, which in turn would require non-denumerably many
 149 distinct possible English sentences—contradicting the assumption that there are only
 150 denumerably many possible English sentences. The upshot is this: the minimal the-
 151 ory can be properly formulated only under certain conceptions of propositions, those
 152 according to which propositions do not outrun sentences.

153 How then should the minimal theory be formulated, given that sentences cannot be
 154 bypassed? Consider again (E*).

155 (E*) $\langle p \rangle$ is true iff p .

156 We want to instantiate (E*) to obtain axioms of the theory—for example, to obtain the
 157 proposition expressed by the sentence ‘The proposition that snow is white is true if and
 158 only if snow is white’. Certain conditions must be imposed on such an instantiation,
 159 as follows:

- 160 (i) each ‘p’ is replaced with tokens of an actual or possible English sentence,
- 161 (ii) these tokens are given the same interpretation,
- 162 (iii) under that interpretation they express a proposition,
- 163 (iv) the expression ‘ $\langle p \rangle$ ’ refers to the proposition expressed by the sentence p,
 164 and
- 165 (v) the meaning of ‘proposition’, whatever that may be, precludes absolutely inex-
 166 pressible propositions.

¹² Horwich (1998, p. 17).

¹³ While it is natural to suppose that there are denumerably many possible sentences of English, the minimalist might nevertheless claim that there are non-denumerably many. But the burden is on the minimalist to make out this claim. Moreover, as an anonymous referee points out, it could be argued that even if there are non-denumerably many possible sentences of English, there are still more possible propositions. Consider a Cantorian argument: there are more sets of sentences than there are sentences, and on certain conceptions of propositions, there will be a distinct proposition for each such set (for example, if propositions are taken to be entities composed of objects—including sets—and properties). There are delicate issues here, not least because paradox is lurking. For further discussion see Simmons (1993a, b).

167 With these conditions in place, we can formulate the minimal theory as follows: the
 168 axioms of the theory are all the instantiations of E^* that meet the conditions (i)–(v).¹⁴

169 So how minimal is the minimal theory? It's not just the notion of *proposition* that
 170 enters into this formulation, but other concepts too: *language* (specifically English),
 171 *possible language*, *sentences*, *sentence-tokens*, *possible sentences*, *interpretation*, the
 172 *expressing* relation, the *reference* relation. And the notion of *proposition* itself must be
 173 constrained in some suitable way. The core claim of deflationism, and of Horwich's
 174 minimalism in particular, is that "the truth predicate exists solely for the sake of a
 175 certain logical need"¹⁵. The truth predicate serves merely as a *de-nominalizer*, and
 176 this role turns on no more than the equivalence between ' $\langle p \rangle$ is true' and ' p '. Put this
 177 way, it seems that the minimal theory is suitably impoverished. But closer inspection
 178 shows that the very formulation of the minimal theory of truth requires an array of
 179 basic semantic and linguistic concepts. It's not as simple as it looks.

180 It follows that we cannot even *formulate* the minimal theory without taking on
 181 a significant burden—all these semantic and linguistic concepts must be explicated
 182 without bringing in truth. Horwich points out that the minimalist must reject the
 183 idea that our conception of propositions presupposes the notion of truth, and find
 184 another account of propositions.¹⁶ A theory of truth must, of course, explain truth
 185 in terms that do not themselves involve truth. At first glance, it might seem that in
 186 the case of the minimal theory, it is only the notion of *proposition* that might let
 187 truth back in, and all that is required is to explain the notion of proposition in terms
 188 independent of truth. But the minimal theory is richer than it might have first appeared,
 189 and there are other ways in which truth might get in by the back door. Of course, the
 190 minimalist will face the challenge of explaining concepts such as *proposition*, *possible*
 191 *sentence*, *interpretation*, *expressing*, *reference*, and *meaning* independently of truth.
 192 But it might have been hoped that one could *first* formulate the theory, and *then* take
 193 on this substantial challenge as a separate matter. But these notions are part of the

¹⁴ In the Postscript to Horwich (1998), Horwich writes that "the explanatorily basic fact about our use of the truth predicate is our tendency to infer instances of 'The proposition *that p* is true' from corresponding instances of ' p ', and vice versa". According to Horwich, this tendency governs our use of the truth predicate, and it is present whenever certain conditions hold. These conditions are a version of (i) without any mention of possible sentences ("each ' p ' is replaced with tokens of an English sentence"), conditions (ii) and (iii), and the condition that the terms 'that' and 'proposition' have their usual meaning (Horwich 1998, p. 126). We should note that there are important differences of scope and function between Horwich's conditions and the ones I have laid out. Horwich's conditions apply only to those sentences that a given speaker can understand, since we can only make inferences between instances of 'The proposition *that p* is true' and ' p ' if we understand the sentence that replaces ' p '. And Horwich's conditions are part of a story about our linguistic practice with the word 'true'. In contrast, I am concerned with the very statement of the minimal theory—I'm arguing that we cannot even *formulate* the minimal theory without explicitly bringing in conditions (i)–(iv) and (v). And the scope of the conditions I've laid out is different too: they apply not only to sentences that a given speaker understands but also to sentences of actual English that the speaker may not understand, and, beyond that, to all possible, non-actual sentences of English. A formulation of the theory must find a way of identifying every proposition. In contrast, Horwich's account of our use of 'true' involves only propositions we are capable of understanding and the relevant inferences we are capable of making.

¹⁵ Horwich (1998, p. 2).

¹⁶ See for example Horwich (1998, p. 103).

194 formulation itself. So the formulation of the minimal theory thus far is promissory—it
195 cannot be regarded as complete until the challenge has been met.

196 At this point, it might seem tempting to abandon propositions, and present a deflationary
197 theory in terms of sentences—if sentences cannot be avoided anyway, then deal
198 only in sentences. The theory would run parallel to the minimal theory: its axioms
199 would be all instances of the disquotational schema

200 ‘p’ is true if and only if p,

201 where p is to be replaced by sentences. Now it seems that the challenge of formulating
202 the theory is less severe. It seems that notions such as *proposition* and *expressing a*
203 *proposition* no longer stand in need of explanation—and so do not stand in need of
204 explanation in terms independent of truth. But new problems emerge. To illustrate, let
205 me consider two.

206 First, sentences may contain context-sensitive terms, and, as it stands, an instanti-
207 ation such as

208 ‘I am hungry’ is true if and only if I am hungry.

