

# REFLECTIONS ON THE LIAR

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# Pluralism and the Liar

CORY WRIGHT

## 14.1. Introduction

### 14.1.1. Background: Three Families of Conceptions

Generally, traditional inflationary conceptions of truth commence with two theses: namely, *substantivism* and *monism*. According to substantivism, truth is a property with a substantial nature or underlying realizer,  $\rho$ . According to monism, there is exactly one way of being true. For instance, some traditional conceptions take the nature of truth to consist in an identity relation, others a kind of bijective correspondence mapping, and others just some kind of weak morphism; some posit coherence, and still others posit limit convergence or other such properties. But while they differ over just which nature or essence truth consists in, traditional inflationary conceptions are united in claiming that there is just one such realizer property  $\rho$  constitutive of it.

By contrast, traditional deflationary conceptions of truth reject substantivism. While there are many frequently cited reasons why, a relevant one for present purposes is that the plausibility of traditional inflationary conceptions seems to vary by region or sector of discourse  $D: D_1, \dots, D_n$ , and this variance seemingly indicates a failure of generalization or limitation of their theoretical scope—a failure which is then used to cast doubt on all traditional inflationary conceptions, tout court. After all, if there is no underlying substantive property  $\rho$  that is shared by all the truths and which is such that truths are true because they are  $\rho$ , then the traditional inflationist's project of uncovering the sole substantive essence or nature of truth appears unachievable. Traditional deflationary conceptions typically accept monism, though—Quine's and Field's disquotationalism and Horwich's minimalism being familiar examples. That is, they concur that there is but one way of being true, but deny that it is a property consisting in or realized by any more basic property  $\rho$ .

Pluralist conceptions of truth invert the deflationary response: instead of denying substantivism and accepting monism, they accept substantivism but deny monism.<sup>1</sup> On the intuitive assumption that language is indeed divisible into

nonidentical regions or sectors (see Christian, 1975), pluralists assert that truth is a substantive property, but one that consists in different  $\rho_1, \dots, \rho_n$  in different  $D_1, \dots, D_n$ .<sup>2</sup> For example, truths in commercial advertising might consist in one way of being true, while truths in gastronomy consist in a different property and jurisprudential or arithmetical truths consist in yet others still. So, pluralists differ from traditional inflationists in denying that truth consists in a single property across all domains of discourse, but differ from deflationists in contending that a plurality of properties are constitutive of truth and are together necessary and sufficient for explaining why the truths are true.

### 14.1.2. Agenda

The alethic paradoxes, such as the naïve Liar,

- (1a) *This sentence is false.*
- (b) *This is a false sentence.*

or the strengthened liar,

- (2a) *This sentence is not true.*
- (b) *This is an untrue sentence.*

seem to beset all three families of conceptions. Of the various approaches to the alethic paradoxes, four seem to be most prominent: the truth-value gluts (*dialethism*) and gaps (*anaethism*) solutions, the hierarchical gambit (*Tarskianism*), and the meaninglessness strategy (*positivism*).<sup>3</sup> According to dialethists, liar sentences are both true and false; according to anaetheists, they are neither true nor false. According to Tarskians, the paradoxes arise because liar sentences are expressible in languages containing their own truth predicates; and so the solution is to stratify truth predicates into ever higher-order 'languages'. According to positivists, liar sentences are not so much both true and false, or neither true nor false, as they are just meaningless: they fail to express a proper sentential sense. Presumably, some approaches are a better fit for some of the conceptions that comprise these three families, which raises the question of which approach is a better fit for pluralism about truth.

Pluralism, no less than traditional inflationism and deflationism, is consistent with all four approaches. Limited space precludes a comparison of the virtues of dialethic pluralism versus anaethic pluralism, and it will be suggested in passing that the Tarskian hierarchical gambit should be of limited attraction for pluralists. Ultimately, the view explored here is that some variant of positivism could be a good bet—albeit not one that defends a meaningless strategy per se. Rather, I suggest an approach in which pluralists take a liar sentence ( $\lambda$ , hereafter) to be undecidable, since, on the pluralist's account, the truth of a particular sentence

requires being assigned to the right discourse and necessitates having the right alethic properties. Consequently, pluralists may be able just to decline to assert the dialethicist's claim that  $\lambda$  is both true and false, and can decline to assert the analethicist's claim that  $\lambda$  is neither true nor false; and they can decline to assert that  $\lambda$  is either true or false, and that  $\lambda$  is true, and that  $\lambda$  is false. Moreover, to so decline, pluralists need not positively assert that  $\lambda$  is meaningless. Rather, for pluralists,  $\lambda$  may be meaningful but undecidable.

### 14.1.3. Semantic Preliminaries

Textbook explanations of liar sentences standardly invoke the traditional presupposition that the proper bearer of truth values is the entity expressed or said by a declarative sentence  $\sigma$ , i.e., its sense or proposition. For example, Read (1995: 152) tidies up (1) so as to read: *the proposition expressed by (1) says of itself that it is false*. The explanation then proceeds by claiming that, if true, then what it says of itself must be so. Then if the proposition expressed by (1) is true, it is false. But if false, then what it says of itself must not be so. Then if the proposition expressed by (1) is false, it is true. So, both if true then false and if false then true. Subsequently, it might be thought that any dismissal of the meaningless strategy or any claim that liar sentences are meaningful requires a traditional commitment to propositions, to discussing truth values in terms of them, and to solving paradoxes by appealing to them. But this thought need not be ours.

Any expression  $\varepsilon$  (of arbitrary complexity) is a symbolic structure. That is, any expression  $\varepsilon$  is a composite dipole structure of the form  $SEM \setminus phon$ , where 'SEM' notates a semantic structure recruited to serve as the semantic pole, '\setminus' notates the relation of symbolization, and 'phon' notates a phonological (orthographic, etc.) structure serving as the phonological pole of  $\varepsilon$ . (Recall: 'the two elements involved in the linguistic sign are both psychological and are connected in the brain by an associative link [...] a linguistic sign is not a link between a thing and a name, but between a concept and a sound pattern' (de Saussure 1966/2006: 65–66)).

For present purposes we can neglect phonological form and can take symbolization to be primitive. Semantic structure itself is an abstract transform of cognitive processes. Linguistic meaning is therefore equated with conceptualization, defined as a projective function of not only the content evoked but the construal imposed upon it: hence,  $SEM := f\{\text{content} \times \text{construal}\}$ . The content evoked is the conceptual substrate of SEM, describable as a matrix  $\mu$  of cognitive fields or mental spaces or domains of mental experience. The construal imposed comprise a set of kinds of mental operations on elements of  $\mu$ , foremost among them being the imposition of a profile on a base—namely, *designation*—wherein a substructure of  $\mu$  is elevated to a special level of prominence.<sup>4</sup>

Any structure—whether semantic, phonological, or symbolic—that becomes well-rehearsed and thoroughly mastered thereby achieves unit status, notated by square brackets '[' and ']'.<sup>5</sup> Among the symbolic structures having achieved unit

status, most are specifically linguistic; among those, the vast majority are also conventional. A conventional linguistic unit is a symbolic structure  $\varepsilon$  with unit status, which is prototypically produced by the human vocal apparatus, and which is recognized and shared by a significant number of members of a given speech community (Langacker 1987: 62). Rather than a state device with production rules for strings, the grammar  $\mathcal{G}$  of a language  $\mathcal{L}$  is understood to be a countably open-ended inventory of conventional linguistic units ( $\mathcal{G}_{\mathcal{L}}$ :  $\llbracket \varepsilon_1 \rrbracket$ ,  $\llbracket \varepsilon_2 \rrbracket$ , ...), which serve to structure a cognizer's experience of the world for expressive purposes—no more and no less.

A conventional linguistic unit may be simplex (e.g., symbols such as  $\beta$  or  $\perp$  or free or bound morphemes like *pre-* or *set* or *-ness*) or complex. The formation of complex expressions requires of cognizers a constructive mental effort, in which at least two component expressions  $\varepsilon_i$  and  $\varepsilon_j$  are integrated and assembled into a composite symbolic structure  $\varepsilon_k$ . Such an assembly—namely, a *construction*—may be a specific expression (lexical) or a schema thereof (grammatical).

