A Quasi-Deflationary Solution to the Problems of Mixed Inferences and Mixed Compounds

(Penultimate Version)

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Truth pluralism is the view that there is more than one truth property. The strong version of it (i.e. strong pluralism) further contends that no truth property is shared by all true propositions. In this paper, I help strong pluralism solve two pressing problems concerning mixed discourse: *the problem of mixed inferences* (PI) and *the problem of mixed compounds* (PC). According to PI, strong pluralism is incompatible with the truth-preservation notion of validity; according to PC, strong pluralists cannot find any appropriate truth property for mixed compound propositions, whose atomic constituents are from different domains of discourse (e.g., <sky is blue and chocolate is tasty>). I argue that the strong pluralist is motivated to take the truth predicate in truth-involving universal statements to be deflationary to avoid the two pressing problems. Such a move entails that the truth predicate in the platitude of validity (V) *for any argument, it is valid if and only if necessarily its conclusion is true when its premises are all true* does not denote any substantive truth property. Instead, it is merely an expressive device to help people generalize instances of (V) to (V). Analogous stories hold for the truth predicate in the platitudes of compound (e.g., conjunction). The upshot is that, the strong pluralist can solve PI and PC by further conceding that mixed compounds are true/false in a deflationary way.

Keywords: truth pluralism; equivalence schema; minimalism; the problem of mixed inferences; the problem of mixed compounds

§1. Strong truth pluralism

Traditional inflationary theories of truth take truth to be monistic. Under traditional correspondence theories of truth, truth is correspondence to reality. For coherence theories of truth, truth is coherence with propositions in some specified set(s).[1] These inflationary theories of truth typically specify the truth property in the following manner:

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[1] In this paper, I assume the primary truth-bearers are *propositions* without committing to this assumption. Also, by 'correspondence theories of truth' I mean various correspondence monisms, which take truth to universally consist in one specific correspondence relation (e.g., isomorphism). But see, for example, Sher (2013) for *correspondence pluralism*, which takes the correspondence relations to vary across domains.

(GR) For any proposition <p>, <p>'s being true consists in <p>'s being F,[2]

where F is the alleged *substantive*[3] truth property (e.g., *corresponding to a fact* (*correspondence* for short)).

In contrast, deflationists reject (GR). They believe that truth does not consist in anything substantive. A prominent version of deflationism, minimalism, further holds that (i) the truth predicate 'true' is merely an expressive device that helps people assert statements that otherwise may not be easily asserted; (ii) the concept of truth is exhausted by the equivalence schema (ES) *<p> is true if and only if p*.[4] For example, minimalists argue that the truth predicate in the universal statement 'everything Socrates asserted is true' does not denote any substantive truth property; rather, it is merely an expressive device which helps us assert everything Socrates asserted at once.

In recent decades, (GR) has been rejected from a new angle by truth pluralists, who contend that truth does not consist in any *single* substantive property. Rather, they think that there is more than one substantive truth property. Those truth pluralists typically advocate "anti-realist" truth property(ies) (e.g., *superassertibility*[5]) in "subjective" domains of discourse (e.g., discourse about personal tastes) while still holding a correspondence theory of truth in "objective" domains of discourse (e.g., discourse about ordinary objects). It is certainly possible to dispense the purported truth properties to propositions in non-domain-wise ways. But since most truth pluralists still take truth properties to be domain-based, this paper will only discuss the domain-based truth pluralism, whose central doctrine is that

(TP) There are multiple domain-specific substantive truth properties $(F_1, F_2,..., F_n)$.[6]

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[2] Following Horwich (1998), I use '<p>' as an abbreviation of 'the proposition that p'.

[3] In this paper, a truth property is said to be *substantive* if and only if it has some hidden nature that is not revealed by our grasp of the concept of truth. See Lynch (2009, p. 116) for this characterization of substantivity.

[4] See Horwich (1998).

[5] "A statement is *superassertible* just in case it is, or can be, warranted and some warrant for it would survive arbitrarily close scrutiny of its pedigree and arbitrarily extensive increments to or other forms of improvement of our information" (Wright 1992: 48).

[6] Pedersen & Wright (2013) defines truth pluralism to be a substantivism, which takes truth to be everywhere substantive. My definition here is more liberal than theirs, for it allows some (but not all) truth predicates to be deflationary. This definition is more commonly assumed. See Tappolet (2000, p.209), Cotnoir (2013, p.1), Pedersen & Lynch (2018, p.1), Strollo (2022, p.155) for examples.

Domain-based truth pluralists typically take the domain-specific truth property of a proposition to be (at least partly) determined by the domain of discourse that the proposition is in.[7] The strong version of truth pluralism further contends that

(SP) There is no generic truth property being possessed by all true propositions.[8]

We call the truth pluralism that adopts (SP) *strong pluralism*, for it takes truth to be strictly "many". It rejects the possibility that there is a generic truth property that every true proposition has in virtue of having a domain-specific truth property. Strong pluralism takes the plurality of truth to be stronger than multiple realizability: truth is not realized by many; rather, truth is many.

Various problems for strong pluralism have been posed, most notably are the two problems concerning mixed discourse: *the problem of mixed inferences* (PI) and *the problem of mixed compounds* (PC).[9] My goal in this paper is to help strong pluralism solve these two pressing problems. In §2, I introduce PI and PC and explain why they are pressing for strong pluralism. In §3, I give a quasi-deflationary solution to the two problems by exploiting the equivalence schema (ES) *<p> is true if and only if p* advocated by minimalists. In §4, I show that strong pluralism can account for (ES) and thus be qualified to adopt the quasi-deflationary solution. In §5 and §6, I consider two potential worries to my quasi-deflationary solution and reply to them. In §7, I draw a conclusion.

§2. Two problems concerning mixed discourse

Both the problem of mixed inferences (henceforth, PI) and the problem of mixed compounds (henceforth, PC) concern how truth behaves when propositions from different domains of discourse interact with each other.

PI presses strong pluralists to account for valid mixed inferences – the valid inferences that involve propositions from different domains of discourse.[10] Consider this mixed inference:

(P1) Cats are cute.

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[7] See, for examples, Wright (1992, p.38), Lynch (2009, pp.76-8).
[8] Wright (1992), Cotnoir (2013), Kim & Pedersen (2018), Ferrari, Moruzzi, and Pedersen (2020) have defended (SP).
[9] See Pedersen & Wright (2018) for a comprehensive introduction to the problems for strong pluralism.
[10] See Tappolet (1997).

(P2) Felix is a cat.

(C) Therefore, Felix is cute.