209 is unacceptable. Horwich’s response is to introduce a new kind of quote-name, where,
210 given an expression ‘p’, *p* picks out an expression not only in terms of its syntactic
211 form but also in terms of the propositional constituent it expresses.¹⁷ So for example,
212 *I am hungry* is multiply ambiguous, designating a separate sentence-type for each
213 of the different propositions it can be used to express. Suppose I utter ‘I am hungry’ at
214 time t—call this utterance u. Then u is of the type *I am hungry*—written ‘uε *I am
215 hungry*’—if the proposition indicated by the *-quotes concerns *my* hunger *at time t*.
216 Now, says Horwich, we can accept the instantiation

217 $(u \in *I \text{ am hungry}*) \rightarrow (u \text{ is true if and only if I am hungry})$

218 as long as the two tokens of “I am hungry” express the same proposition. This gener-
219 alizes to

220 (S) $(u \in *p*) \rightarrow (u \text{ is true if and only if } p)$

221 where the replacements for p express the same proposition. It’s clear that Horwich’s
222 treatment of context-sensitivity and indexicality does not yield a simplified minimal
223 theory for sentences and utterances: propositions and the expressing relation are still
224 essential to the theory.

225 In contrast to Horwich’s minimalism, Field’s disquotational theory of truth takes
226 sentences and utterances to be the truth bearers, not propositions.¹⁸ So we might
227 expect this deflationary theory to be formulatable in simpler terms than Horwich’s
228 minimal theory. The core notion of Field’s disquotationalism is *pure disquotational*

¹⁷ Horwich (1998, p. 100).

¹⁸ See for example Field (1994), in Blackburn and Simmons (1999, p. 386).

229 *truth*. Given a sentence of my idiolect, say, “Snow is white”, there is a strong equiv-
 230 alence, a “cognitive equivalence”¹⁹, between “Snow is white” and my attribution of
 231 truth to the sentence: “‘Snow is white’ is true”. As a heuristic, Field suggests that ‘true’
 232 is to be understood as ‘true-as-I-understand-it’. Pure disquotational truth is restricted
 233 to the sentences of a speaker’s idiolect, the sentences that the speaker understands.
 234 Now suppose I say “I am hungry”. Field suggests that this sentence is disquotationally
 235 true (for me, as I understand it) if and only if it is true relative to the value of ‘I’
 236 that I associate with the indexical.²⁰ And similarly for my other uses of indexicals
 237 and context-sensitive terms. Field’s treatment here might remind us of Quine’s, where
 238 the truth value of a sentence with indexicals is derived from the truth value of the
 239 corresponding ‘eternal’ sentence—except that Field’s account is tightly restricted to
 240 a speaker’s idiolect. Field’s account has no need of propositions or the expressing
 241 relation. It appears conceptually simpler, more ‘minimal’, than Horwich’s account.

242 But now there is a second new problem generated by the move to sentences. How
 243 can disquotationalism account for attributions of truth to *foreign* sentences—and, in
 244 general, to sentences beyond the scope of a speaker’s idiolect? According to the pure
 245 disquotational theory, I can understand a truth attribution only so far as I can understand
 246 the original sentence. If I know no Finnish, then I cannot understand my attribution of
 247 truth to a Finnish sentence any more than I can understand the Finnish sentence. I can
 248 intelligibly apply the truth predicate only to sentences of my idiolect. But this seems
 249 wrong: I may trust my Finnish friend, and declare that the sentence he just produced
 250 is true (or even that everything he says is true). Field offers three ways of extending
 251 pure disquotational truth so as to accommodate foreign sentences. We can introduce
 252 a notion of *interlinguistic synonymy*, so that I can call a foreign sentence true if it
 253 is synonymous with a sentence of my idiolect that true in the purely disquotational
 254 sense. Or we might introduce a vaguer notion of *interlinguistic correlation*, tied to a
 255 notion of *good translation* that might not require a notion of synonymy. A third option
 256 is more limited: if I already understand some foreign sentences, I can include them in
 257 my idiolect and apply pure disquotational truth to them directly. Given that the third
 258 option is so restricted, we are left with the first two.²¹ So if the disquotational theory
 259 is to escape the straitjacket of a speaker’s idiolect, we will need to introduce notions
 260 such as *interlinguistic synonymy*, or *interlinguistic correlation*, or *good translation*.
 261 Disquotationalism, like minimalism, is not as simple as it looks.

262 Horwich’s own solution to the problem of foreign sentences requires a notion of
 263 interpretation together with the new kind of quote-name. Suppose Pierre produces an
 264 utterance *u* of “J’ai faim” at noon on 7/1/1994—then a correct interpretation of *u* will
 265 be expressed by the English sentence *v*: “Pierre is hungry at noon on 7/1/1994”. In
 266 general, let $\text{Int}(u)$ be the correct interpretation of an utterance *u* in a foreign language—
 267 or, more generally, an utterance not exemplified in current discourse. Correctness is
 268 captured by this conditional:

¹⁹ Field (1994), in Blackburn and Simmons (1999, p. 353).

²⁰ See Field (1994), in Blackburn and Simmons (1999, p. 386).

²¹ It is however worth noting that neither of these options provide an account of my application of ‘true’ to foreign sentences not translatable into my idiolect.

269 $\text{Int}(u) = v \rightarrow (u \text{ is true iff } v \text{ is true}).$

270 Now Horwich's schema (S) above is adjusted so as to cover all utterances, whether or
271 not in current discourse:

272 $(S') \text{Int}(u) \epsilon * p* \rightarrow (u \text{ is true if and only if } p).$

273 The instances of this schema are *the axioms of the minimal theory for utterances*.
274 But since the notions of *interpretation*, *expressing*, and *proposition* are essential to its
275 formulation, this theory is no more 'minimal' than the minimal theory for propositions.

276 **2 Minimalism and the liar**

277 The liar is usually presented in terms of sentences such as

278 (1) (1) is false

279 or

280 (2) (2) is not true,

281 or 'empirical' versions, such as

282 (3) The sentence written on the board in room 101 is not true,

283 where (3) is the only sentence written on the board in room 101. Consider the schema

284 (S) s is true if and only if p,

285 where 'p' is replaced by a sentence, and 's' by an expression that denotes this sentence.
286 If we instantiate this schema to any of these liar sentences, we're quickly led to
287 contradiction. For example, from the instance

288 '(2) is not true' is true if and only if (2) is not true

289 together with

290 $(2) = \text{'(2) is not true'}$

291 we obtain

292 (2) is true if and only if (2) is not true.

293 And obviously this biconditional generates a contradiction.

294 As we've seen, the minimal theory takes propositions to be the bearers of truth, and
295 the truth-schema is given by

296 (P) $\langle p \rangle$ is true if and only if p.

297 Suppose we now replace each occurrence of 'p' by a liar sentence, say (2). We obtain:

298 The proposition that (2) is not true is true if and only if (2) is not true.

299 How should we understand this biconditional? If no restrictions are placed on (P), then
 300 this instantiation will be an axiom of MT. Should it be admitted as an axiom, or should
 301 it be rejected, perhaps because it produces a contradiction, or perhaps because (2) fails
 302 to express a proposition? The status of this instantiation of (P) is quite unclear, for
 303 two reasons. First, it is not clear what the proposition is that (2) expresses, or whether
 304 it expresses a proposition at all—so the denotation of the referring expression on the
 305 left-hand-side is unclear. Second, while the truth predicate applies to a proposition on
 306 the left hand side (if the proposition exists), on the right hand side the truth predicate is
 307 applied to a sentence—namely, the sentence (2). It is unclear how the minimal theory
 308 engages with self-referential sentences such as (1), (2) and (3).