With these preliminaries, note, first, that speakers use expressions to communicate, much as laborers might use a hammer to pound; hammers themselves do no pounding, much as expressions themselves do no communicating. Second, the evocative powers of any linguistic expression  $\varepsilon$ —i.e., the power of its phonological form (orthographic structure, etc.) to evoke or give voice to certain associated semantic structures—are what determines its effective use. Propositions themselves cannot strictly 'say' or state anything; for the result of decoupling any  $\varepsilon$  from either its constituent semantic (SEM) or phonological (*phon*) structures is either sensible silence or nonsensical noise, and, quite literally, no sensible silence is capable of 'saying' anything. So propositions do not say or express; and whatever does say or express cannot be a proposition.<sup>6</sup>

Consequently, in explaining how the alethic paradoxes arise, we will not reformulate our claims in terms of propositions in the standard way—that way lies misconception. But more to the point, for us to speak of propositions as truth-bearers at all, we must be able not only to identify the thing that does the bearing, but to individuate any such bearer from any other; and so we must have a way, upon inquiry, of determining not only whether a given sentence  $\sigma$  expresses a proposition, but also, if so, which proposition it expresses. But answering any such inquiries will necessitate the production of an answer, which can only just be another expression  $\varepsilon$ ; and this is precisely not at all what was asked for when asking for a proposition to be specified. So unless propositions get a free pass vis-a-vis identity and individuation conditions, then because they can be specified only in the course of symbolization, then propositions cannot be the proper bearer of truth values. Hence, for present purposes, I will presume that the relevant class of constructions with which to discuss  $\lambda$  are those sentences having judgments in the alethic mode as their semantic poles (see Sher & Wright 2007). The subsequent dismissal of positivists' meaningless strategy will therefore not be formulated in terms of whether or not some proposition is expressed by  $\lambda$ .

## 14.2. From Pluralism to Paradox

### 14.2.1. Discourse Pluralism

The basic idea for pluralism about truth goes back at least four decades, and is likely quite older. William Christian (1975), for instance, broached the idea that there may be different ‘domains of truth’ and then tried to work out their interrelationships with an eye toward mixed discourse. Unfortunately, Christian’s paper was largely forgotten, and it wasn’t until two decades later that Crispin Wright ushered in the contemporary conception of pluralism. For Wright, ‘[t]he proposal is simply that any predicate that exhibits certain very general features qualifies, just on that account, as a truth predicate. That is quite consistent with acknowledging that there may, perhaps must be more to say about the content of any predicate that does have these features. But it is also consistent with the possibility of pluralism—that the more there is to say may well vary from discourse to discourse’ (1992: 38).

On Wright’s proposal, discourse pluralism advances a threefold contention. The first is that an expression counts as a truth predicate  $T$  just when it complies with some basic platitudes regarding truth and related phenomena and is disciplined by certain weak syntactical constraints. For Wright, there are two such ‘parent’ platitudes connecting truth predication to assertion (*transparency*),

(3a) To assert  $\sigma$  is to present  $\sigma$  as being true.

and to negation (*embedding*),

(b) If  $\sigma$  is truth-apt, the negation of  $\sigma$  is likewise truth-apt. [Mutatis mutandis for other truth-functional operations.]

The weak syntactical constraints are usually taken to be capture and release. Specifically, and using corner quotes “” and “” as a metalinguistic operation that exchanges a declarative sentence  $\sigma$  for its structural-descriptive name or Gödel encoding, a predicate  $T$  is said to play the role *unrestricted capture* just when

(4)  $\sigma \vdash T(\ulcorner \sigma \urcorner)$

holds for all relevant well-formed sentences  $\sigma$ . Conversely,  $T$  is said to play the role *unrestricted release* just when

(5)  $T(\ulcorner \sigma \urcorner) \vdash \sigma$

holds for all  $\sigma$ . Then  $T$  is then said to be a truth predicate only if  $T$  is a capture/release predicate, such that

(6)  $T(\ulcorner \sigma \urcorner) \vdash \sigma$

holds, again, for all such  $\sigma$ .<sup>7</sup> Beyond transparency, embedding, and capture/release, various other discourse-inspecific platitudes and constraints have been proposed, and the idea is that they provide en masse an initial measure for pinning down the concepts necessary for establishing  $T$  as a truth predicate.

The second contention is that different sectors of discourse, including those for the good, the funny, and the physical, differ along various parameters. These parameters typically concern things like factivity and mind-independence and norms of belief-formation or endorsement; for some discourses are fully realist, goes the thought, while others are belied by surrealist ‘as if’ operators and while still others may be quasi-realist or error-theoretic. So certain additional platitudes and constraints may be needed for particular sectors of discourse, which  $T$  must also satisfy in order to continue to count as a truth predicate in them. In principle discourses can be weighted and ordinally ranked ( $D_1 \geq D_i \geq D_n$ ) by the number and kinds of parameters associated with them.

The third contention—and here is the discourse pluralist’s enabling thought—is that a truth predicate  $T$  is always a predicate for a particular discourse  $D_i \subset \mathcal{D}$ , that is,  $T_{D_i}$ . Compliance with different platitudes subserving each region or sector of discourse is then said to result in numerically distinct truth predicates  $T_{D_1}, \dots, T_{D_n}$ . Given further principles that map numerically distinct truth predicates to different ways of being true, a corollary to the discourse pluralist’s proposal may then be that different sectors of discourse are regulated by different truth properties.

#### 14.2.2. From Strong to Weak Linguistic Pluralism

The discourse pluralist’s proposal to mint new truth predicates by having them satisfy variably stringent sets of platitudes and constraints from different sectors of discourse is a special case of linguistic pluralism about truth predication, which is the thesis that there is a plurality of truth predicates  $T_{D_1}, \dots, T_{D_n}$ . On the weaker version of this thesis, *weak linguistic pluralism (WLP)*,

- (7) There are many truth predicates  $T_{D_1}, \dots, T_{D_n}$ , one of which applies to all true  $\sigma$ .

So, one of the truth predicates among  $T_{D_1}, \dots, T_{D_n}$  applies to all true sentences, and so is a generic or universal truth predicate  $\mathcal{T}$  applicable in any/all regions or sectors of discourse  $\mathcal{D}$ . On the stronger version of this thesis, *strong linguistic pluralism (SLP)*,

- (8) There are many truth predicates  $T_{D_1}, \dots, T_{D_n}$ , none of which applies to all true  $\sigma$ .

So, not only is there more than one truth predicate, but no single predicate applies across the board; and each  $T_{D_i}$  is correctly applied only to true sentences in  $D_i$ . Between *WLP* and *SLP*, there may be room to develop a view under which some truth predicates apply to multiple domains without applying to all. Obviously, both *WLP* and *SLP* are incompatible with the stronger counterpart of linguistic monism (*SLM*),

- (9) There is exactly one truth predicate  $T_D$ , which applies to all true  $\sigma$ .

but not obviously incompatible with weaker counterparts (Pedersen 2006: 107; 2010: 97).

As is well known, the discourse pluralist's proliferation of predicates resulted in several problems of mixed discourse. Christine Tappolet (1997, 2000), for example, advanced a trilemma: either abandon the classical conception of validity as necessary truth-preservation, or accede to mixed inferences, e.g.,

- (10) *Wet cats are funny. / This cat is wet. // This cat is funny.*

being invalid because their premises involve numerically distinct truth predicates, e.g.,

- (11)  $T_{D_k}(\ulcorner \sigma_1 \rightarrow \sigma_2 \urcorner) / T_{D_i}(\ulcorner \sigma_1 \urcorner) // T_{D_k}(\ulcorner \sigma_2 \urcorner)$

or else posit a generic or universal truth predicate  $T_D$ . In so far as pluralists are reluctant to abandon the classical conception of validity, then since mixed inferences like (10) are intuitively valid, it appears that the third lemma might be the least unpalatable. And yet, as Tappolet argued, to posit  $T_D$  is effectively to undermine the motivation for either *WLP* or *SLP*, and thus for discourse pluralism: '[f]or the conclusion to hold, some unique truth predicate must apply to all three sentences. But what truth predicate is that? And if there is such a truth predicate, why isn't it the only one we need?' (1997: 210; 2000: 384).

Many pluralists have conceded some part of the point. Nikolaj Pedersen, for instance, observed that 'Tappolet has provided a good argument against *SLP*. However, *SLP* is a rather uninteresting view. It was never a real contender. It is implausible exactly because of the argument Tappolet has given' (2006: 107).<sup>8</sup> According to Pedersen, any language  $\mathcal{L}$  can be expanded to include a new truth predicate  $T_{n+1}$  so long as it is well-formed, syntactically disciplined, and supported by necessary and sufficient conditions for its applicability—a thesis he called *linguistic liberalism* (2010: 100). And by this thesis, Pedersen reasoned, first, that discourse pluralists cannot prevent the formulation of  $T$  disjunctively from  $T_1, \dots, T_n$  as follows,

- (12)  $(\forall \sigma)(T_D(\ulcorner \sigma \urcorner) \vdash T_{D_1}(\ulcorner \sigma \urcorner), \vee \dots, \vee T_{D_n}(\ulcorner \sigma \urcorner))$

and second, that, being unable to prevent its subsequent introduction into  $\mathcal{L}$ , discourse pluralists are thereby committed to it.<sup>9</sup> Consequently, pace Pedersen's linguistic liberalism thesis, the only viable conception of discourse pluralism turns out to be *WLP*.