Presumably, (P1) and (C) are from the domain of discourse about personal tastes (or aesthetics), while (P2) is from the domain of discourse about ordinary objects. Under strong pluralism, the truth property that (P1) and (C) are apt for differs from the truth property that (P2) is apt for. And under the truth-preservation notion of validity, the mixed inference above is apparently valid. Now the problem is, how can strong pluralism explain this apparent validity? That is, how could truth be preserved throughout this valid inference if propositions in it are apt for different truth properties? Strong pluralists seem to have no legitimate answer, for under strong pluralism, no single truth property is preserved throughout the mixed inference.[11]

But the truth-preservation notion of validity itself does not obviously require a valid inference to preserve a single truth property. This notion of validity says:

> (V) For any argument, it is valid if and only if necessarily, if its premise(s) are all *true*, then its conclusion is *true*.

Taking (V) at its face value, it does not *say* that a valid inference necessarily preserves a single truth property. Rather, it says that a valid inference necessarily preserves the truth value T. Neither does (V) obviously *imply* that only one truth property can figure into valid inferences. What it obviously implies is that a conclusion's having its truth property is *necessitated* by premises' having their truth property(ies). But this implication is not obviously incompatible with strong pluralism. It could be the case that the conclusion has a different truth property from that (those) of premises, but the conclusion's having that different truth property is necessitated by premises' having their truth property(ies).

However, even though strong pluralism is not obviously incompatible with what (V) expresses – that valid inferences necessarily preserve truth – it has difficulty in explaining *how* (V) manages to express that. The difficulty can be formulated as a dilemma: Does the word 'true' in (V) denote a substantive truth property or not? Now the strong pluralist is in a dilemma. If the word 'true' in (V) denotes a substantive truth property (whatever that is), then under strong pluralism, validity is not defined with full generality, for not all premises/conclusions are apt for

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[11] This way of presenting the problem of mixed inferences is widely adopted. See Lynch (2009, p.59), Strollo (2018, pp.1530-1), Edwards (2020, pp.132-3) for examples.

that truth property and thus be covered by (V). If the word 'true' in (V) does not denote a substantive truth property, given the plausible assumption that the word 'true' in (V) cannot simultaneously denote more than one substantive truth property, (V) will be an instance in which the truth predicate is metaphysically deflationary (i.e., does not denote any substantive truth property). The implied result that the truth predicate is somewhere deflationary, though formally compatible with strong pluralism (defined in this paper), has been considered an unacceptable concession to deflationism by a typical strong pluralist.

So even if the strong pluralist manages to convince us that (V) does not require propositions in a valid argument to share a single truth property, she must either concede that (V) does not define validity for all arguments (the first horn), or concede that the truth predicate in (V) is deflationary (the second horn). I think the second horn is more palatable for strong pluralists, and it would be curious to investigate whether taking the second horn can also help the strong pluralist show that the truth-preservation notion of validity is indeed compatible with strong pluralism. In later parts of this paper, I argue that the strong pluralist can indeed show this by appealing to the expressive function of the (metaphysically) deflationary truth predicate in (V).

Now we turn to the problem of mixed compounds (PC). PC presses strong pluralists to show how a compound proposition can be true when its truth is necessitated by the truth of its atomic constituents that are from different domains of discourse. Consider the mixed conjunction <sky is blue and chocolate is tasty>, where <sky is blue> and <chocolate is tasty> are (presumably) from distinct domains of discourse and thus apt for distinct truth properties under strong pluralism. When <sky is blue> and <chocolate is tasty> are both true, the mixed conjunction should also be true. The problem is: What truth property does the mixed conjunction have?[12] Whatever that truth property is, it must be distinct from at least one of the truth properties had by the conjuncts. Such divergence has been thought to be implausible.

PC, in effect, is a special case of PI. Any instance of PC (i.e., any mixed compound) can be transformed into an instance of PI, which is indeed an instance of one of the natural deduction rules. For example, the previously presented instance of PC can be transformed into the following instance of PI:

(P1) Sky is blue.

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[12] See Williamson (1994) and Tappolet (2000).

(P2) Chocolate is tasty.

(C) Therefore, sky is blue and chocolate is tasty.

And this inference is indeed an instance of the introduction rule for ∧:

From A and B we may infer A ∧ B.

Trickier cases are the transformations of instances of PC whose main connectives are ∼, →, or ≡ into instances of introduction rules for ∼, →, or ≡. For example, it is difficult to see how an instance of PC where the truth of ∼A is necessitated by the falsity of A can be transformed into an instance of the introduction rule for ∼, which is:

From A→⊥ we may infer ∼A.

One way to resolve this difficulty is to view A→⊥ as stating the falsity of A. If this resolution is legitimate, then we may formulate and legitimize all transformations by using only two connectives: ∧ and ∼, since every truth-functional compound can be expressed with only ∧ and ∼ as connectives.

In contrast, we cannot transform all instances of PI into instances of PC, for some conclusions of mixed inferences are not compounds but atomics. Thus, the point that PC is effectively a proper part of PI is validated. This point justifies a unified solution to PI and PC. Any solution to PI, in effect, is a solution to PC. And any solution to PC better be a solution to PI. Otherwise, different cases of mixed inferences will receive different solutions, which is methodologically dodgy. In the following parts of this paper, I will present a unified solution as desired.

§3. A quasi-deflationary solution to the two problems concerning mixed discourse

3.1 The short story
To recap, PI presses the strong pluralist to (1) explain away the intuition that only one truth property can figure into valid inferences, and (2) admit that truth is metaphysically deflationary in (V). And since PC is effectively a proper part of PI, PI cannot be fully solved without PC being solved.

In this section, I argue that the strong pluralist can accomplish (1) by taking (2) on board, and thus partially solve PI (partially, because its special case PC cannot be solved without further commitments).

3.2 The Quasi-Deflationary Explanation

In this subsection, I give a *quasi-deflationary explanation* to the occurrences of the truth predicate in truth-involving universal statements[13] (e.g., (V)). I argue that the strong pluralist is motivated to concede that the truth predicate is metaphysically deflationary in all truth-involving universal statements, not only in (V). As a preliminary, I first introduce the *minimalist explanation* to the occurrences of the truth predicate in truth-involving universal statements.

Minimalists believe that everything about truth can be explained by invoking the equivalence schema (ES):

(ES) <p> is true if and only if p.

It is widely agreed that there are (potentially) infinitely many non-paradoxical instances of (ES), each of which is a necessary a priori truth.[14] What distinguishes minimalism from inflationary theories of truth is that minimalists take all the (non-paradoxical) instances of (ES) to be *primitive* – they stand in no need of further explanations.

Now to illustrate the minimalist explanation, consider the following universal statement:

(S) Everything Socrates asserted is true.