309 It's a somewhat delicate matter to present the liar in terms of propositions, as
 310 Horwich's problematic version in Horwich (1998) indicates:

311 "let '#' abbreviate 'THE PROPOSITION FORMULATED IN CAPITAL LET-
 312 TERS IS NOT TRUE'."²²

313 It's not clear how a *proposition* can be formulated in capital letters. A sentence
 314 token can be—a sentence token can be composed of capital letters, or bold letters, or
 315 italicized letters. So we could construct the liar sentence:

316 (†) **The sentence formulated in bold letters is not true.**

317 And then we could let '#' abbreviate 'the proposition expressed by †'. Now let's try
 318 instantiating (P). We could replace 'p' by the sentence * in the following way:

319 The proposition that **the sentence formulated in bold letter is not true** is true if
 320 and only if **the sentence formulated in bold letter is not true**.

321 Now we're in even worse shape than we were with (2), because the way the sentence
 322 is picked out is by a physical feature of the sentence-token (*), but the instance of the
 323 schema introduces more tokens of the same type with the same physical feature. At
 324 least with (2) we had a stable name of a particular sentence-token.²³

325 In both Horwich (1990, 1998), Horwich uses locutions such as 'What Oscar said'
 326 and 'Oscar's claim' to refer to propositions. And then one might formulate Liar sen-
 327 tences such as:

328 (4) What Oscar is saying now is not true

329 where (4) is said by Oscar, or

²² Horwich (1998, p. 40).

²³ We might try working instead with this instance:

The proposition that the sentence formulated in bold letters is not true is true if and only if the sentence formulated in capital letters is not true.

But now we're back where we were with (2)—it's not clear what proposition, if any, is referred to on the left-hand-side, and on the right hand side, the truth predicate is applied to a sentence.

In Horwich (1990), the following version is suggested: 'This proposition is not true'. We have here a sentence, so it is not clear what the referent of "this proposition" is. And this problem is magnified when we consider the corresponding instance of (P):

The proposition that this proposition is not true is true if and only if this proposition is not true.

We need a non-indexical way of referring to the relevant proposition.

330 (5) Oscar's claim is not true

331 where (5) is the only claim that Oscar ever makes. Here the problem is that there
 332 is no guarantee that 'What Oscar said' and 'Oscar's claim' refer to propositions. In
 333 sentences like 'What Oscar said was in English' or 'Oscar's claim was made under
 334 oath', it is natural to take the referents to be sentences or utterances. So (4) and (5)
 335 cannot be taken to be clear cases of the Liar expressed in terms of propositions.

336 As far as I can see, the only way to formulate an unproblematic propositional liar is
 337 to employ the *expressing* relation between sentences and propositions.²⁴ For example,
 338 suppose Oscar says

339 (6) The proposition expressed by the person in 333 Manchester Hall on 2/9/2016 is
 340 not true

341 where Oscar happens to be the only person situated at that place and time. Or consider
 342 the more compact Liar sentence: (7) The proposition expressed by (7) is not true.

343 If we instantiate (P) to (7), for example, we obtain

344 The proposition that the proposition expressed by (7) is not true is true if and
 345 only if the proposition expressed by (7) is not true.

346 Now the truth predicate on the right-hand-side applies to a proposition, as it should,
 347 according to the minimal theory. Still, the status of this biconditional will remain
 348 unclear until it is determined what proposition, if any, (7) expresses.

349 So there are three points to make about the move from sentential versions of the
 350 liar to propositional versions. First, the propositional versions of semantic paradox
 351 turn not just on truth, but on the semantic relation of *expressing* as well—unlike the
 352 'pure' versions of the liar, generated by (1), (2), and (3), which turn only on truth.
 353 We investigate paradoxes because we hope to learn more about the paradox-producing
 354 concept—and the pure sentential versions promise to tell us more about truth itself than
 355 the more complex propositional versions, where an additional semantic notion figures
 356 in. Second, and relatedly, the minimal theory—couched in terms of propositions—
 357 does not engage with the familiar sentential versions of the paradox. Third, the status
 358 of well-formed instances of the schema (P)—for example, instantiations of (P) to (6)
 359 or (7)—is unclear, because it is unclear what proposition is referred to on the left-hand
 360 side.

361 With this third point in mind, we can press the question: What *is* the proposition
 362 expressed by, say, the sentence (7)? Different accounts of the liar will yield different
 363 answers. For example, a hierarchical account might say that (7) is to be represented
 364 as

365 The proposition expressed by (7) is not true _{α} ,

366 where α indicates a level of language. The predicate 'true₀' will apply to propositions
 367 such as <snow is white>, which is a true proposition of level 0, 'true₁' will apply to
 368 propositions such as <<snow is white">, which is a true proposition of level

²⁴ This is supported by an example Horwich provides in Horwich (2010, p. 88, fn. 9), where he constructs the liar sentence "The proposition expressed by the second quoted sentence in n. 9 of Paul Horwich's 'A Minimalist Critique of Tarski' is not true".

369 1, and so on. Given that ‘true_α’ occurs in (7), the proposition expressed by (7) will
 370 be of level α + 1. But then the proposition expressed by (7) will be true_{α+1} because
 371 the proposition expressed by (7) is indeed *not* a true_α proposition—since it is not a
 372 proposition of level α, and so not a true proposition of level α. So on this hierarchical
 373 approach, (7) *does* express a true (i.e. true_{α+1}) proposition. And the instantiation to
 374 (7) of the truth_{α+1} schema is itself true (true_{α+2}):

375 The proposition that the proposition expressed by (7) is not true_α is true_{α+1} if and
 376 only if the proposition expressed by (7) is not true_α.

377 Some contextual views of truth will come to the same conclusion: (7) expresses a
 378 true proposition when assessed from a suitably reflective context of evaluation, and
 379 so a correspondingly reflective instance of the truth-schema will be true too.²⁵

380 Other accounts of the liar will come to different conclusions. It might be claimed
 381 that the English predicate ‘true’ is univocal and unstratified, and that there are well-
 382 formed, declarative sentences that are neither true nor false, and which fail to express
 383 propositions. In particular, (7) fails to express a proposition, on pain of contradiction.
 384 And now the instantiation of (P) to (7) breaks down, because of a failure of denotation.
 385 Or the dialetheist might claim that the proposition expressed by (7) is both true and
 386 false, the contradiction generated is a true contradiction, and the instantiation of (P)
 387 to (7) is true (and false).