### 14.2.3. From Weak to Strong Linguistic Pluralism

Pedersen (2010) contended that *SLP* is in trouble; for we can always disjunctively introduce  $\mathcal{T}$  ranging over  $\mathcal{D}$ , he claims. So presumably pluralists should endorse *WLP*. But Cotnoir (2013b) contends that *WLP* is in trouble; for positing the disjunctive truth predicate  $\mathcal{T}_{\mathcal{D}}$  introduces paradox and inconsistency, he claims. So presumably pluralists should not endorse *WLP*, either. But *SLP* and *WLP* are the two ways of being a discourse pluralist. So presumably we should not endorse discourse pluralism.

By (6),  $\mathcal{T}$  is a truth predicate only if  $\mathcal{T}$  is a capture/release predicate for all relevant well-formed sentences  $\sigma$ . Given an expression predicated of a free variable,  $\varepsilon(x)$ , the diagonalization lemma can be used to formulate a sentence  $\sigma$ , such that  $\sigma \leftrightarrow \varepsilon(\ulcorner \sigma \urcorner)$  is provable from the Dedekind/Peano axioms for the natural numbers  $\mathbb{N}$ . As  $\sigma$  may be the Gödel encoding of the open expression  $\mathcal{T}(x)$ , we have:

$$(13) \quad \vdash_{PA} \mathcal{T}_{\mathcal{D}}(\ulcorner \sigma \urcorner) \leftrightarrow \sigma$$

But now suppose that the expression in question is  $\neg \mathcal{T}_{\mathcal{D}}(\ulcorner \sigma \urcorner)$ . Then, on the assumption that  $\mathcal{L}$  provides for PA, Cotnoir observes that the diagonalization lemma can be used to demonstrate that

$$(14) \quad \vdash_{PA} \sigma \leftrightarrow \neg \mathcal{T}_{\mathcal{D}}(\ulcorner \sigma \urcorner)$$

And by (13) and (14), it follows that

$$(15) \quad \vdash_{PA} \mathcal{T}(\ulcorner \sigma \urcorner) \leftrightarrow \neg \mathcal{T}(\ulcorner \sigma \urcorner)$$

and upon release in (5), we get the liar equivalence  $\lambda \leftrightarrow \neg \lambda$ . Cotnoir therefore concludes that discourse pluralists should avoid *WLP* and its posited universal disjunctive truth predicate in (7); by implication, they also should reject the thesis of linguistic liberalism that generates (12).

As Cotnoir also observes, though, *SLP* itself is not yet out of the woods either. The strong linguistic pluralist who denies  $\mathcal{T}_{\mathcal{D}}$  still has the discourse-relative capture/release predicates posited in (8), i.e.,  $T_{D_1}, \dots, T_{D_n}$ . For *SLP*, each  $T_{D_i}$  need only satisfy (6) for all  $\sigma$  in  $D_i$ . Yet, given the liar sentence  $\lambda_{D_i}$  for truth predicate  $T_{D_i}$ , where  $\lambda_{D_i}$  is the Gödel encoding of  $\neg T_{D_i}(x)$ , the diagonalization lemma can be again used to construct  $\lambda_{D_i} : \neg T_{D_i}(\ulcorner \lambda_{D_i} \urcorner)$  (Cotnoir 2013b: 341). Consequently, restricting truth predicates to sectors of discourse does not allow advocates of *SLP* to preclude

$$(16) \quad \vdash_{PA} T_{D_i}(\ulcorner \lambda_{D_i} \urcorner) \leftrightarrow \neg T_{D_i}(\ulcorner \lambda_{D_i} \urcorner)$$

which again, upon release in (5), again gives us the generic form of the liar  $\lambda \leftrightarrow \neg \lambda$ . So, as Cotnoir nicely demonstrates, discourse pluralists who endorse any kind of linguistic pluralism about truth predication seem to incur paradox and inconsistency.

### 14.3. Naturalizing Linguistic Monism

#### 14.3.1. On Cotnoir's Treatment of the Liar

Rather than abandoning classical logic or denying that all truth predicates must satisfy unrestricted  $T$ -schemata, Cotnoir's (2013b) solution on behalf of pluralists is to show that they can treat the liar paradox if they avoid constructing the universal truth predicate  $T_D$  via infinitary disjunction.

Cotnoir's proposed rejection of infinitary disjunction rests on at least three assumptions, which I want to pause to consider. First is the assumption that the number of regions or sectors of discourse is countably infinite. Second is his assumption that 'pluralists endorse many truth predicates  $T_1, \dots, T_n$ ' (2013b: 340). Third is the assumption of linguistic liberalism: '[g]iven the resources of disjunction one can always define a universal truth predicate' (2013b: 342). From these assumptions, Cotnoir defines the mapping of infinitary disjunction to the natural numbers and introduces it from the disjunctive truth predicate previously defined in (12):

$$(17) \quad \bigvee_{i \in \mathbb{N}} T_{D_i}(\ulcorner \sigma \urcorner) =: T_D(\ulcorner \sigma \urcorner)$$

Then, as before, diagonalization from the open expression  $\neg T(x)$  allows a Gödel encoding of a universal liar  $\lambda_\omega$  in any/all discourses such as to derive the paradox:

$$(18) \quad \vdash_{PA} \bigvee_{i \in \mathbb{N}} T_{D_i}(\ulcorner \lambda_\omega \urcorner) \leftrightarrow \neg \bigvee_{i \in \mathbb{N}} T_{D_i}(\ulcorner \lambda_\omega \urcorner)$$

So Cotnoir demonstrates how infinitary disjunction for any/all  $T_{D_i}(\ulcorner \sigma \urcorner)$  can yield again by release, paradox of the form  $\lambda_\omega \leftrightarrow \neg \lambda_\omega$ .

Cotnoir remarks that '[. . . it] is more difficult to avoid a universal truth predicate than one might initially think' (2013b: 342), and in this he may be quite right given his aims. But if his treatment shows that discourse pluralists should be wary of linguistic pluralism about truth predication, discourse pluralists might be wary of Cotnoir's first assumption; for their conception is not merely a formal excursus, and their aim is not merely to define predicates for formal languages. The discourses with which discourse pluralists begin are natural language discourses governed by a parent platitude concerning speech acts like assertion; and  $\mathcal{D}$  is

the class whose members comprise things like standing professions (archaeology, economics, journalism, etc.), technical trades or vocational disciplines and subdisciplines (graphic web-design, gastroenterology, cosmetics, etc.), or subject matters (political anarchism, comedy, fluid dynamics, etc.). As there are only so many of these, our presumption should be in favor of  $\mathcal{D}$  being a large but countably finite class—contrary to the first assumption. This is not the only way to conceive of the pluralist's construct DISCOURSE, of course (see Christian 1975; Wyatt 2013). However, the extent to which discourse pluralists deviate from this presumption is the extent to which they lose their grip on the motivating rationale for introducing pluralism in the first place, which was just the thought that some discourses—ethics, jurisprudence, and aesthetics being exemplars—are less than fully realist. Consequently, discourse pluralists can retain that motivating rationale but not the first assumption; and if the postulation, and subsequent rejection, of infinitary disjunction requires just such an assumption, then Cotnoir's treatment of the Liar may be one that discourse pluralists must consider parting with.

But we may also part with discourse pluralism; for pluralists about truth are not required to set up as discourse pluralists in the way that Cotnoir's results and solution may require. (In later sections, I will rehearse determination pluralism as a viable alternative.) So when we consider the assumptions from which his treatment derives, it becomes worth noting that the second assumption—the endorsement of many truth predicates  $T_1, \dots, T_n$ —cannot be a general prescription. For instance, the assumption will fail to hold for any alethic pluralist about truth or conceptual pluralist about TRUTH who is committed to *SLM*.

For such theorists, true is lexically polysemous: a single expression with multiple related senses. But one need not be a pluralist of any kind to make this claim; as many other philosophers (Brentano, Stout, Russell, Wittgenstein, Næss, Tarski, Austin, etc.) have observed, *true* is lexically polysemous de facto.<sup>10</sup> And as many linguists have observed, lexical polysemy is the norm—especially for important terms in frequent usage.