If we could quantify into sentence positions, then we would be able to assert (S) in a truth-free way by saying (S-truth free):

(S-truth-free) For any p, if Socrates asserted that p, then p.

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[13] By 'truth-involving universal statements' I mean the statements in which there is at least one truth predicate being predicated of truth-bearer(s) that are universally quantified over (e.g., every proposition is true).

[14] For examples, see Armour-Garb et al. (2022), Horwich (1998), and Soames (1999, p. 247) for this point. And paradoxical instances of (ES) are those instances that will generate paradoxes and thus may not be true, let alone necessarily true a priori. For example, the instance '<this statement is false> is true if and only if this statement is false' will generate liar paradox. In this paper, I set aside the issue concerning paradoxical instances of (ES). Treatment of those paradoxical instances should be addressed elsewhere.

In (S-truth-free), 'p' is intended to range over *sentences-in-use*. But we do not have the norm to do sentential quantifications in natural languages.[15] In natural languages, we can at most state every instance of the schematic version of (S-truth-free):

(S-truth-free-schema) If Socrates asserted that p, then p.[16]

For minimalism, the *raison d'être* of the truth predicate in (S) is to generalize instances of (S-truth-free-schema) into (S). Minimalists intend to explain the *occurrence* of the truth predicate in (S) by only appealing to the agent's disposition to accept every instance of (S-truth-free-schema) and (ES). They argue that such disposition will make the agent disposed to accept every instance of the schematic version of (S):

(S-schema) If Socrates asserted that p, then <p> is true.

Minimalists further contend that the agent's disposition to accept every instance of (S-schema) suffices to explain her disposition to accept the universal statement (S). If we take the agent's acceptance of every instance of (S-truth-free-schema) as a background assumption, then the truth predicate occurs in (S) because the agent transforms (S-truth-free-schema) into (S-schema) by using every instance of (ES). In this way, minimalists set the agent's disposition to accept every instance of (ES) as the ultimate ground of the occurrence of the truth predicate in (S).[17]

This minimalist explanation does not appeal to any substantive truth property. Thus, if the minimalist explanation holds, the principle of parsimony gives us reason to believe that the truth predicates in universal statements like (S) do not denote any substantive truth property.

The *quasi-deflationist* explanation I have in mind accepts the main story told by the minimalist explanation and one of its implications that the truth predicate in universal statements does not denote any substantive truth property. But it *rejects* (a) the minimalist's contention that

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[15] Whether we are permitted to do sentential quantifications in natural languages is controversial (see Kunne (2003)). But at least we cannot express (S-truth-free) in natural languages (see Schindler & Schlöder (2022)).
[16] Actually, we cannot assert every instance of (S-truth-free-schema) in real life, since it has infinitely many instances.
[17] The minimalist explanation I have illustrated is reconstructed from Horwich (1998).

an agent's acceptance of every instance of a universal statement *suffices* to explain her acceptance of that universal statement, and (b) the deflationist doctrines that (b1) truth is *everywhere* deflationary, and (b2) truth is *conceptually* deflationary.[18]

The rejection of (a) is motivated by the well-known generalization problem (GP) of minimalism. GP says that we cannot logically derive a truth-involving universal statement from all of its instances, so an agent's acceptance of all the instances does not suffice to explain her acceptance of the universal statement.[19] As Soames (1999, p.247) points out, it is conceivable that the agent is ignorant of the fact that she *is* disposed to accept every instance of the universal statement (perhaps because she mistakenly thinks that some of the statements she rejects are instances of the universal statement) and thus does not accept the universal statement. Whether minimalists can overcome GP by positing truth-free principles is not yet clear.[20] In any case, I intend to avoid GP for my quasi-deflationary explanation by positing a truth-involving psychological thesis:

> (D) One is disposed to believe that she is disposed to accept every instance of the equivalence schema (ES) *<p> is true if and only if p*.

I take (D) to be intuitively plausible. If (D) were false, then we would not have the intuition that we are disposed to accept every instance of (ES), and minimalism will not even get off the ground.[21]

If (D) is true, then in the case of the universal statement (S), one will be disposed to believe that she *is* disposed to accept every instance of (ES) and thus be disposed to believe that she can supply every instance of (S-truth-free-schema) with an instance of (ES). Given that the agent knows that she believes every instance of (S-truth-free-schema) (the background assumption), she would then be disposed to believe that she *is* disposed to accept every instance of (S-schema). Thus, she would finally be disposed to accept the universal statement (S). Parallel lines of reasoning can be applied to other truth-involving universal statements, so the quasi-

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[18] Truth is *conceptually* deflationary iff it plays no substantive explanatory role in our conceptual scheme. More on this later.

[19] See Gupta (1993), Soames (1999), and Armour-Garb (2010) for detailed elaborations on GP.

[20] See Armour-Garb (2010) for a negative answer. But see Oms (2019) for a positive answer.

[21] One may reject (D) on the ground that people may refuse to accept paradoxical instances of (ES). But since in this paper I set aside the issue caused by paradoxical instances of (ES), this objection should not bother us here.

deflationary explanation can explain the occurrences of the truth predicate in truth-involving universal statements by adding (D) to the explanans.

Now we turn to my rejection of (b1) – the deflationist doctrine that truth is *everywhere* deflationary. The possibility of rejecting (b1) while holding that truth is deflationary in universal statements comes from the fact that the deflationary nature of truth in universal statements does not *require* truth to be everywhere deflationary. It may well be the case that in some instances of (ES), as well as in some of the truth-involving statements (e.g., '<snow is white> is true') that can be derived from relevant (ES)-instances (e.g., '<snow is white> is true iff snow is white') and truth-free statements (e.g., 'snow is white'), the truth predicate there *does* denote a substantive truth property. After all, people's acceptance of instances of (ES), as the ultimate ground of the minimalist explanation, is compatible with (almost) every theory of truth.[22]

For strong pluralists, rejecting (b1) while holding that truth is deflationary in truth-involving universal statements is more than possible – it is motivated. On the one hand, strong pluralists, as non-deflationists, are committed to rejecting (b1). On the other hand, strong pluralists are motivated to take truth to be deflationary in all truth-involving universal statements. Consider the truth-involving universal statement (E):

(E) Every truth is true.

By the definition of strong pluralism, no truth property can be shared by every truth. Thus, under strong pluralism, if the truth predicate in (E) denotes a substantive truth property, then (E) is false. But clearly (E) should be true. So strong pluralists must concede that the truth predicate in (E) does not denote any substantive truth property.[23]

The above argument can be applied to every truth-involving universal statement that has every and only truth as its instance. Since there are (potentially) infinitely many universal statements with such a feature (e.g., statements with the form 'every true statement asserted after time t is true'), strong pluralists are *motivated* to concede that the truth predicate in all truth-involving universal statements does not denote any substantive truth property. So the lesson is

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[22] For exceptions, see Gamester (forthcoming b), where he advocates truth nihilism. And here I (again) assume that proposition is the primary truth bearer.