388 The upshot is this: the minimal theory has to deal with propositional liar sentences
 389 like (6) and (7). But that requires first identifying the proposition, if any, that a liar
 390 sentence expresses. And that in turn requires a *prior* theory of truth and the liar—
 391 perhaps a hierarchical theory, or a contextual theory, or a gappy theory, or a dialethic
 392 theory, or some other. And so the status of the instantiations of (P) to liar sentences
 393 will vary with the prior theory. We should, then, be wary of an axiom schema for a
 394 theory of truth that is couched in terms of the schematic phrase ‘the proposition that p’.
 395 It takes a theory of truth to determine the reference of ‘the proposition that p’ when
 396 we put a liar sentence for ‘p’.²⁶ And so it takes a theory of truth to determine whether
 397 certain instances of (P) are true or not. But then we cannot in general regard instances
 398 of Horwich’s schema (P) as *axioms* of a theory of truth, since there may be instances
 399 whose truth is established by a prior theory of truth. Such instances will be theorems
 400 of the prior theory—they will not have the axiomatic status that Horwich’s minimal

²⁵ Some contextual theories are hierarchical (see for example [Burge 1979](#)), others are not (for example, the singularity theory in [Simmons 1993a, b](#)). But either way, there’s an intuition that drives contextual views: a sentence that says of itself that it’s not true is semantically pathological in some way, and because it is pathological, it isn’t true, just as it says. So, on reflection, in the light of its pathologicity, the sentence is indeed true.

²⁶ [Davidson \(1996\)](#) raises the following question for Horwich’s theory:

“How are we to understand phrases like ‘the proposition that Socrates is wise’? In giving a standard account of the semantics of the sentence ‘Socrates is wise’, we make use of what the name ‘Socrates’ names, and of the entities of which the predicate ‘is wise’ is true. But how can we use these semantic features of the sentence ‘Socrates is wise’ to yield the reference of ‘the proposition that Socrates is wise’. Horwich does not give us any guidance here.” (p. 318)

Horwich replies to Davidson’s concerns in [Horwich \(1998, p. 133\)](#), and in [Horwich \(1999\)](#). Whether or not there is general problem for Horwich concerning the reference of ‘the proposition that p’, there is at least a pressing problem when we put a Liar sentence for ‘p’.

401 theory accords them. And these instances will contain ineliminable occurrences of
402 ‘true’, occurrences that cannot be denominalized away.

403 Horwich for his part assumes without argument that liar-related instantiations of
404 (P) must be restricted:

405 “we must conclude that permissible instantiations of the equivalence schema are
406 restricted in some way so as to avoid paradoxical results.”²⁷

407 Now these restrictions can be motivated in two ways. The first way is to argue that
408 liar sentences such as (6) or (7) cannot intelligibly replace the variable ‘p’ in (P). The
409 second way is the way Horwich takes: permit the replacement but then argue that the
410 resulting biconditional is unacceptable.²⁸ I will argue that either way poses problems
411 for the minimal theory.

412 According to the first way, liar sentences are ruled out as legitimate replacements
413 for ‘p’ in (P). Clearly there are illegitimate replacements for ‘p’—Julius Caesar,
414 for example. Julius Caesar is not apt to express a proposition, and the expression
415 ‘<Julius Caesar>’ has no referent. So here we need to argue that sentences like (6) and
416 (7) are also not apt to express propositions. The question for the minimalist is whether
417 this can be done without letting truth back in. The case of Julius Caesar presents no
418 problem for the minimalist because Julius Caesar can be excluded on purely syntactical
419 grounds—only declarative sentences can be legitimate replacements for ‘p’ in (P). But
420 (6) and (7) are declarative in form, so this condition is not strong enough. We could
421 strengthen the condition along lines suggested by Crispin Wright in his discussion
422 of truth-aptness. The sentence must not only be declarative, but it must also be part
423 of a discourse that is *disciplined*, a discourse where “there are firmly acknowledged
424 standards of proper and improper use of its ingredient sentences”.²⁹ This would take
425 care of tongue twisters like ‘She sells sea shells by the sea shore’, or the case where
426 I write on the board ‘Fred has flat feet’ in a logic class to illustrate the logical form
427 Fa.³⁰ But this stronger condition is clearly met by empirical cases of the liar, where
428 paradox is produced because of the empirical circumstances, and not because of any
429 intrinsic syntactic or semantic features of the sentence.

430 To take things further, we might consider a proposal already mentioned above,
431 that liar sentences, even if declarative and disciplined, are *gappy*. Now this is to
432 say that certain *sentences* are neither true nor false—this is to apply the truth and
433 falsity predicates to *sentences*, not to *propositions*. This will require the minimalist
434 to accommodate sentence-truth, but presumably this can be done. The minimalist can
435 allow that sentences are true or false in a derivative sense: if a sentence S expresses a
436 true (false) proposition, then S is a true (false) sentence. Now, according to Horwich,
437 propositions are true or false—“... we cannot claim of some proposition that it has

²⁷ Horwich (1998, p. 40).

²⁸ Horwich (2010, pp. 89–91).

²⁹ Wright (1992, p. 29). Boghossian puts it this way: the sentence must be “significant”, or, more fully, must “possess a role within the language: its use must be appropriately disciplined by norms of correct utterance” (Boghossian 1990, p. 163).

³⁰ See Jackson et al. (1994, p. 293).

no truth value".³¹ So if a sentence S expresses a proposition, then S expresses a true proposition or a false proposition, and so S is true or false. It follows that if S is neither true nor false, S does not express a proposition. So we have a way of excluding liar sentences as replacements for 'p' in (P): they are excluded because they are gappy.

The problem for the minimal theory is that this condition is *semantic*—the condition is explicitly couched in terms of truth and falsity. The specification of the axioms that constitute the minimal theory of truth cannot rely on the notion of truth itself. So now the challenge is to explicate the notion of a gappy sentence in terms that don't implicate truth. Since we're now dealing with sentences, the challenge can be put this way: explain the notion of a truth value gap in a way that is acceptable to the *disquotationalist* as well as the minimalist. The minimalist will need to extend their deflationary account of truth to sentence-truth: just as truth's role with respect to propositions is simply its denominalizing role, so its role with respect to sentences is simply its disquotational role.

The aim is to explain why sentences like (6) and (7) are gappy in a way compatible with disquotationalism and minimalism. Elsewhere, I've suggested that the most promising way for the disquotationalist to accommodate gaps is via the notion of *groundedness*.³² This idea can be extended to cases like (6) and (7) where we are dealing with both sentences and propositions. Consider first a simple case of a grounded sentence:

(8) The proposition expressed by 'Snow is white' is true.

The instance of the truth schema for the sentence (8) is:

(8) is true iff the proposition expressed by 'Snow is white' is true.

To determine a truth value for (8), we have to determine the truth value of proposition referred to on the right hand side. Since that is the proposition <snow is white>, which is true, the right hand side is true, and so (8) is true. Now consider the sentence

(9) The proposition expressed by (8) is true

and its associated biconditional is:

(9) is true iff the proposition expressed by (8) is true.