Abductively, the lexical polysemy of *true* is exactly what we would expect were *SLM* to be correct. But this would seem to be inconsistent with the third assumption, linguistic pluralism about truth predication, and consistent with the empirical facts about the grammar  $\mathcal{G}$  of each language  $\mathcal{L}$ , which appear to have but one default truth predicate (*er sand* in Danish, *is waar* in Dutch, *is true* in English, etc.). In that sense, pluralists should endorse Pedersen's claim that *SLP* was never a real contender (2006: 107), although the reason why is not that linguistic liberalism is an 'independently plausible and correct' thesis which subsequently forces a disjunctive  $\mathcal{T}$ -construction. On the one hand, denying this third assumption raises the question of whether Cotnoir's solution will require some adjustments; for if there is exactly one default truth predicate in  $\mathcal{G}_{\mathcal{L}}$ , then the concern over the disjunctive introduction of a universal or generic disjunctive  $\mathcal{T}_{\mathcal{D}}$  from the idle wheels  $T_1, \dots, T_n$ , and the need to go on to reject infinitary disjunction, are

undercut. On the other hand, denying this third assumption does not entail that Cotnoir's commitment to strong pluralism must go by the boards. For again, while our presumption should be in favor of strong monism about truth predication (*SLM*), pluralists can be alethic pluralists about truth or conceptual pluralists about TRUTH, or both. Of course, it remains to be seen whether pluralists about truth or TRUTH who are strong monists about truth predication incur other grave problems, and in particular, whether those problems impact pluralists' ability to diagnose and treat the alethic paradoxes.

### 14.3.2. On Truth Predication

Consideration of the three assumptions upon which Cotnoir's treatment of the Liar rests raise the plausibility of *SLM*. But the conjunction of *SLM* with either alethic pluralism about truth or conceptual pluralism about TRUTH is said to have ugly consequences regarding equivocation, mixed discourse, etc. Unsurprisingly, then, this combination is a minority report among pluralists.<sup>11</sup> And understandably, worries about ugly consequences have led pluralists like Lynch, Wright, Cotnoir, and others to resist such conceptions. For instance, Pedersen writes:

The notion in play here of a truth predicate is not intended to be merely that of a truth predicate in a specific natural language. If this were the notion intended, *SLM* would be dead in the water from the very outset. For in that case the simple observation that English has a truth predicate (. . . *is true*) and that Danish does so too (. . . *er sand*) would suffice to undermine the view. (2010: 97)

A truth predicate is a conventional linguistic unit in some  $\mathcal{G}_L$  that is disciplined by weak syntactical constraints like capture/release. The 'simple observation' that each unique  $\mathcal{G}_L$  has such a unit suffices to undermine *SLM* only if it were reformulated as the thesis that all languages  $\mathcal{G}_{L_1}, \dots, \mathcal{G}_{L_n}$  share a specific, universal truth predicate  $\cup \mathcal{T}$ . But it is unclear whether that reformulation has any adherents. One obvious reason why is that each language's truth predicate is a numerically distinct symbolic assembly constituted by differing phonological poles; another reason is that the generalized union over sets of languages  $\cup \mathcal{G}_L$  is not itself a language. To be clear, the strong linguistic monist asserts that each unique language has exactly one truth predicate, not that there is exactly one special universal truth predicate for all languages. So the concept TRUTH PREDICATE in play here is precisely that of a truth predicate in specific real languages like Danish, Dutch, and English.<sup>12</sup>

One might suggest otherwise: '[t]he relevant notion of a truth predicate is that of a philosophical truth predicate, if I may help myself to this manner of speaking—that is, the kind of truth predicate in which philosophers are interested, whatever natural language they may use for their theorizing' (Pedersen

2010: 97). It is unclear what a philosophical truth predicate could be; for philosophy is not a language with its own grammar, and so not a language with a grammar that includes a philosophical truth predicate as one of its conventional linguistic units.<sup>13</sup> Perhaps what was intended is the plausible claim that philosophy is its own discourse  $D_\phi$ , such that the ‘kind of truth predicate in which philosophers are interested’ is just the truth predicate of their home discourse,  $T_\phi$ . But by discourse pluralists’ own relativization of truth predicates to discourses,  $T_{D_i}$  cannot then apply to sentences from other discourses—an awkward result, especially where discourse pluralism is supposed to deliver a conception of truth predication spanning multiple sectors of discourse. Confining the scope of their claims to the discourse of philosophy would also be to accept that there is exactly one (relevant) truth predicate—namely,  $T_{D_\phi}$ ; but this would be to accept (a variant of) *SLM*, which is presumably not what Pedersen or Cotnoir have in mind.<sup>14</sup>

It might be that that truth predicates philosophers are interested in, pace Pedersen, are Tarskian truth predicates. As is well known, the Tarskian hierarchical approach relativizes truth predicates to formally regimented languages and orders them into a countably infinite set  $\{\mathcal{L}_0 < \mathcal{L}_1 < \mathcal{L}_2 < \dots\}$ . Then, in order to avoid the incursion of a  $\lambda$ -sentence, this approach ramifies lower-order schemes into successively higher-order (meta)languages by uniform substitution, such that no order contains its own truth predicate:

- (19a)  $\mathcal{L}_m: \cdot \cdot$   
 (b)  $\mathcal{L}_2: \ulcorner C \urcorner \text{ is true-in-}\mathcal{L}_1 \urcorner \text{ is true-in-}\mathcal{L}_2 \leftrightarrow (\ulcorner C \urcorner \text{ is true-in-}\mathcal{L}_1 \leftrightarrow C)$   
 (c)  $\mathcal{L}_1: \ulcorner C \urcorner \text{ is true-in-}\mathcal{L}_1 \leftrightarrow C$   
 (d)  $\mathcal{L}_0: C$

While Tarskianism does conveniently yield a solution to the alethic paradoxes, it is unlikely to be a desirable one for discourse pluralists. For their proposal was that a truth predicate  $T$  is a predicate for a particular discourse  $D_i \subset \mathcal{D}$ , i.e.,  $T_{D_i}$ , where discourses are home to natural language sentences used to communicate ethical mores, gastronomical affairs, jurisprudential dictates, etc. But the Tarskian proposal is that each  $T$  is instead relativized to an artificial ‘language’  $\mathcal{L}_i$ , and such predicates  $\{\text{true-in-}\mathcal{L}_1, \text{true-in-}\mathcal{L}_2, \dots\}$  cross-cut regions or sectors of discourse. So, if pluralists take ‘*philosophical truth predicate*’ to be coextensive with ‘*Tarskian truth predicate*’, then they both abandon the very discourse pluralism they sought to establish, and linguistic pluralism about truth predication is achieved merely by stipulation.

Tarski intended only to show how possibly to establish truth predicates  $\{\text{true-in-}\mathcal{L}_1, \text{true-in-}\mathcal{L}_2, \dots\}$  satisfying conditions for material adequacy and formal correctness; but the result is equivalent only to a construct analysis of TRUTH-IN-A-FORMALIZED-MODEL  $\mathcal{M}$  that has low marks for, e.g., face, content, and ecologically validity. So while Tarskianism conveniently yields a solution to the paradoxes, it will be of little interest to the pluralist about truth who is interested in theorizing about predication using naturalized descriptions of real

languages. And because predication is a linguistic phenomenon, truth theorists should attempt to theorize about truth predication in ways that are sensitive to, and ultimately make contact with, our human practices of linguistic communication. To be sure, the application of formal methods to truth theorizing has impressively produced advances in treating and solving the paradoxes; and defenses and critiques of Tarski's hierarchical gambit, in particular, are by now legion. But these advances typically ground out in undefended assumptions about the applicability of artificial 'languages' to the study of real languages—the ultimate explanandum—and about the overarching goals and priorities of constructing theories about linguistic phenomena, more generally. So, for pluralists about truth interested in the human concept TRUTH, as employed in the wild environs of real languages like English, Tarskianism will be of limited interest (see also Hinzen 2003, 2013).

### 14.3.3. Determination Pluralism: An Alternative Approach

We need to win through to a conception of pluralism which allows us to grant Wright's (1995: 213) thought that minimalism about truth-aptness is compatible with realist and antirealist ways of being true without thereby conceding a discourse pluralist view of it; for discourse pluralism is the wrong way to think about pluralism if it encourages us to think about pluralism as a linguistic thesis about proliferating truth predicates. Rather than proliferating truth predicates and then trying to avoid problems instigated by the disjunctive truth predicate  $T_D$ , pluralists should just avoid proliferating truth predicates in the first place and focus instead on developing a conception of truth for the languages we actually use.

In that respect, Pedersen gets exactly right the thought that, for considerations to have any force against interesting versions of alethic pluralism about truth—as opposed to linguistic pluralism about truth predication—those considerations must kick in at the level of properties (2006: 104). Among the various options are second-order functionalism and manifestation functionalism (Lynch 2000, 2009), disjunctivism (Pedersen & Wright 2013), and what Edwards (2011, 2013) calls *simple determination pluralism*. In broad outline, determination pluralists assert that truth is a property possessed by all true constructions, but whether a given  $\sigma$  actually possesses truth is primarily determined by which, if any, distinct realizer properties  $\rho_1, \dots, \rho_n$  are possessed by  $\sigma$ , and from which sectors  $D_1, \dots, D_n$  they hail. So each  $D_i$  is regulated by a so-called *truth-determining property*  $\rho_i$  the possession of which suffices to determine  $\sigma$ 's truth value.