[23] This argument can be seen as a variant of the problem of generalization posed for strong pluralism. Lynch (2001, p.726) and Edward (2018, p.133) have briefly addressed that problem.

that strong pluralists are motivated to reject (b1) while holding that truth is deflationary in universal statements.

Strong pluralists are also motivated to reject (b2) -- the deflationist doctrine that truth is *conceptually* deflationary. It is possible for the truth predicate in truth-involving universal statements to be metaphysically deflationary (i.e., not denoting any substantive truth property) but conceptually inflationary (i.e., expressing a truth concept that plays substantive explanatory roles in our conceptual scheme).[24] Strong pluralists are motivated to take this possibility on board, since (i) they are only forced to say that the truth predicate there is *metaphysically* deflationary, and (ii) taking truth to be *conceptually* inflationary can make strong pluralism immune from criticisms of conceptual deflationism (i.e., the view that truth is conceptually deflationary).[25]

To sum up, strong pluralists are motivated to adopt the quasi-deflationary explanation to the occurrences of the truth predicate in truth-involving universal statements.

3.3 The Quasi-Deflationary Solution

Based on the quasi-deflationary explanation, I shall give a quasi-deflationary solution to the two problems concerning mixed discourse. I argue that under the quasi-deflationary explanation, the definition of validity and the definitions of various kinds of compounds (e.g., *conjunction*) do not entail that only one truth property can figure into valid inferences and compound statements.

We first apply the quasi-deflationary explanation to the occurrences of the truth predicate in the definition of validity:

> (V) For any argument, it is valid if and only if necessarily, if its premise(s) are all true, then its conclusion is true.

If we only intend to define validity for a particular argument, say, ⟨(P1), (P2), ∴ (C)⟩,

(P1) Cats are cute.
(P2) Felix is a cat.
(C) Therefore, Felix is cute.

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[24] The possibility of saying that truth is metaphysically but not conceptually deflationary is explored and defended by Asay (2013) and Bar-on & Simmons (2013).
[25] See, for example, Bar-on & Simmons (2013)'s critique of conceptual deflationism.

then we need not use the truth predicate. We need not say:

> (V-1) The argument ⟨(P1), (P2), ∴ (C)⟩ is *valid* if and only if necessarily, if (P1) is true and (P2) is true, then (C) is true.

Instead, we can simply say:

> (V-1*) The argument ⟨(P1), (P2), ∴ (C)⟩ is *valid* if and only if necessarily, if cats are cute and Felix is a cat, then Felix is cute.

We can see the necessary equivalence between (V-1) and (V-1*) by transforming (V-1*) into (V-1) (and vice versa) with the help of three instances of (ES):

> (ES-1) <cats are cute> is true if and only if cats are cute.
> (ES-2) <Felix is a cat> is true if and only if Felix is a cat.
> (ES-3) <Felix is cute> is true if and only if Felix is cute.

The three instances of (ES) are necessarily true a priori, which yields the necessary equivalence between (V-1) and (V-1*). (V-1*) does not contain any truth predicate, so the validity defined by (V-1*) has no bearing on the truth property of (P1)/(P2)/(C). Since (V-1) and (V-1*) are necessarily equivalent, they should define the very same notion of validity for the argument ⟨(P1), (P2), ∴ (C)⟩. Thus, the validity defined by (V-1) also has no bearing on the truth property of (P1)/(P2)/(C). And since (V-1) exploits the notion of truth no more than exploiting (ES-1), (ES-2), and (ES-3), the only requirement posed by (V-1) on a theory of truth is to account for the three necessarily true a priori instances of (ES).

Indeed, any instance of the schema (V-schema)

> (V-schema) The argument ⟨<α_1>,...,<α_n>, ∴ <β>⟩ is *valid* if and only if necessarily, if <α_1> is true,..., and <α_n> is true, then <β> is true.

defines the very same notion of validity as that defined by a corresponding instance of the schema (V*-schema):

(V*-schema) The argument $\langle <\alpha_1>,...,<\alpha_n>, \therefore <\beta> \rangle$ is *valid* if and only if necessarily, if $\alpha_1,...,$ and α_n, then β.

Thus, for any given argument, we can define the truth-preservation notion of validity for it without using the truth predicate and thus the validity defined for it does not require there being only one truth property at work in that argument.

But to give a definition of validity for all arguments, we must use the truth predicate to do the *generalization*. Even if we could state every instance of (V*-schema), we would not be able to state the same thing said by the universal statement (V). This point comes from the logical fact that we cannot derive the general definition of validity (V) from the totality of instances of (V-schema).

Under the quasi-deflationary explanation, the truth predicate in (V) helps us generalize particular definitions of validity into a general definition of validity, without denoting any substantive truth property. And since the validity defined by instances of (V) for particular arguments poses no constraint on the truth property(ies) of the propositions in the arguments, the validity defined by (V) for all arguments should also pose no constraint on the truth property(ies) in any argument. Similarly, since the requirement posed by instances of (V) to a theory of truth is to account for relevant instances of (ES) (*qua* necessary and a priori truths), the requirement posed by (V) on a theory of truth is to account for all instances of (ES).

Since the problem of mixed compounds, in effect, belongs to the problem of mixed inference, it is expected that definitions of compounds also pose no constraint on the truth property(ies) of compound propositions or their atomic constituents, except that the proposed truth property(ies) should validate relevant instances of (ES). Indeed, a parallel quasi-deflationary explanation can be applied to the occurrences of the truth predicate in the definitions of compounds. We illustrate this point by considering the case of *conjunction*, whose definition is:

(Con) For any conjunction, it is true if and only if its conjuncts are all true.

The reasoning is similar to the case for validity, so I will be brief. For any given conjunction $<p \land q>$, we can state the definition '$<p \land q>$ is true if and only if $<p>$ is true and $<q>$ is true' by simply saying '$p \land q$ if and only if p and q'. Thus, the truth conditions of particular conjunctions defined by instances of (Con) make no requirement about the truth property of those

conjunctions or their conjuncts. Again, the only requirement posed by (Con) on a theory of truth is to account for all instances of (ES).

Now it should be clear that under the quasi-deflationary explanation, the definitions of validity and compounds pose no constraint on what (or how many) truth property(ies) can figure into a valid inference or a compound proposition, except that the resulting theory of truth should validate every instance of (ES). I call this argument *the quasi-deflationary solution*.