We can determine a truth value for (9) by tracing back through the proposition expressed by (8), to the proposition expressed by 'Snow is white'. And so on for further iterations. Sentences like (8) and (9) are grounded, because we can repeatedly employ truth in its denominalizing role to trace our way back to 'Snow is white', which is a sentence free of the truth predicate.

In contrast, the sentence (7) is ungrounded. Its associated biconditional is:

(7) is true iff the proposition expressed by (7) is not true.

So the truth value of (7) depends on the truth value of the proposition expressed by (7).

But the proposition expressed by (7) is the proposition that the proposition expressed

³¹ Horwich (1998, p. 77).

³² See Simmons (1999).

476 by (7) is not true—so the semantic status of the proposition expressed by (7) depends
 477 on the semantic status of the proposition expressed by (7). We're launched on an
 478 infinite regress—the denominalizing role of truth never leads beyond the proposition
 479 expressed by (7). So the sentence (7) is ungrounded. Similarly with the sentence (6)
 480 and other propositional liar sentences. Such sentences are neither true nor false—for
 481 these sentences, the processes of disquotation and denominalization processes fail to
 482 establish a truth value.

483 Since we can explain groundedness and ungroundedness in terms of truth's disquo-
 484 tational and denominalizing roles, it is plausible that we can explain ungroundedness
 485 in terms that do not go beyond the minimal theory. And given that ungroundedness
 486 explains gappiness, we have explicated truth gaps in terms congenial to the minimal
 487 theory.

488 So according to the present proposal, gappy sentences are not permissible replace-
 489 ments for 'p' in (P), where gappiness is explained in terms compatible with the minimal
 490 theory. However, this proposal comes with concessions. The minimalist must give up
 491 the idea that 'true' can in principle be eliminated via denominalization and disquo-
 492 tation. A second related concession is that there are uses of 'true' in English that
 493 are beyond the scope of the minimal theory. Ungrounded sentences, including those
 494 sentences that are ungrounded because of the empirical circumstances, are simply set
 495 aside. And so the occurrences of 'true' in ungrounded sentences are not touched by the
 496 minimal theory—only grounded uses of 'true' can figure in the axioms of the theory.

497 There is a still more serious problem for this proposal. Consider the sentence:

498 (10) (10) does not express a true proposition.

499 This is a liar sentence: we are landed in contradiction if we suppose it is true, or if we
 500 suppose it is false; and if we suppose it does not express a proposition, then it follows
 501 that it doesn't express a true propositions, and so it is true. The present suggestion is
 502 to treat an instantiation of (P) to (10) as impermissible because (10) is ungrounded,
 503 and so fails to express a proposition. That is, it is a consequence of the minimal theory
 504 under the present proposal that (10) does not express a true proposition. But we have
 505 just derived (10). A liar sentence is a consequence of the theory.

506 The problem raised by (10) goes beyond the present proposal—it extends to *any*
 507 attempt to restrict the replacements for 'p' in (P). For according to any such attempt, liar
 508 sentences will fail to express propositions, for some reason or other. We've considered
 509 one suggestion: liar sentences are ungrounded, hence gappy, hence fail to express
 510 propositions. But whatever the proposal, (10) produces a kind of 'revenge' paradox.
 511 It will be a consequence of the proposed theory that (10) does not express a true
 512 proposition—that is, (10) is a consequence of the theory.

513 We've been considering one way in which the minimalist might restrict permissible
 514 instantiations of (P)—by limiting in some principled way the sentences that can replace
 515 'p' in (P). Horwich himself takes a second way: permit the replacement, even in cases
 516 of the liar, but argue that the resulting biconditional is unacceptable as an axiom.
 517 According to Horwich, there *is* a proposition expressed by liar sentences like (7), and,
 518 moreover, the proposition is either true or false. Even in the case of liar propositions
 519 "we can and should preserve the full generality of the Law of Excluded Middle and

520 the Principle of Bivalence”.³³ Now consider again the biconditional associated with
521 (7):

522 The proposition that the proposition expressed by (7) is not true is true iff the
523 proposition expressed by (7) is not true.

524 Horwich suggests that this biconditional is unacceptable not because it fails to
525 be an instance of the schema (it is a genuine instance), but because the proposition
526 it concerns—the proposition expressed by (7)—is *ungrounded*. In parallel with the
527 ungrounded sentence (7), the proposition expressed by (7) is ungrounded: the denom-
528 inaling role of truth never leads beyond the proposition expressed by (7). Only
529 grounded propositions can figure in the axioms of the minimal theory: “the accept-
530 able instances are those that concern grounded propositions”.³⁴ And now paradox is
531 avoided—there will be no equivalence axiom governing the proposition expressed by
532 (7), and without that, no contradiction can be derived. And it will follow that, though
533 a liar proposition is true or false, we can never know which value it has:

534 For confidence one way or the other is precluded by the meaning of the word
535 “true”—more specifically, by the fact that its use is governed by the equivalence
536 schema.... Then, just as it is ‘indeterminate’ whether a certain vague predicate
537 applies, or does not apply, to a certain borderline case (although certainly it does
538 or it doesn’t), so (and for the same reason) it is indeterminate whether [a liar
539 proposition] is true or whether it is false.³⁵

540 Let me raise three concerns about Horwich’s way out. First, according to Horwich, liar
541 propositions are both ungrounded and either true or false. This is an odd combination.
542 As we saw above, it is natural to take ungroundedness as a way of explaining why
543 a sentence or a proposition is *gappy*—ungrounded sentences or propositions never
544 receive a truth value.³⁶

545 Second, Horwich’s criterion of groundedness for the acceptability of an instance of
546 the truth schema is ad hoc. Following Jamin Asay,³⁷ consider a *truth-teller* proposition,
547 for example, the proposition expressed by the following sentence:

548 (11) The proposition expressed by (11) is true.

549 This proposition is ungrounded, and, according to Horwich, true or false. Consider
550 the associated biconditional:

551 (P_{11}) <the proposition expressed by (11) is true> is true iff the proposition expressed
552 by (11) is true.

553 We have the identity

554 <the proposition expressed by (11) is true> = the proposition expressed by (11).

³³ Horwich (2010, p. 91, fn. 11).

³⁴ Horwich (2010, p. 91).

³⁵ Horwich (2010, p. 91, n. 11).

³⁶ In Kripke’s theory of truth, the ungrounded sentences fail to receive a truth value in the minimal fixed point—see Kripke (1975).

³⁷ Asay (2015).

555 So by the substitutivity of identicals, (P_{11}) is equivalent to the proposition expressed
556 by (11) is true iff the proposition expressed by (11) is true.