Determination pluralists begin by mapping sectors of discourse to  $D_1, \dots, D_n$  (and presumably ruling out mappings). For example, psychopharmacology might map to  $D_1$ , geology to  $D_2$ , etc.; and once mapped, the names of sectors of discourse are then prepended to simple conditionals that specify which realizer property  $\rho$  determines truth for that discourse. For example,

- (20) In psychopharmacological discourse: if  $\sigma$  is weakly homomorphic to a fact, then  $\sigma$  possesses truth.
- (21) In arithmetical discourse: if  $\sigma$  coheres with basic axioms, then  $\sigma$  possesses truth.
- (22) In moral discourse: if  $\sigma$  is superassertable, then  $\sigma$  possesses truth.
- (23) In method acting discourse: if  $\sigma$  is pragmatically expedient, then  $\sigma$  possesses truth.
- (24) :

that is, conditionals of the form,

- (25) In discourse  $D$ : if  $\sigma$  is  $\rho$ , then  $\sigma$  possesses truth.

the idea being that these conditionals underwrite explanatory claims. So in some  $D_i$ , it is because  $\sigma$  corresponds to certain facts that  $\sigma$  is true, but not conversely (Edwards 2013: 118). So the nature of each discourse is associated with an alethic property the possession of which is sufficient to determine the possession of its overlying truth property. Then, supposing that each discourse is associated with exactly one property, the determination pluralist will form up biconditionals of the form,

- (26) In discourse  $D$ :  $\sigma$  possesses truth  $\leftrightarrow \sigma$  is  $\rho$

Presumably, it will not be that each discourse is associated with exactly one unique property, since the exactly one property associated with a discourse might also be associated with another: while psychopharmacology might be associated with being homomorphic to a fact, so too might oncology or ontology.

One point to notice is that, rather than commencing with the discourse pluralist's linguistic focus on truth predication, the simple determination pluralist instead focuses alethically on truth properties. And presumably, she can proceed with the naturalized linguistic monism previously urged in the interlude in §14.3: there is exactly one default predicate *is true* which designates a property that is differentially determined relative to sector of discourse. But the overarching thrust, however, remains the same: as Putnam put it, '[o]n the one hand, to regard an assertion or a belief or a thought as true or false is to regard it as being right or wrong; on the other hand, just what sort of rightness or wrongness is in question varies enormously with the sort of discourse' (1994: 515).

This brief discussion of determination pluralism is intended merely as an exemplification of how pluralists can both avoid discourse pluralism and endorse *SLM*, while also refocusing from truth predication to truth properties. Alethic disjunctivism might be equally instructive. It remains to be seen, however, whether determination pluralists or disjunctivists incur inconsistency and paradox, and, if so, whether they are able to diagnose or treat it. In that regard, perhaps the

determination pluralist or disjunctivist may utilize Cotnoir's (2013b: 342; see also Edwards 2011) maneuver to relocate or exclude  $\lambda_i$  from  $D_i$  such that none of the determination biconditionals gives rise to  $\lambda \leftrightarrow \neg\lambda$  in some  $D_i$ . The maneuver is elaborated by Pedersen & Wright, who observe that it is not sufficient for  $\sigma$  (say, the truth-teller) to just have a truth property of any  $D$ ; rather the combination of bearer and truth properties must be properly located in the right discourse:

To illustrate, suppose that corresponding with reality is the truth property for  $D_1$ , and that superassertability is so for  $D_2$ . Consider now superassertable  $\sigma$  belonging to  $D_1$ , but not corresponding. Is  $\sigma$  true? No. It does not have the truth property of  $D_1$  (i.e., correspondence), and so it is neither domain-specifically true nor generically true. (2013: 92)

While this observation is mentioned in the context of alethic disjunctivism, it applies no less to determination pluralism. And I think it also points the way to further progress on the Liar for pluralists. So as a friendly emendation, and in the spirit of Cotnoir's maneuver, the next section suggests that pluralists should not so much try to match up the truth-teller to the right discourse, or relocate or exclude liar sentences from a particular  $D_i$ , as they should work out a view in which no liar sentence is a member of any region of discourse.

## 14.4. Discourse and Decidability

### 14.4.1. Should Pluralists Be Positivists about the Liar?

According to what we might call *positivism*, liar sentences are not so much both true and false, or neither true nor false, as they are just meaningless: they fail to express a proper sentential sense. But the approach suggested here is that pluralists consider a variant on the positivist approach—one that takes  $\lambda$  to be not so much meaningless as undecidable.

Constructions are inherently meaningful by virtue of being symbolic assemblies in a grammatical inventory  $\mathcal{G}_c$  of conventional linguistic units. Ignoring issues such as tense and aspect, one kind of simple construction is the assembly of a predicate, such as *is open* or *is true*, from simple copula + intersective adjective. Grammatically, copulae like *be*, *is*, etc. profile a schematic imperfective process, and the adjective profiles an atemporal relation. Being formed from the syntagmatic combination of component morphemes and polymorphemic expressions, the semantic analysis of constructions like *is true* and *is a true sentence* is therefore highly dependent on the modes of integration, organization, and combination of their component symbolic structures—and more so for *is a truth of chemistry* and other increasingly more complex constructions. Modes of integration, organization, and combination are hierarchical, where a composite structure at a given level can serve as a component structure for some structure at a higher level, and

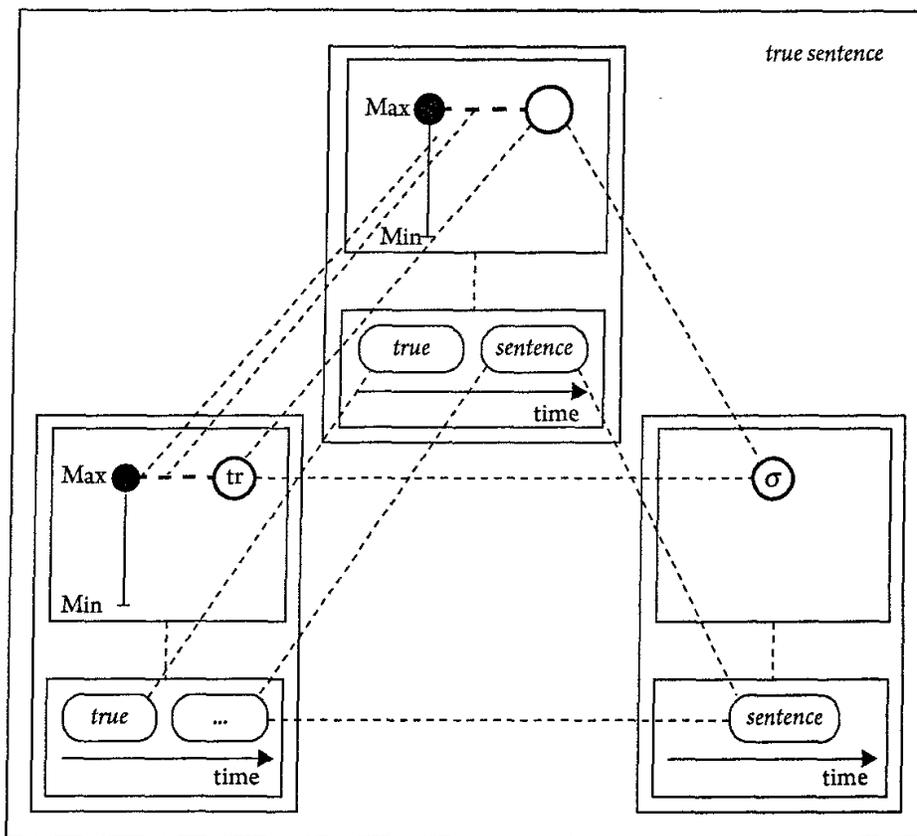


Figure 14.1. Two-Level Symbolic Assembly for True Sentence

are at least partially compositional and recursive. To exemplify this, consider a specification of the schematic *DET(ADJ + N)* construction, such as *true sentence* in figure 14.1.

Notice also that while the respective semantic poles of two similar constructions may each receive a coherent interpretation using the same componenty, the differences in configurations of lower-level components are inherited at the level of the overall constructive assembly. Consequently, our semantic theory should predict that the self-referential constructions in (27a,b) differ in conceptualization from their counterparts in (27c,d):

- (27a) *This sentence is (in) English.*
- (b) *This sentence is self-referential.*
- (c) *This is an English sentence.*
- (d) *This is a self-referential sentence.*

The prediction that modes of construction yield differences in conceptualization is testable by running their pairwise input on zeugmatic functions like conjunction-reduction. The resulting outputs are the following two different constructions,

- (28a) *\*This sentence is (in) English self-referential.*
- (b) *This is an English self-referential sentence.*

which differ both in the extent of their meaningfulness and, more obviously, their degree of grammatical acceptability (marked by “”).