If strong pluralists can account for every instance of (ES), then she can use the quasi-deflationary solution to solve non-special cases of the problem of mixed inferences – cases where the conclusions of mixed inferences are not mixed compounds. In §4 I will give a proposal to show how strong pluralists can account for every instance of (ES). At the current stage, we assume she can. Now to illustrate how the solution works, consider the (presumably) valid mixed inference ⟨(P1), (P2), ∴ (C)⟩:

(P1) Cats are cute.
(P2) Felix is a cat.
(C) Therefore, Felix is cute.

Since the definition of validity does not dictate the truth property of (C), the strong pluralist can happily say that (C) is apt for a domain-specific truth property, which is (at least partly) determined by the domain of discourse that it is in. And whatever that truth property is, the definition of validity warrants that (C)'s having that truth property is *necessitated* by the (P1) and (P2)' having their truth properties. In a word, under strong pluralism, it is the truth value T rather than any truth property being preserved in a valid argument.

The problem of mixed compounds, as the special case of the problem of mixed inferences, cannot be completely solved in the same way. Although the definitions of compounds pose no special constraint on the truth property of a mixed compound, it is still hard for us to think of any domain-specific truth property for a mixed compound (e.g., <sky is blue and chocolate is tasty>), for it is unclear which domain of discourse it is in. So it remains to be shown what kind of truth property a mixed compound can have under strong pluralism. My answer is that mixed compounds are not apt for any substantive truth property. This answer will be justified in §4.

§4. How the strong pluralist can account for every instance of (ES)

In **§3** I have assumed that the strong pluralist can account for every instance of (ES) and thus be qualified to adopt the quasi-deflationary solution. Since strong pluralism, as a non-minimalism, does not take instances of (ES) to be primitive, the strong pluralist needs to *derive* every instance of (ES) under strong pluralism to gain such qualification.

In this section, I help the strong pluralist derive every *non-paradoxical* instance of (ES). How to deal with those paradoxical instances is a problem for (almost) every theory of truth and should be addressed elsewhere. As I have mentioned in **§3**, all non-paradoxical instances of (ES) are necessary and a priori truths. Thus, the strong pluralist must derive them in a way such that they are necessarily true a priori.

In what follows, I give a proposal for this task. Although the proposal is incomplete, I will show that it is viable. I shall first derive every non-paradoxical *atomic* instance of (ES) (i.e., in which the <p> is an atomic proposition) under strong pluralism, and then extend the derivations to cover non-atomic instances of (ES).

4.1 How the strong pluralist can derive atomic instances of (ES)

In this subsection, I show how the strong pluralist can derive every non-paradoxical atomic instance of (ES) *<p> is true iff p*. I shall first consider the atomic instances with the form *<a is F> is true iff a is F*, where 'a' is a name and 'F' is a 1-place predicate. I argue that the strong pluralist can derive those instances once she makes a match between the truth property of <a is F> and the semantics of 'a is F'.

To illustrate, let us first consider the domain(s) of discourse where <a is F> is apt for the realist truth property *truth as correspondence*. Consider the following schema:

(ES-Atomic*-Corr) <a is F> is $true_{corr}$ if and only if a is F,

where '$true_{corr}$' denotes *truth as correspondence* and 'a is F' should be substituted by sentences that are apt for *truth as correspondence*. I argue that every (non-paradoxical) instance of (ES-Atomic*- Corr) can be derived under strong pluralism if the strong pluralist matches *truth as correspondence* with a representational theory of meaning.

Contemporary correspondence theorists tend to explain truth in terms of denotation and satisfaction, where denotation and satisfaction are taken as substantive word-world relations and

explained in naturalistic fashions (e.g., the causal theory of reference).[26] Inspired by Tarski's semantic conception of truth[27], they define *truth as correspondence* for atomic propositions with the form <a is F> as follows:

> (T_{corr}) <a is F> is true *if and only if* the object *a* denoted by the name 'a' has the property *F* denoted by the predicate 'F'.[28]

Under a dominant representational theory of meaning, instances of (TCS) are platitudes (where denotation and satisfaction are also naturalistically explained):

> (TCS) a is F *if and only if* the object *a* denoted by the name 'a' has the property *F* denoted by the predicate 'F'.[29]

Instances of (T_{corr}) and (TCS), as definitions, are all necessarily true a priori. And since (T_{corr}) and (TCS) share their right sides, we can replace the right side of (T_{corr}) with the left side of (TCS) to derive all the (non-paradoxical) instances of (ES-Atomic*-Corr):

> (ES-Atomic*-Corr) <a is F> is $true_{corr}$ if and only if a is F,

where <a is F> is apt for *truth as correspondence*.

　　Analogous routes are available in domains where <a is F> is apt for an anti-realist truth property. Here we only consider a representative case where <a is F> is apt for *truth as warranted assertibility*:

> (T_{war}) <a is F> is $true_{war}$ if and only if it is warrantedly assertible that a is F.[30]

Under the assertibility-conditional semantics, sentences with the form 'a is F' and sentences with the form 'it is warrantedly assertible that a is F' have same assertibility conditions and thus should have same meanings.[31] Thus, instances of (ACS) should be platitudes under the assertibility-conditional semantics:

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[26] See Edwards (2018, p. 89) for this observation. Here I use 'denotation' and 'reference' interchangeably.
[27] See Tarski (1944).
[28] (T_{corr}) is adopted by object-based correspondence theorists like Field (1972) and Glanzberg (2015). See Lynch (2009, pp.23-4) for this characterization.
[29] See Tebben (2015, p.3). Cf. Lynch (2009, p.138).
[30] This definition of truth is standardly attributed to Dewey (1941).
[31] Wright (2012, p.253) has made this observation.

(ACS) a is F if and only if it is warranted assertible that a is F.

Instances of (T_{war}) and (ACS), as platitudes, are necessary and a priori truths. And since (T_{war}) and (ACS) share their right sides, we can replace the right side of (T_{war}) with the left side of (ACS) to derive every (non-paradoxical) instance of (ES-Atomic*-War):

(ES-Atomic*-War) <a is F> is $true_{war}$ if and only if a is F,

where 'a is F' is substituted by sentences that are apt for *truth as warranted assertibility*.

The two representative cases we have considered suggest that it is not implausible to assume that for any proposition with the form <a is F>, we can match the truth property of it with its semantics. It seems that for any truth property P that pertains to some propositions with the form <a is F>, we can provide it with a P-conditional semantics. The intimate relation between them is characterized by this schema:

(T-S) <a is F> is $true_P$ if and only if a is F,

where 'a is F' is substituted by sentences that have P-conditional semantics.