557 Now the two sides are exactly the same, and there is a proposition expressed by (11),
558 and according to Horwich, it is true or false. So the two sides have a truth value (true
559 if the truth-teller proposition is true, false if it is false), and, since the two sides are the
560 same, the two sides must have the *same* truth value. So the biconditional is provably
561 true—even though it concerns an ungrounded proposition. (P_{11}) is an unproblematic
562 tautology—and it is ad hoc to reject (P_{11}) just because the grounding constraint gets us
563 out of the problematic liar cases. As Asay puts it, if the biconditionals associated with
564 liar propositions are unacceptable, “the notion of grounding is not useful in accounting
565 for why”.³⁸

566 Third, a liar proposition is a case of a truth or falsity which is beyond the reach
567 of any axiom, and hence beyond the reach of the minimal theory. As we’ve seen,
568 Horwich asserts that a liar proposition is true or false. How are we to explain *this*
569 use of ‘true’ (and of ‘false’)? To use a phrase of Horwich’s, this is one of the “facts
570 about truth” that needs to be accounted for.³⁹ The explanation cannot go forward in
571 terms of the denominalizing role of truth, since here no equivalence axiom is available
572 to underwrite this role. But these are the only terms that the minimal theory offers.
573 Suppose I say “What Oscar said is true or false”, without knowing what Oscar said
574 (perhaps I am confident that he wouldn’t say anything nonsensical). Then what I said
575 is a compact way of expressing the following infinite conjunction: “If Oscar said that
576 snow is white, then snow is white or snow is not white, and if Oscar said that lying is
577 wrong, then lying is wrong or lying is not wrong, and...”, where truth’s denominalizing
578 role is effected by the appropriate biconditional axiom—for example

579 <snow is white> is true iff snow is white,

580 together with the corresponding biconditional for falsity:

581 <snow is white> is false iff snow is not white.⁴⁰

582 And if Oscar in fact said that snow is white, then this infinite conjunction boils down to
583 to “Snow is white or snow is not white”. Now suppose instead that Oscar said that the
584 proposition expressed by (7) is not true. According to Horwich, I have said something
585 true, since liar propositions are true or false. But here the same ‘denominalizing’ story
586 cannot be told, because only grounded propositions can figure in the axioms. My
587 claim is true, but the minimal theory is silent about it. When we considered restricting
588 the sentences that can replace ‘p’ in (P), we saw that the minimal theory was silent
589 about uses of ‘true’ in ungrounded sentences. Now the silence seems all the more
590 troubling—the minimal theory is silent about uses of ‘true’ in theoretical claims that
591 Horwich makes about liar propositions.

592 It is natural to ask: in virtue of what are liar propositions true if they’re true, or
593 false if they’re false? Liar propositions aside, the minimalist will say that this kind of

³⁸ Asay (2015, p. 686). See Asay’s article for an extended critical discussion of Horwich’s treatment of the Liar.

³⁹ Horwich (1998, p. 21).

⁴⁰ For Horwich’s treatment of falsity, see Horwich (1998, pp. 71–73).

594 question is misguided—in general, it is a philosophical mistake to look for anything
 595 substantive in virtue of which propositions are true. And the minimalist will deflate
 596 the question by pointing to the denominalizing role of truth. But in the present case
 597 the minimalist cannot do this—so the question has genuine force.

598 3 Minimalism and the concept of truth

599 Horwich says of the minimal theory that

600 its immediate concern is with the *word* ‘true’ rather than with truth itself. It pur-
 601 ports to specify which particular non-semantic fact about the word is responsible
 602 for its meaning what it does; and the fact it so specifies, roughly speaking, [is]
 603 the role of that word in the equivalence schema.⁴¹

604 This summarizes Horwich’s deflationary treatment of the word ‘true’. We can call
 605 Horwich a *linguistic deflationist* about truth. What about the *property* of truth and the
 606 *concept* of truth? The minimalist deflates these as well. And the minimalist treatment
 607 of both property and concept flows from the treatment of ‘true’.

608 Horwich allows that truth is a property of *some sort because* “‘is true’ is a perfectly
 609 good English predicate”.⁴² But *being true* is not a complex or naturalistic property—in
 610 contrast to properties such as *being turquoise*, *being a tree*, or *being made of tin*. We
 611 should not look for truth’s constitutive structure or its causal behavior. In this sense,
 612 Horwich is a *metaphysical deflationist* about truth.

613 The minimalist treatment of the *concept* of truth is also a consequence of the
 614 minimalist account of the word ‘true’. Horwich’s discussion of the concept of truth
 615 is focused on its explanatory role.⁴³ A minimalist about truth cannot allow that truth
 616 has substantive conceptual work to do in explaining other concepts. For example,
 617 minimalism must reject the idea that meaning is to be explained in terms of truth
 618 conditions. Whenever truth seems to play a substantive conceptual role, the appearance
 619 is illusory. A closer look will reveal that truth’s contribution amounts to no more than
 620 the word ‘true’ playing its denominalizing and renominalizing role, as laid out by
 621 instances of the equivalence schema.

622 A good example of this is provided by Horwich’s discussion of the claim: *True*
 623 *beliefs engender successful actions*.⁴⁴ Here it may seem that the concept of truth is
 624 required as part of an explanation of the relation between beliefs and successful action.
 625 But consider a particular case:

626 If all Bill wants is to have a beer, and he thinks that merely by nodding he will
 627 get then, if his belief is true, he will get what he wants.

628 Horwich presents a derivation of this conditional. One of the premises is this:

⁴¹ Horwich (2010, p. 38).

⁴² Horwich (1998, p. 37).

⁴³ See the title of Chap. 3 of Horwich (1998).

⁴⁴ Horwich (1998, pp. 22–23).

629 (Bill wants <Bill has a beer> & Bill believes <Bill nods \rightarrow Bill has a beer>) \rightarrow
 630 Bill nods.

631 This premise assumes a substantive connection between belief, desire and action—
 632 but truth has no part to play here. The only role that truth plays is provided by the
 633 equivalence schema. In the course of the derivation we move from

634 <Bill nods \rightarrow Bill has a beer> is true

635 to

636 Bill nods \rightarrow Bill has a beer.

637 And at a later point in the derivation we move in the reverse direction. Truth is required
 638 at only these two steps in the derivation; all that truth contributes is its denominalizing
 639 and renominalizing role.

640 Horwich argues that this sort of explanation can be readily generalized.⁴⁵ And
 641 beyond that, it extends to all other facts involving the word “true”. The explanation of
 642 all these facts will appeal to no more about truth than is given by the instances of the
 643 T-schema. In explaining these facts, we will not improve our grasp of truth, or deepen
 644 our understanding of it. We presumably learn more about, for example, the concepts
 645 of belief, desire and action by an improved understanding of their inter-relations. But
 646 there will be no such improvement in the case of truth: the equivalence schema tells us
 647 all there is to know about truth, and it exhausts all that the notion of truth can contribute
 648 to our understanding of any other concept. In this sense, truth is *isolated* from other
 649 concepts. Horwich is a *conceptual deflationist* about truth.