Competent speakers of English have little trouble navigating the symbolic assemblies in (27), despite their being self-referential. This is to be expected: the phenomenon of linguistic self-reference is generally unproblematic. And while the relationship between the general phenomenon of self-reference and diagnoses of the paradoxes remains an open question, these remarks inevitably carry over to the naïve truth-teller,

- (29a) *This sentence is true.*
- (b) *This is a true sentence.*
- (c) *This is a truth.*

That the constructions in (29) are conceptualizable can also be seen using constructions such as

- (30) *A previously mentioned sentence is true.*

and the same point can be alternatively made using constructions such as

- (31a) *Lexical items, such as the ones exemplified here, are inherently meaningful.*
- (b) *Each of the lexical items comprising this sentence is inherently meaningful; so too are their symbolic assemblies.*
- (c) *‘The sentence comprised of these very words is meaningful’ is meaningful.*

So, each component  $[[e]]$  in (31) is a meaningful lexical unit in  $\mathcal{G}_c$ , and the overall configuration of these component semantic structures is inherited as the semantic pole of each composite assembly. Here too, our semantic theory predicts that each of the constructions in (31) differ in conceptualization; yet, to so differ, the variants in (31) must have semantic structures with which to do.

Competent speakers naturally comprehend the self-referential constructions in (31) no less than those in (29) and (30). As Armour-Garb & Woodbridge (2013: 848) observe, linguistic comprehension of constructions requires knowledge of their meanings; but having knowledge of their meanings requires that such sentences have meanings. So unless the appearance of competent speakers comprehending self-referential constructions turns out to be mere appearance, then the truth-tellers in (29) are meaningful, *ultima facie*.<sup>15</sup> But that the truth-tellers in (29) are manifestly meaningful would seem to bode poorly for the positivist’s meaningless strategy. Further, a theory of semantics and symbolization, if to address itself to the paradoxes at all, should be uniformly applied to both the Liar and truth-teller. Since (29) does not

substantively differ from the Liars in (1) and (2), the Liars in (1) and (2) should each be treated as meaningful. And so it would appear that the meaningfulness of these sentences implies that pluralists should not be positivists—at least, not positivists who advance the meaningless strategy as a treatment of  $\lambda$ .

It is worth pausing to address two serious worries, in case advocates of the meaningless strategy find this to be too quick. The first worry is that this reasoning is (nonviciously) circular: it assumes that the truth-teller is meaningful in order to show that the Liar is meaningful. In response, our recognition of the meaningfulness of the truth-teller has the status of defeasible empirical observation—not an assumption—which is both intuitively and experimentally confirmable, and which is accounted for using the semantic theory at hand. So suppose that  $\lambda$  is meaningful. Then the second worry is that taking  $\lambda$  to be both meaningful and undecidable then results in an unstable combination.<sup>16</sup> The idea is that we must antecedently accept all instances of the following schema,

(32) If  $\sigma$  is meaningful then  $\sigma$  is true  $\leftrightarrow \sigma$ .

Taking the Liar to be one such  $\sigma$ , the meaningfulness of liar sentences implies that they have truth-conditions, but having truth-conditions implies that those sentences are decidable. So if  $\lambda$  is undecidable, then it must be meaningless; but this was just what the positivist's original strategy was, and so the motivation to treat  $\lambda$  as undecidable undercuts itself. In response, the schema that generates the worry issues from controversial theses and semantic theories that we are not required to accede to or that have already been rejected here, such as thesis that sentences are meaningful only if they express propositions. (Recall that conceptualization is a function of both the content evoked and the construal imposed; but since the same truth-conditions can be differentially construed and differences in construal yield differences in conceptualization, linguistic meaning cannot be exhaustively reduced to truth-conditions (Langacker 1987).)<sup>17</sup>

#### 14.4.2. Positivism, Redux

We might assert that the predicate *is meaningless* is not meaningless, and our assertion would be prima facie true. At the end of §1.2, it was suggested that the meaningless strategy is not something that pluralists should be attracted to, for much the same reason. Yet, while the foregoing considerations justify denying that  $\lambda$  is meaningless, the argument of this chapter does not require it.<sup>18</sup> So we may be agnostic about the ultimate truth of the matter.

However, the general positivist approach still has something to offer; for it might instead be articulated as the thesis that  $\lambda$  is not so much both true and

false, or neither true nor false, as it is just undecidable: we decline it any kind of truth-valuation.

In the case of the naïve Liar in (1), the grammatical subject *this sentence* is a grounded nominal; it does not function logically as a name and so does not name a sentence or otherwise self-refer to a truth-evaluable sentence. So it is not apt for truth-predication if truth-predication requires that an expression be Gödel-encoded. We can predicate properties and relations of it, such as the predicate *has two words* (i.e., as in '*this sentence*' *has two words*); but truth and falsity are not among them. This is part of the reason why revenge truth-tellers and Liars, e.g.,

(33) *'This sentence is true' is true.*

(34) *'This sentence is false' is not true.*

are effective; for the grammatical subject of (34), *This sentence is false*, does function logically as a name ' $\sigma$ ', such that  $T(\sigma)$  is well-formed.

For the alethic pluralist, though, the issue needs to be the assignment of the sentence to region of discourse. So, upon release, which discourse does the named sentence belong to? One response is that the subjects *this sentence is true* and *this sentence is false* in (33) and (34), and (1a) and (29a), cross-cut all regions or sectors of discourse (as the pluralist understands them). That is, there is no (uncontrived, nongerrymandered) discourse  $D \subset \mathcal{D}$  that aggregates only the truths, or only the falsehoods, or both, or some such; and so neither naïve, nor strengthened, nor revenge liars will reside in any region or sector of discourse. For the determination pluralist, for example, this means that sentences which do not reside in any  $D$  thereby cannot satisfy the conditionals in (20)–(24), and thus cannot satisfy the subsequent biconditionals, either. To be sure, it may very well be that  $\lambda$  possesses some  $\rho$ . But it will never be that, in, e.g., psychopharmacological (geological, arithmetical, moral, method acting, etc.) discourse, if  $\lambda$  possesses  $\rho$ , then  $\lambda$  possesses truth; for if  $\lambda$  is homeless then there will be no  $D$  such that, in  $D$ , one finds  $\lambda$ , much less  $\lambda$  possessing  $\rho$ . The suggestion is that, while not necessarily meaningless, should be characterized as undecidable.

Decidability requires that there exists some exact procedure  $A \in \{A_1, A_2, \dots, A_n\}$  for a well-defined input/output function  $f: I \rightarrow O$ , in which inputs  $i \in I$  are mapped to outputs  $f(i) \in O$ , and which determines in polynomial time whether or not a given string belongs to a given discourse. Of course, it is well known that not every function  $f$  is computable (Turing 1936), and many  $f$  that are computable in principle are not computable in practice (Garey & Johnson 1979).

Results from computability theory suggest that the problem of deciding how to bin certain sentences may have Turing-undecidable equivalents of the halting problem. In part, this is because of difficulties inherent in the task of providing identity and individuation conditions on sectors of discourse—or as, some have

characterized them, classes or sets of sentences. (But let  $D$  be defined as a set of such sentences (i.e., strings). Then there exist discourses that have no finite characterizations. Proof: a characterization of a discourse is a sentence  $\sigma$  (i.e., a string); but there are more discourses than there are strings. So there must be some discourses that cannot be characterized by a finite string.) In executing the project of assigning sentences to sectors of discourse, we need to answer a variety of questions such as the following:

- (35a) For any given sentence  $\sigma$  and any given discourse  $D$ , is  $\sigma \in D$ ?
- (b) For any given  $\sigma$  and a set of discourses  $\mathcal{D}$ , does there exist a  $D \subset \mathcal{D}$  such that  $\sigma \in D$ ?
- (c) For any given  $\sigma$  and a set of discourses  $\mathcal{D}$ , can we return some  $D$  such that  $\sigma \in D$ ?

Taking our sentence to be  $\lambda$  generates the difficulties of trying to bin it in a discourse. One problem is that there exists some  $D$ —in fact, infinitely many—such that (35a) is undecidable for  $\lambda$  (Turing 1936). That is, there exists some  $D$  such that there exists no procedure that, for any  $\lambda$ , can determine in polynomial time whether or not  $\lambda \in D$ . Further, there exist infinitely many  $\mathcal{D}$  such that (35b) is undecidable. That is, there exists some  $\mathcal{D}$  such that there exists no procedure that, for any  $\lambda$ , can determine in polynomial time whether or not some  $D \subset \mathcal{D}$  such that  $\lambda \in D$ .