Thus, if the strong pluralist can provide a domain-specific truth property for each proposition with the form <a is F>, then she can combine domain-specific versions of (T-S) (e.g., (ES-Atomic*- Corr) and (ES-Atomic*-War)) to derive every (non-paradoxical) instance of (ES-Atomic*)

(ES-Atomic*) <a is F> is true if and only if a is F,

where every (non-paradoxical) atomic proposition with the form <a is F> is included. The above story can be easily extended to cover all (non-paradoxical) instances of (ES-Atomic):

(ES-Atomic) <$P^n(c_1 \ldots c_n)$> is true if and only if $P^n(c_1 \ldots c_n)$,

where 'P^n' is an n-place predicate and 'c_i' is a name. Since every (non-paradoxical) atomic instance of (ES) <p> *is true if and only if p* can be translated to an instance of (ES-Atomic), the

strong pluralist can derive every (non-paradoxical) atomic instance of (ES) given that she can provide a domain-specific truth property for each (non-paradoxical) atomic proposition.

Some may worry that it is difficult (if not impossible) for strong pluralists to provide *every* atomic proposition with a domain-specific truth property. Notably, *the problem of mixed atomics*[32] in the literature elaborates on that difficulty by drawing our attention to *mixed* atomic propositions – propositions that contain concepts of different kinds and thus do not obviously belong to a unique domain. For instance, the proposition <Felix is cute> (where 'Felix' is a proper name for a cat) has both the *physical* concept **Felix** and the *aesthetic* concept **cute** in its content. It is thus difficult for truth pluralists to say which domain the proposition belongs to: the physical domain, or the aesthetic domain, or both, or neither? Insofar as (domain-based) truth pluralists take the domain-specific truth property of <Felix is cute> to be (partly) determined by the domain it belongs to, it is difficult for them to say which truth property the proposition is apt for, even in a schematic way.

If, as I have (inductively) argued, there is a one-one correspondence between a truth property and a semantic account for atomic propositions, then there is a natural way for strong pluralists to overcome the difficulty: Strong pluralists can find the truth property of any atomic proposition <p> by investigating which semantic account governs <p>. Here is a rough and schematic proposal to discern which semantic account governs the atomic proposition <a is F>:

(1) Assume <a is F> has representational semantics.

(2) Deny the assumption (1) and adopt a non-representational semantic account iff the following statements are not *all* true:

(i) 'a' denotes the object a *and* the denotation relation can be naturalistically explained.

(ii) 'F' denotes the property F *and* the denotation relation can be naturalistically explained.

(iii) When a is F, the object a has the property F.[33]

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[32] See Sher (2005), David (2009) (2013), Wyatt (2013), Stewart (2016), and Gamester (2022) for relevant discussions.

[33] (2) is justified by the fact that <a is F> has representational semantics iff (TCS) holds for <a is F>. See (TCS) in p.14.

(3) The exact non-representational semantics of <a is F> is determined by further, more detailed criteria, which are related to specific features of relevant non-representational semantic accounts.[34]

The above procedure can be readily extended to cover every atomic proposition, that is, every proposition with the form $<P^n(c_1 \ldots c_n)>$. If the proposal (or something along the line) works, then strong pluralists can provide *every* atomic proposition with a domain-specific truth property that corresponds to its semantics. *The problem of mixed atomics*, as a special case of the difficulty, can thus be solved. For instance, presumably, the proposition <Felix is cute> is apt for a unique "anti-realist" truth property, because presumably the denotation relation (if there is any) between 'cute' and *cuteness* cannot be naturalistically explained (e.g., by an extended causal theory of reference), which renders the proposition apt for a non-representational semantic account.

Note that this solution is not necessarily in tension with the domain-based approach of truth pluralism. Instead of abandoning the notion of *domain*, one may take the solution as a revolutionary way to pin down the notion of domain: domain is semantically individuated, that is, two atomic propositions are in the same domain iff they are apt for the same semantic account. Under this semantic conception of domain, we may still say that the truth property of an (atomic) proposition is (partly) determined by the domain it is in, that is, by the semantic account that governs it.

4.2 How the strong pluralist can derive non-atomic instances of (ES)

A non-atomic instance of the (ES) *<p> is true iff p* is an instance in which the <p> is a non-atomic proposition. In this subsection, I help the strong pluralist derive every (non- paradoxical) non-atomic instance of (ES).

Again, we aim to make a match between the truth property of <p> and the semantics of 'p' for every (non-paradoxical) non-atomic instance of (ES). But difficulties arise when the <p> is *mixed* – when its parts are apt for different truth properties. Consider the following (assumed) mixed conjunction instance:

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[34] Wyatt (2013) proposes an analogous proposal to determine the truth property of an atomic proposition.

(ES-MC1) <snow is white and chocolate is tasty> is true if and only if snow is white and

chocolate is tasty.

In the conjunction, <snow is white> is assumed to be apt for *truth as correspondence*, while <chocolate is tasty> is assumed to be apt for *truth as warranted assertibility*. Previously, we have taken sentences like 'snow is white' to have representational semantics and sentences like 'chocolate is tasty' to have assertibility-conditional semantics. The sentence 'snow is white and chocolate is tasty', then, would have a *mixed* semantic content: its former part has representational semantics while its latter part has assertibility-conditional semantics. But we cannot match any substantive truth property with a mixed semantic content. Whatever the purported substantive truth property P is, it will conflict with the part of the content that does not have P-conditional semantics.

Thus, the only way for the strong pluralist to make (ES-MC1) necessarily true a priori is to concede that the truth predicate in (ES-MC1) is metaphysically deflationary – it does not denote any substantive truth property. Instead, it is merely used by people to *assert* that proposition. The truth predicate in (ES-MC1), *qua* an expressive device, makes (ES-MC1) necessarily true a priori as minimalists have suggested. This solution applies to every non-atomic instance of (ES) in which the <p> has mixed semantics. Since (as I have shown in **§4.1**) there is a one-one correspondence between truth property and semantics for any atomic proposition, <p> has mixed semantics whenever <p> is mixed (i.e., the atomic constituents of <p> are apt for different truth properties). Thus, the strong pluralist can only derive mixed non-atomic instances of (ES) by conceding that the truth predicate attached to a mixed non-atomic proposition is merely an expressive device. The conclusion justifies my answer in **§3** that mixed compounds are not apt for any substantive truth property.[35]

We still have a case to consider -- the case where the non-atomic instances are pure (i.e., not mixed). Unlike the mixed instances case, there seems to be a match between the truth property of

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[35] It also largely justifies my previous suggestion that the strong pluralist should take the truth predicate in truth-involving universal statements to be deflationary. Under strong pluralism, a large number of truth-involving universal statements (e.g., <everything Socrates asserted is true>) have their instances apt for different semantic accounts. Since no substantive truth predicate can apply to all those instances with different kinds of semantics, the truth predicate in the relevant universal statements can only be deflationary.