650 The question arises as to whether truth’s explanatory role can always be deflated in
 651 this way. I want to suggest that it cannot, and I’ll focus on one particular example—the
 652 case of the speech act of *assertion*. Consider what Frege says about assertion:

653 When we inwardly recognize that a thought is true, we are making a judgment:
 654 when we communicate this recognition, we are making an assertion.⁴⁶

655 Frege emphasizes that judgments must be sharply distinguished from the mere enter-
 656 taining of a thought. And, in parallel, assertion must be sharply distinguished from
 657 the mere expression or articulation of a thought.⁴⁷ Sometimes the mere expression of
 658 a thought is all that matters: the thought might be the antecedent of a conditional, or
 659 what Frege calls a “mock thought” of fiction.⁴⁸ But sometimes we are concerned not

⁴⁵ Horwich (1998, pp. 44–46).

⁴⁶ Frege (1979, p. 139). The emphasis is Frege’s.

⁴⁷ This is reflected in Frege’s judgement sign |—from the *Begriffsschrift*. The horizontal stroke—the so-called “content-stroke”—combines the symbols following it into a whole thought; the vertical stroke—the “judgement-stroke”—expresses the recognition or affirmation that this thought is *true*.

If we *omit* the little vertical stroke at the left end of the horizontal stroke, then the judgement is to be transformed into a *mere complex of ideas*; the author is not expressing his recognition or non-recognition of the truth of this. Frege (1879), in Geach and Black (1960, pp. 1–2).

⁴⁸ Frege (1979, p. 130).

660 with the mere presentation of thoughts—sometimes we are concerned to affirm the
 661 *truth* of the thought. And to express this affirmation, we utter a sentence with assertoric
 662 force. According to Frege, assertoric force is to be understood in terms of truth: to
 663 assert that p is to present p as true—or, as Frege sometimes puts it, to express one’s
 664 affirmation of p as true,⁴⁹ to declare our recognition of p as true,⁵⁰ to put forward p
 665 as true.⁵¹

666 Frege’s view of assertion is a natural one. When I assert that snow is white, I
 667 am not merely predicating whiteness of snow (where, for Frege, ‘merely predicating
 668 whiteness of snow’ is that component common to *stating* that snow is white, *asking*
 669 or *wondering* whether snow is white, *promising* to make it so that snow is white, and
 670 so on). Nor am I merely presenting the thought that snow is white for consideration.
 671 There are many speech-acts I can perform that involve a given thought: I can suppose
 672 it, propose it, float it, question it. I can also express a thought in the course of asserting
 673 (or questioning, or supposing, etc) a compound proposition, such as a conditional or
 674 disjunction. Frege plausibly claims that the distinguishing mark of assertion—what
 675 sets it apart from other speech-acts—is the fact that when I assert something, I present
 676 or put forward a certain thought *as true*. The concept of truth appears to have an
 677 explanatory role here, and this presents a challenge to the minimalist.⁵²

678 The claim that to assert is to present as true is a claim about what one is *doing* when
 679 one asserts—one is *presenting* or *putting forward* a thought or proposition in a certain
 680 way. The claim is not an identity claim—rather, it provides a necessary condition for
 681 a speech act to count as an assertion. There are related but separate claims regarding
 682 the *norms* of assertion—perhaps one cannot assert p unless p is true, or unless one
 683 believes that p . But we should be careful to distinguish these claims from the claim
 684 that to assert is to present as true. I can express a true proposition p , and believe it,
 685 but my act will have assertoric force only if I present p in the appropriate way—as
 686 true.⁵³ If truth is a norm of assertion—in the sense that we may assert p only if p
 687 is true—then this presents the minimalist with a new and different challenge, since
 688 here too truth appears to have an explanatory role. And the minimalist might well say
 689 that the challenge is easily met: given the denormalizing role of truth, the norm is
 690 equivalent to *we may assert p only if p* , and truth simply drops out.⁵⁴ My question is
 691 whether the minimalist can meet the challenge posed by the claim that to assert is to
 692 present as true.

⁴⁹ Frege (1879), in Van Heijenoort (1967, p. 11, fn. 6).

⁵⁰ Frege (1979, pp. 168, 185, 198).

⁵¹ Frege (1979, pp. 177, 198).

⁵² If we follow Frege, this challenge extends to the mental act of judgment, not just the speech-act of assertion—but in this paper, I shall focus on assertion.

⁵³ And in the other direction, it might be argued that I can present p as true but fail to assert p —perhaps because p isn’t true, or because I don’t believe p . This raises delicate questions about the norms of assertion. But my focus in this paper is on the claim that to assert is to present as true, and I set aside issues about the norms of assertion.

⁵⁴ I am grateful to an anonymous referee for making this point, and for prompting the discussion in this paragraph.

693 How might the minimalist respond? With the denominalizing role of ‘true’ in mind,
 694 a minimalist might claim that the thesis that *to assert that p is to present p as true*
 695 is equivalent to the thesis that *to assert that p is to present p*. This commits us to the
 696 claim that to present *p* as true is just to present *p*; for example, to present as true the
 697 proposition that snow is white is just to present the proposition that snow is white. But
 698 this claim is false, for there are many ways to present or put forward a proposition. I
 699 can present a proposition as worthy of your consideration, or as a conjecture, or as a
 700 remote possibility, or as outrageous—and I can also present it as true. Presenting as
 701 true is just one way of presenting. So this cannot be the right way to denominalize
 702 away “true” in the locution “present as true”.

703 It might be suggested that the correct denominalizing move is a wholesale ‘semantic
 704 descent’: to present the proposition that snow is white as true is just to present snow
 705 as white. Here not only truth drops out, but so does the proposition (or thought, or
 706 sentence) that is said to be presented as true. The claim “to assert that snow is white
 707 is to present the proposition that snow is white as true” is just a roundabout way of
 708 saying “to assert that snow is white is to present snow as white”. But what is it to
 709 present snow as white? One way of understanding this claim is as saying that we
 710 present the worldly stuff, snow, as exhibiting the property of whiteness, as when I
 711 gesture towards the recent snowfall. But this will clearly not do as an explanation of
 712 assertion. (Asserting that snow is white does not require the presence of snow; that is
 713 part of the point of assertion.)

714 A more plausible way of understanding the present suggestion is as saying that
 715 presenting snow as white is a matter of *representing* snow a certain way—as white.
 716 But not any old form of representing would do the trick of capturing what is distinctive
 717 about asserting that snow is white, as opposed to, say, merely pointing to or painting
 718 a picture of white snow. The kind of representing that is relevant to assertion is surely
 719 ‘factual’ representation: representing things *as being so*, or describing things *as they*
 720 *are*. But it seems that the very same task will face the deflationist, this time with respect
 721 to representation: how to understand what it is *to represent as being so*, which is a
 722 special kind of representing, just as presenting as true is a special kind of presenting.