Perhaps it will be no surprise that positing discourses goes hand-in-hand with various difficulties; and in some ways, the problems of regimenting discourses formally is one of the harder problems that pluralists face. But if it comes with some measure of undecidability, the undecidability of liar sentences may be a fecund way for pluralists to try to treat some of the paradoxes. Of course, this is only an exploratory start on such an approach; further work outlining the solution is required.

### 14.4.3. Potential Concerns

A serious and difficult issue for pluralists is falsity (although no more than for any other type of truth theorist). What should pluralists who pursue the positivist strategy explored here say about it? After all, if it will never be that, in, e.g., psychopharmacological (geological, arithmetical, moral, method acting, etc.) discourse, if  $\lambda$  possesses  $\rho$ , then  $\lambda$  possesses truth, should pluralists instead just say that  $\lambda$  possesses falsity (and not that it is undecidable)? And doesn't this just incur the paradox all over again? One standard option is to define falsity as the negation of truth,

- (36a)  $\ulcorner \sigma \urcorner \text{ is false} := \ulcorner \sigma \urcorner \text{ is not true}$

and then provide the requisite logical and conceptual analyses of the different senses of the term *negation* (choice, exclusion, etc.). However, recall that negation enjoys a definition in terms of falsity,

$$(b) \quad \lceil \neg \sigma \rceil := \lceil \sigma \rceil \text{ is false}$$

the circularity of which makes this option less desirable for pluralists. Following Parsons (1983: 245; see also Scharp 2010), pluralists might opt for antiextensional definitions of natural-language falsity predicates ( $\lceil \sigma \rceil$  is false :=  $\lceil \sigma \rceil$  is in the antiextension of truth), although it is unclear how to prevent this solution from just reducing to the previous view of falsity as the negation of truth and the negation of truth in terms of falsity. Subsequently, pluralists might instead consider restricting their claims to atomic sentences, so as to claim that falsity is just the truth of negation,

$$(c) \quad \lceil \sigma \rceil \text{ is false} := \lceil \neg \sigma \rceil \text{ is true}$$

and then to handle the truth of negation as with any/all other truth-functional compounds (see also Edwards 2008). A further option—one perhaps more consonant with the shift from linguistic to alethic pluralism advocated here—would be to conceive of falsity as the absence of the alethically potent property  $\rho$  in some specific  $D_i$ . Of course, given the (Russellian) requisite of parity between truth and falsity, nothing in principle prevents alethic pluralists from developing a more metaphysically extravagant view of a constitutive property, the possession of which suffices to determine whether a given discursive construction possesses the property of being false. However, if the positivistic suggestion explored here—i.e., treating liar constructions as being Turing-undecidable for determination pluralists—holds any interest, pluralists might instead suppose that falsity results from the mismatch of alethically potent properties and regions of discourse. So in discourse  $D_i$ , let  $\sigma$  possess truth just in case  $\sigma$  is  $\rho_i$  per biconditionals of the form in (25). Then  $\sigma$  will be false just in case either  $\sigma$  belongs to discourse  $D_i$  but does not possess  $\rho_i$ , or possesses  $\rho_i$  but belongs to  $D_j$ . In that case,  $\sigma$  is false in part because it belongs to a domain; but  $\lambda$  is not false, given that there is no discourse  $D$  to which it belongs, and so no  $D_i$  in which it belongs but fails to possess  $\rho_i$ .

Positing a (tractably computable) assignment function should come with a commitment to an exact algorithm for computing it. The thought that  $\lambda$  might not be so much meaningless as undecidable depends on the thought that we can think of the designatum of *assignment* algorithmically—i.e., as an effective decision procedure—when we think of a sentence's being true as requiring that the sentence be assigned to some sector or region of discourse. If there is no effective decision procedure that runs in nonexponential/polynomial time and halts with output  $\lambda$  in  $D_i$ , then  $\lambda$  cannot possess the relevant domain-specific property  $\rho$  sufficient for rendering  $\lambda$  true. Perhaps the function computed can be made to

be fixed-parameter tractable and the number of strings being input are countably infinite; something like a greedy algorithm that uses locally optimal choices to approximate a globally optimal solution might then make tolerably clear enough why liar sentences never get assigned to a discourse. Nonetheless, some further tinkering with the suggestion is called for.<sup>19</sup> For intuitively, there will be many of the wrong kinds of sentences that seem to go the way of the Liar. Standard examples include mixed compounds such as *foie gras is edible and foie gras is morally repugnant*, which presumably belong to none of the determination pluralist's sectors of discourse even if its atomic sentences each belong to one (see also Edwards 2008; Cotnoir 2009). Must the response then be the same, i.e., that *foie gras is edible and foie gras is morally repugnant* is Turing-undecidable? That would be counterintuitive. Consequently, it seems that  $\sigma$  in the determination pluralist's biconditionals must be restricted to atomic sentences, with the truth-values of compounds being decided by applying the usual truth-functional methods. But even some atomic sentences, such as *some truths are long-winded*, may also present challenges, given that, presumably, they reside in no proper sector of discourse. Must they, too, be undecidable like the Liar?

Other familiar strengthened liar and revenge problems may arise. For analethic pluralists, if  $\sigma$  is neither true nor false, then  $\sigma$  is not true. As  $\sigma$ 's not being true just is constitutive of the claim that  $\sigma$  is not either true or false, then  $\sigma$  must be true and the contradiction is regained. But now, in place of the analethic pluralist's claim that  $\sigma$  is neither true nor false, do we not have the same problem for positivists? If  $\sigma$  is undecidable, then  $\sigma$  is not true. As  $\sigma$ 's not being true just is implied by the claim that  $\sigma$  is undecidable, then  $\sigma$  is both undecidable and not true. And so  $\sigma$  is not true, which seems to contradict the claim that  $\sigma$  is undecidable. In response, positivists or pluralists may try to show that ' $\sigma$ ' is undecidable and not true is itself undecidable (or undecidable and false, and . . . off we go.) A related worry is a revenge variant:

- (37a) *Sentence (37a) is not true*
- (b) *Sentence (37a) is undecidable*

Our positivist may treat (37a) by claiming that strengthened liar sentences like (37a) are undecidable, and so presumably must accept (37b). But then—so the thought goes—to accept (37b) is to accept that (37b) is true, from which it follows that there had better be some discourse  $D$  in which (37b) belongs and subsequently possesses the alethically potent property  $p$  that is sufficient to determine its truth.

This is a thorny problem. One response is to distinguish between acceptance and assertion, or some analogue of the familiar distinction between rejection and denial.<sup>20</sup> A more natural and effective response, however, would be to just rise to the challenge. To that end, let  $D_k$  be the discourse for theoretical computer science, and observe that some of the sentences in  $D_k$  will be about phenomena such as NP-hardness, the halting problem, oracles, heuristic search, von Neumann

architectures, and—relevant to the point at hand—Turing-decidability. The pluralist can then just accept that (37b) is a sentence belonging to  $D_k$ , and then accept that it has the uniquely relevant discourse-governing property that is sufficient to determine truth in  $D_k$ . Notice that the same would not be said of (37a), and the difference between them is principled: the conceptualizations constitutive of predicates like *is uncomputable* and *halts in finite steps, is Turing-decidable*, etc. are conceptualizations that properly pick out the subject matters of computability theory—unlike the concept(s) picked out by truth predicates of real languages. So perhaps this problem is not unsolvable.

## 14.4. Conclusion

Using standard diagonalization techniques to recursively construct liar sentences, Cotnoir (2013b) raises a number of problems for the discourse pluralist. Pluralists should consider rejecting discourse pluralism in favor of a more naturalized approach to truth predication in real languages, and should concentrate on property and concept versions of pluralism instead. Determination pluralism is one such version. However, the contention that pluralists about truth should be monists about truth predication should be supported with an account of plural truth—as Cotnoir aims to show—that avoids the Liar. Such pluralists may be interested in a variant on positivism about the Liar in which liar sentences are not at all meaningless, but are undecidable.<sup>21</sup> Being essentially ‘homeless’, determination pluralists are unable to determine which sector of discourse liar sentences belong to, which warrants the declination to distribute truth-values over them. Specifically, pluralists can decline to assert the dialethicist’s claim that  $\lambda$  is both true and false, and can decline to assert the analecticist’s claim that  $\lambda$  is neither true nor false; and they can decline to assert that  $\lambda$  is either true or false, and that  $\lambda$  is true, and that  $\lambda$  is false.