<p> and the semantics of 'p' in each (non-paradoxical) pure instance. Consider the following assumed pure disjunctive instance of (ES):

(ES-PD1) <snow is white or sky is blue> is true if and only if snow is white or sky is blue.

Both <snow is white> and <sky is blue> are assumed to be apt for *truth as correspondence*. It seems that the sentence 'snow is white or sky is blue' has a wholly representational semantics, and thus the proposition <snow is white or sky is blue> is apt for *truth as correspondence*.

But it will be too hasty to conclude that the truth predicate in (ES-PD1) denotes *correspondence*. The truth predicate cannot denote *correspondence* if the disjunctive fact that *snow is white or sky is blue* does not exist when the proposition <snow is white or sky is blue> is true. The above lesson applies to all the pure non-atomic instances of (ES) in which the proposition <p> has representational semantics but can be true without the existence of the fact that *p*. Again, I argue that in those instances, the truth predicate there is merely an expressive device playing the role as it does in mixed non-atomic instances.

The upshot is that strong pluralists can derive every (non- paradoxical) pure non-atomic instance of (ES) *either* in the way of deriving atomic instances of (ES) *or* in the way of deriving mixed non-atomic instances of (ES).

4.3 Summary

To sum up, I have proposed that the strong pluralist can derive every (non-paradoxical) instance of (ES) *<p> is true if and only if p* either by providing the <p> a substantive truth property that matches the semantics of 'p', or by conceding that the truth predicate in that instance is merely an expressive device.[36]

§5 Can my strong pluralism be compatible with truth-conditional semantics?

One may worry that my proposal of deriving instances of (ES) commits strong pluralism to a form of *semantic pluralism*: there is more than one semantic account regulating the semantics of declarative sentences. Since semantic pluralism typically has difficulty in explaining the

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[36] I have not been explicit in the treatment of the instances where the <p> is an existential/universal proposition. The crux is to identify whether such a proposition is mixed. A universally applicable strategy is to consider the infinite disjunction/conjunction that is materially equivalent to the <p>: <p> is mixed whenever the infinite disjunction/conjunction is mixed. Once we know whether <p> is mixed, we can apply my proposal as usual.

compositionality of natural languages,[37] strong pluralism, under my proposal, will inherit that difficulty and thus be unfavorable.[38]

Call it semantic pluralism or not, I argue that the semantic theory entailed by my proposal can embrace the formal machinery of (Davidsonian) truth-theoretic semantics and thus render the semantics of natural languages compositional. To illustrate my argument, first consider a simple fragment of English (call it L) and its recursive truth theory T_L[39]:

1. L contains two names 'Cathy' and '0', two one-place predicates 'is beautiful' and 'is a number', and two connectives 'not' and 'or'.[40]

2. The following clauses in T_L recursively define the predicate 'T in L':

(1) For any name n of L and objects o, n **refers in L** to o iff $n = $ 'Cathy' and $o = $ Cathy, or $n = $ '0' and $o = 0$.

(2) For any predicate P of L and objects o, P **applies in L** to o iff P = 'is beautiful' and o is beautiful, or P = 'is a number' and o is a number.

(3) For any name n of L and predicate P of L, $n ⌒ $P is **T in L** iff there is an object o such that n refers in L to o and P applies in L to o.

(4) For any sentence A in L, 'not'$⌒$A is **T in L** iff A is not T in L.

(5) For any sentence A and sentence B in L, A$⌒$ 'or' $⌒$B is **T in L** iff A is T in L or B is T in L.

(3)-(5) recursively define the predicate 'T in L' in terms of *reference* and *predicate application*, which are further defined by (1) and (2), respectively. Given several appropriately chosen inference rules, we can derive every instance of the following schema from (1)-(5):

(T) S is T in L iff p.

where 'S' is substituted by a structural description of a sentence ϕ in L (e.g., 'Cathy' $⌒$ 'is beautiful') and 'p' is substituted by a sentence φ in the metalanguage that translates ϕ (if the

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[37] Such difficulty has been noted by Dummett (1973, pp.360-1) and Schroeder (2008, pp.90-1). But see Podlaskowski (2018)'s proposal to ease the difficulty.

[38] Thanks to an anonymous referee for raising this concern.

[39] The following presentation of L and T_L is adapted from Soames (1984, p. 403) and Lepore&Ludwig (2005, pp.43-44).

[40] To simplify the presentation, I do not include quantifiers into L and thus avoid introducing variables and the satisfaction relation.

metalanguage contains L, as in our case, then ϕ and φ are the same sentence). As observed by Davidson, (T) is exactly the criteria of adequacy (the Convention T) posed by Tarski for a *truth* theory, in which the defined predicate applies to all and only *true* sentences.[41] Thus, we may interpret 'T in L' as the *truth* predicate for L. Further, since p translates S, we can replace (T) with (M) *salva veritate*:

> (M) S means in L that p.

With a prior understanding of the metalanguage, we can understand the meaning of every sentence in L by deriving every instance of (M). It is in this sense that the truth theory for L can be treated as a (compositional) semantic theory for L. Hence the name *truth-theoretic semantics* (it is more often being called *truth-conditional semantics*, though).[42]

Many philosophers have argued that the recursive truth theory invoked in a truth-theoretic semantic theory poses no substantial constraint on the notion(s) of truth expressed by the recursively defined truth predicate, except that the notion(s) of truth should meet the Convention T (or its analogue if the language has contextual-sensitive terms).[43] I tend to agree. For my purpose, I aim to show that the "semantic pluralism" entailed by my proposal, along with the strong pluralism I defend, is compatible with truth theories like T_L that give truth-theoretic semantics to (fragments of) natural languages.

If my proposal threatens the compatibility at all, it is (ultimately) through the following two distinctive commitments:

> (A) Some atomic sentences have non-representational semantics.

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[41] See Davidson (1984[1967]), and Tarski (1983, pp.187-8)

[42] In his later writings (e.g., Davidson (1984, introduction) (1990, ft.20)), Davidson changed his view and thought that we *cannot* simultaneously define truth in Tarski's way and use the definition to provide compositional semantics to a natural language. He thought that the concept of truth must be treated as *primitive* in the truth theory, such that by laying out the structure of the truth theory we can give a compositional meaning theory as wanted. Whether truth-theoretic semantics requires the truth concept to be primitive needs not concern us here, for nothing I have argued in this paper requires strong pluralists to reject primitivism of truth concept. Pluralists of truth property are free to hold primitivism of truth concept if needed, and arguably many have already done so (what I have in mind is the platitude-based approach in truth pluralisms, see Wright (1992) and Lynch (2009)).