723 So the minimalist cannot denominalize away “true” as it appears in “present as true”.
 724 Why is this so? The minimalist focuses on uses of ‘true’ in locutions such as “What
 725 Oscar said is true” or “Every proposition of the form: <everything is F or not F>
 726 is true”. In these cases, ‘true’ is applied to a particular proposition or a domain of
 727 propositions. Even in the claim *true beliefs engender successful action*, at least as
 728 Horwich analyzes it, ‘true’ applies to the domain of propositions which serve as the
 729 contents of wants and beliefs. But when we say that to assert is to present as true, we
 730 are not pointing—directly or obliquely—to any particular proposition or domain of
 731 propositions. We are not *calling* anything true. Our use of the word ‘true’ is what we
 732 may call *anexplanatory use*; it is made in the course of offering a general explanation
 733 of what speakers are *doing* when they use language in certain ways. We are trying to
 734 identify a distinguishing feature of a class of *acts*—assertions.

735 There is a sharp contrast between

736 (i) presenting the thought that *p as true*

737 and

738 (ii) presenting the thought that *p* is true.

739 Suppose that, with the minimalist, we accept the equivalence between *p* and *p* is true.
740 Then we can claim that (ii) is equivalent to

741 (ii') presenting the thought that *p*

742 since in (ii) “true” is applied to a particular thought. But we cannot claim that (i) is
743 equivalent with (ii'), for the familiar reason that presenting as true is just one way
744 of presenting. In (i), ‘true’ qualifies the kind of presenting at issue, not the thought
745 presented.

746 If we accept the equivalence thesis, then presenting the thought *p* is true will be
747 equivalent to presenting that thought that *p*, conjecturing that *p* is true will be equivalent
748 to conjecturing that *p*, supposing that *p* is true will be equivalent to supposing that *p*,
749 and so on for a variety of speech acts. But it is a mistake to conclude from this that
750 truth has no distinctive role to play in explaining assertion. To assert is to present *as*
751 true—but to conjecture or suppose that *p* are different speech acts from presenting *p* as
752 true. What is distinctive of assertion is that when we assert, we present or put forward
753 a thought as true.

754 We should also be careful to distinguish the claim that to assert is to present as
755 true from the claim that when we predicate ‘true’ of a sentence we are asserting it.
756 According to this latter claim, when I say “‘Snow is white’ is true”, I am asserting that
757 snow is white. Ayer writes: “to say that a proposition is true is just to assert it...”.⁵⁵
758 This is what we may call an *illocutionary* form of minimalism. We use ‘true’ not to
759 describe sentences or propositions, but rather to perform the speech act of assertion.
760 The illocutionary minimalist will take on board the equivalence thesis, and agree that
761 the content of “The proposition that snow is white is true” is no different from that of
762 “Snow is white”. But though ‘true’ does not add content, it does introduce assertoric
763 force: to say “The proposition that snow is white is true” is to produce an assertion
764 with the content that snow is white.

765 However, if we accept the equivalence thesis, we should reject illocutionary mini-
766 malism. As Frege puts it:

767 If I assert “it is true that sea-water is salt”, I assert the same thing as if I assert
768 “sea-water is salt”. This enables us to recognize that the assertion is not to be
769 found in the word “true” ...”⁵⁶

770 Further, the locution “*p* is true” can occur as the antecedent of a conditional, where
771 it cannot be produced with assertoric force. Further still, I can say “It is true that
772 snow is white” with a variety of different illocutionary forces—I can be supposing,
773 conjecturing, pretending, or acting. We should agree with Frege when he says that
774 “there is no word or sign in language whose function is simply to assert something”⁵⁷.
775 What makes a speech-act an assertion is the force with which it is expressed, not

⁵⁵ Ayer (1936, pp. 88–89). Strawson’s variant of the redundancy theory identifies a performative role for “true”: we use “true” to perform speech-acts such as endorsing, agreeing, and conceding, as well as asserting. See Strawson (1950), in Blackburn and Simmons (1999, pp. 162–182) .

⁵⁶ Frege (1979, p. 251).

⁵⁷ Frege (1979, p. 185) .

776 the presence of the word ‘true’. Again, Frege: “In order to put something forward as
 777 true, we do not need a special predicate: we need only the assertoric force with which
 778 the sentence is uttered.”⁵⁸ We do not need the word ‘true’ in order to assert—but
 779 we do need the concept of truth to explain what is distinctive of the speech act of
 780 assertion.

781 We can get at the same point by imagining a language which has no semantic
 782 vocabulary at all. Speakers of the language, we may suppose, will make assertions,
 783 and we will want to explain what distinguishes a speaker’s assertion that p from
 784 other speech acts—wondering whether p , assuming that p , and the rest. If to assert
 785 is to present as true, then as long as we have assertoric force, we have truth. So
 786 even if speakers of the language have no linguistic means to express the concept of
 787 truth, we will need the concept to explain what they do with their words. Or, setting
 788 aside explanatory uses of ‘true’, suppose that the minimalist is right, and we could
 789 eliminate ‘true’ from our vocabulary if only we could handle infinite conjunctions and
 790 disjunctions. Still the concept of truth would be needed to explain what we’re doing
 791 when we assert. Minimalism about the word ‘true’ does not entail minimalism about
 792 the concept of truth.

793 I’ve argued that the case of assertion shows that truth is not an isolated concept.⁵⁹ A
 794 parallel argument can be made in the case of *meaning*.⁶⁰ Another case is provided by
 795 *truth-aptness*: I argued in Sect. 2 that it is a challenge for the minimalist to characterize
 796 the sentences that can replace ‘ p ’ in the schema (P)—the truth-apt sentences—without
 797 bringing truth back in. These cases suggest that truth has an explanatory role to play.
 798 And in the other direction, truth itself cannot be characterized independently of other
 799 concepts. I argued in Sect. 1 that we cannot even *formulate* the minimal theory of truth
 800 without bringing in other concepts—not only *proposition*, but also *language*, *possible*
 801 *language*, *sentence* and *sentence-token*, *interpretation*, *expressing*, *reference*. Truth is
 802 not isolated, and we should reject conceptual deflationism.⁶¹

803 We should also reject linguistic deflationism. In Sect. 2, I argued that according to
 804 some accounts of truth and the liar paradox, there will be true instances of (P) that
 805 contain ineliminable uses of ‘true’. And on either way of restricting the schema (P),
 806 there will be uses of ‘true’ that the minimal theory cannot accommodate: uses of ‘true’
 807 in ungrounded sentences, or the use of ‘true’ (and of ‘false’) in Horwich’s claim that
 808 liar propositions are true or false. In the present section, I’ve argued that the minimal
 809 theory cannot handle *explanatory* uses of ‘true’, as in ‘to assert is to present as true’.
 810 These are all uses of ‘true’ that cannot be denominalized away.

⁵⁸ Frege (1979, p. 233).

⁵⁹ For an extended discussion of deflationism and assertion, see Bar-On and Simmons (2007).

⁶⁰ See, for example, Bar-On et al. (2000).

⁶¹ We need not take truth to be somehow more fundamental than other concepts. We could take a view like Strawson’s (1950) or Davidson’s (1996), according to which concepts such as truth, assertion and meaning are each basic and not further reducible, yet we can improve our understanding of them by uncovering their interconnections.

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