## Notes

1. Omitted is discussion of the fourth family of conceptions—deflationary pluralism—that commences from the denial of both substantivism and monism. While this taxon is nonempty, there are too few representative conceptions that are sufficiently well worked out; exceptions include Beall (2013) and possibly Kölbel (2013).
2. As nearly all discussants in this literature have acknowledged, the task of properly warranting and formalizing this assumption proves recalcitrant. Given Lynch’s (2009: 77–80) requirement that no truth-bearer is a member of more than one sector of discourse, one might appeal to work in combinatoric mathematics to formalize  $D$  as a Sperner family in which no sector members in any other subclass, i.e.,  $D_i \not\subseteq D_j$  for all pairs  $D_i, D_j \in D$  where  $D_i \neq D_j$ . On disambiguation of the term *domain*, see also Wyatt (2013).
3. Following Chihara (1979), we may divide these four approaches according to whether they explain what goes wrong in ordinary language use to give rise to the alethic paradoxes (*diagnosis*), or whether they devise strategies for speakers to avoid serious difficulties (*treatment*).

- (Disquietingly, most of the proffered explanations and strategies neglect real languages and their speakers, which is perhaps most salient in the Tarskian hierarchical gambit.)
4. For extended discussion of semantic and grammatical preliminaries, as well as a purview of different cognitive scientists' theories of the conceptual substrate of SEM, see, e.g., Langacker (1987).
  5. So the lexical expressions familiar to fluent speakers are therefore symbolic structures of the form  $[[SEM]\backslash[phon]]$  (simplified as  $[[e]]$ ); they function as an integrated whole and can be employed automatically without having to attend to either their component parts or organization, and their usage is effortless because the requisite cognitive routines involved in pairing meaning with form are psychosemantically entrenched.
  6. By implication, the relationship between a sentence  $\sigma$  and its sense or proposition is constitution, not expression.
  7. Ideally, a fuller summary of discourse pluralism would add grammatical constraints for quasi-, indirect, mixed, and direct enquotation and disquotation, given that the phenomenon of same-saying does not reduce to capture or release.
  8. What pluralists have not conceded, however, is the sharp end of Tappolet's point—her further contention that, once pluralists retreat to *WLP*, the motivation to maintain it gives way to *SLM*. The reason why, they argue, is that there is an order of priority making  $T_p$  explanatorily dependent on  $T_{D_1}, \dots, T_{D_n}$ . For fuller explanations, see Lynch (2009), Pedersen & Wright (2013), and Edwards (2011, 2013).
  9. Pedersen (2006: 112) contends that the generic or universal disjunctive truth predicate need not designate a generic truth property, however. This contention does not seem implausible; for not every predicate designates a property. Presumably no property is designated by a nullary predicate, for instance, not even a property of 0 adicity. Also, some properties are not signified by any predicates. For example, it seems that no property is signified by the predicate *is not a property*; for suppose that there were some property,  $\rho$ , signified by *is not a property*. Then  $\rho$  is a property, and *is not a property* is true of  $\rho$ . But then the property  $\rho$  is not a property. So  $\rho$  is a property and not a property, and so it seems there is no property,  $\rho$ , so signified.
  10. This claim was also implied Sainsbury, who observed that '[i]t seems descriptively quite incorrect to suppose that we switch truth predicates in this way' (1996: 901). Unfortunately, he missed the opportunity to clarify or elaborate on the observation.
  11. Reframing the overarching endeavor for theories of truth in terms of explanation opens the door to new difficulties (Wright 2016). But if explanation is the overarching theoretical endeavor, then it is at least crucial to recognize that *true*'s being polysemous is not so much an ugly consequence of the pluralist's explanantia as it is simply part of the explanandum—i.e., a datum about languages like English that any truth theorist must come to grips with (Wright 2012: 103 n. 15).
  12. While I am inclined to agree that the concept TRUTH is, as Hinzen puts it, 'an evolved aspect of a species-specific mode of cognition linked to the evolution of the faculty of language and one of a number of foundational abstractions that characterize our kind of mind' (2013: 219; see also Sher & Wright 2007), neither TRUTH nor its symbolization found its way into careful and detailed studies of linguistic universals (see, e.g., Wierzbicka 1992).
  13. Even if Pedersen's *philosophical truth predicate* turns out to refer to a constructional schema instead of specific lexical expression, it will still be a constructional schema in the grammatical inventory of a particular language  $\mathcal{G}_{\zeta_1}$ .
  14. Suppose that the relevant concept of a truth predicate is indeed  $T_{D_1}$ , in whatever natural language they may use for their theorizing. It will still be the case that the sentences to which it applies will also be sentences in whatever natural language is being used; and these will also take a nonrelevant truth predicate,  $T_{D_2}$  (e.g., '*sneeuw is wit' is waar*). But how would the two work together? Is there some further miscegenated predicate  $T_{D_3}$  that supersedes them to overdetermine the truth of the sentence? And to what sector of discourse would any of these belong, anyway? Ultimately, *SLM* is simpler and more attractive.

15. It is imperative to be careful about when a self-referential sentence belongs to the class of paradoxical sentences. For instance, *this sentence* is not a sentence, and so not a self-referential sentence; and so '*This sentence is not a sentence*' is a grammatical truth, but not a truth-teller of the relevant (paradoxical) sort.
16. Thanks to Brad Armour-Garb for prompting me to address these two worries.
17. Additionally, it may be that some instances of the schema are unacceptable. For example, consider a meaningful sentence  $\sigma$  that is extremely accurate but not maximally so. In the presence of (32), the LHS of the biconditional will fall in the extension  $\{False\}$  because its consequent mispredicates maximal accuracy of meaningful  $\sigma$ . But as Millgram (2009, chap. 3) nicely demonstrates, it would be misguided to claim that extremely accurate  $\sigma$  on the RHS must also fall in the extension  $\{False\}$ , and so this instance of the biconditional has two sides with different extensions/truth-values. Of course, requiring bivalence, or allowing the concept TRUTH to be analyzed only as correctness, are simple ad hoc escapes; but it is unclear what could possibly motivate pluralists to play along.
18. To assert that  $\lambda$  is not meaningless is not to say that  $\lambda$  is not semantically defective in some other way. Hence, in their 2013 paper, Armour-Garb & Woodbridge attempt to show that, even if we concede this unimpeachable argument from comprehension,  $\lambda$  is nevertheless meaningless in the sense that it fails to specify what they call *M-conditions*, which Armour-Garb & Woodbridge claim to be a component of meaning. Of course, the conceptualization or content of  $\lambda$  may indeed be defective; but to possess defective content just is to possess (graded) content of a certain kind. Armour-Garb & Woodbridge's point, though, seems to be that, while some sentences like *snow is white* apparently directly specify their own M-conditions, and truth-predications to such sentences apparently only indirectly specify their own M-conditions, paradoxical sentences like the strengthened liar in (2) simply fail to specify any M-conditions (2013: 846). While more needs to be said about what M-conditions are supposed to be, there may be some resemblance between their direct specification and the pluralist's assignment of constructions to discourses.
19. Cotnoir (personal communication) rightly notes that there are potential downsides to thinking of the determination pluralists' assignment function as algorithmic in general, and he is certainly correct that further work must be done to show that the approach can avoid over-generating. Certainly, it would be awkward for logical or arithmetic truths and falsehoods not to get assigned to discourses that they intuitively should, and I do not know whether or to what extent the suggestion generalizes. So the suggestion of an undecidability treatment remains exploratory—it may be natural or fruitful to think of tractable input-output mappings as computable in this way—and is part of a broader class that includes treatments based on indeterminacy and (un-)groundedness, which determination pluralists may want to consider as well. Of course, if the problem is that invoking computation to handle domain assignment introduces new problems associated with domain individuation then this might also or instead be more of a problem for pluralists in general, who have to come to a clear consensus on how to formalize the construct DOMAIN in ways that map back on to the idea of discourse.
20. While we might endorse the platitude in (3a) that to assert  $\sigma$  is to present  $\sigma$  as being true, the same platitude may not hold of acceptance. In some contexts, one might assert  $\sigma$  without accepting that  $\sigma$  (e.g., actors in a play, people aiming to provoke, guardians facilitating child-rearing, etc.) In other contexts, one might accept  $\sigma$  without asserting that  $\sigma$  (e.g., a student who neither denies nor rejects global skepticism, or eliminative materialism, etc. might accept these positions as warranted but not warrantably assertable).
21. This chapter had to be hastily written in 2014. In the intervening years, I have benefitted from conversations with Aaron Cotnoir, Doug Edwards, Joe Ulatowski, Nathan Kellen, Brad Armour-Garb, and several other participants at the Pluralisms workshops at the Universities of Connecticut and Yonsei. It has also recently come to my attention—too recently, unfortunately, for me to engage here—that Stephen Barker has also suggested an undecidability treatment of the Liar, with a response from Mark Jago. Although the notion of undecidability in Barker's paper is different, I encourage readers to seek out their exchange.

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