[43] See Kölbel (2002, Ch.5), Lepore&Ludwig (2005, p.54), and Lynch (2008, p.144). Williams (1999), Dodd (2013, p.317) and Lasersohn (2016, p.3) also expressed similar points. Indeed, Kölbel (2002) and Lasersohn (2016) have strived to develop truth-theoretic semantics that can be compatible with a version of truth pluralism, which includes a relativized notion of truth.

(B) Some complex sentences are apt for a deflationary truth property.[44]

To better illustrate the potential threats from (A) and (B), consider the language L again and assume:

(a) The sentence 'Cathy is beautiful' is true in virtue of being assertible and thus apt for assertibility-conditional semantics.

(b) Every complex sentence χ in L is apt for a deflationary truth property.

Only clause (3) seems to be incompatible with (a). The relevant instance of (3) is:

(3-a) 'Cathy is beautiful' is T in L iff there is an object o such that 'Cathy' *refers in L* to o and 'is beautiful' *applies in L* to o.

By (a), 'Cathy is beautiful' is assertible iff Cathy is beautiful. By (T), 'Cathy is beautiful' is T in L iff Cathy is beautiful. Thus, we can substitute 'T in L' in (3-a) with 'assertible' and have:

(X) 'Cathy is beautiful' is assertible iff there is an object o such that 'Cathy' *refers in L* to o and 'is beautiful' *applies in L* to o.

One may have the impression that (X) is false, as the notion of *assertibility* and notions of *reference* and *predicate application* are obviously in tension. But notice that by clause (1) 'Cathy' *refers in L* to o iff o = Cathy; by clause (2) 'is beautiful' *applies in L* to o iff o is beautiful. Thus, we can use (Y) to eliminate 'refer in L' and 'apply in L' in (X):

(Y) There is an object o such that 'Cathy' *refers in L* to o and 'is beautiful' *applies in L* to o iff Cathy is beautiful.

So accepting (X) turns out to be nothing more than accepting (Z):

(Z) 'Cathy is beautiful' is assertible iff Cathy is beautiful.

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[44] Some may worry that another commitment of my proposal, namely some complex sentences have "mixed semantics" also threatens the compatibility, perhaps in a more straightforward way. This worry will be dispelled once the potential threats from (A) and (B) are eliminated.

(Z), of course, is happily accepted by strong pluralists. Analogous stories hold for other atomic sentences that are apt for anti-realist truth properties and thus have non-representational semantics. As for complex sentences that have "mixed" semantics, the only extra step is to first apply clause (4) and/or (5) to the sentences in question such that they are broken down into atomic sentences, and the remaining steps are familiar.

The threat is not dispelled without any cost, though. To make sense of (X), we cannot take both *reference* and *predicate application* in (X) to be substantive word-world relations whose obtaining conditions are independent of the assertibility condition of 'Cathy is beautiful'. Presumably, whether 'is beautiful' applies to Cathy depends on whether 'Cathy is beautiful' is assertible. As for cases like '0 is a number' (assume the sentence is true by being assertible), it is the *reference* relation that is dependent on assertibility: whether '0' in that sentence refers to 0 depends on whether '0 is a number' is assertible.

The general lesson is that, the strong pluralist under my proposal should opt for a pluralism of *reference* and *predicate application*: for sentences apt for *truth as correspondence* and thus have representational semantics, *reference* and *predicate application* are explained in a realist fashion (e.g., by the causal theory of reference); for sentences apt for anti-realist truth properties and thus have anti-representational semantics, *reference* and *predicate application* are explained in an anti-realist fashion (e.g., explained in terms of assertibility). We may call this stance *metasemantic pluralism*.[45]

Now we turn to the threat caused by (b). In the literature, there are two main lines of arguments against the compatibility between deflationism and truth-theoretic semantics. The first kind of arguments contends that truth-theoretic semantics requires the concept of truth to play *explanatory* roles, of which a deflationary conception of truth cannot do;[46] the second kind of arguments complains about the suggested mechanisms by which truth can play *expressive* roles in truth-theoretic semantics, taking them to be incompatible with some features of truth-theoretic semantics.[47]

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[45] The metasemantic pluralism presented here resembles Lynch(2008, p.147-8)'s functionalist treatment to denotation. Lynch thinks denotation explains truth in representational domains (where truth is correspondence), while truth explains denotation in non-representational domains (where truth is an anti-realist property).
[46] See Dummett (1959), Davidson (1990), and Horwich (1998) for examples. And see Horisk (2008) for a comprehensive literature review.
[47] See Horisk (2007).

For both kinds of arguments, the strong pluralism under my proposal has a better prospect of resisting the arguments compared to any full-fledged deflationism. Since my strong pluralism is not committed to *conceptual* deflationism, it can take an inflationary conception of truth and thus allow the truth concept to play explanatory roles in truth-theoretic semantics. So the first kind of arguments is *not* against my strong pluralism. As for the second kind, though my strong pluralism does assume that the truth predicate plays expressive roles for complex sentences, it does not commit to any particular mechanism behind the expressive functions of truth as any particular deflationism does. So my strong pluralism can adopt the mechanism that has the best chance of being compatible with truth-theoretic semantics, which may not be any one of the mechanisms proposed by extant deflationisms.

To wrap up, if my argument works, then the "semantic pluralism" entailed by my proposal is not obviously incompatible with truth-theoretic semantics. The compatibility hinges upon (i) metasemantic pluralism, and (ii) whether the mechanism by which truth plays its expressive roles is compatible with truth-theoretic semantics.

§6 Does the quasi-deflationary solution undermine strong pluralism?

Many truth pluralists think that one major advantage of truth pluralism over deflationism is that under truth pluralism we can use truth to explain success of actions, norms of beliefs, etc.[48] But since strong pluralists now take the truth property of some non-atomic propositions to be deflationary, it seems that truth can no longer play the expected explanatory roles in cases where the truth of those non-atomic propositions contributes to the explanations. And this change seems to be a big loss for strong pluralism.

I admit that there may be some loss if truth pluralism really has this kind of advantage over deflationism. But the loss has been exaggerated. For any explanation that (partly) appeals to the deflationary truth of a non-atomic proposition, the strong pluralist can outsource the explanatory job to its atomic constituents if the non-atomic proposition in question is truth-functional. For example, suppose Charles wants to find his hammer, which could be either in the basement or the bedroom. He then finds the hammer in one of the two places. To explain the fact that *Charles successfully gets the hammer in one of the two places*, one may appeal to his true belief that *the*

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[48] See Lynch (2009, pp.111-4) and Gamester (2018) for examples.

hammer is either in the basement or in the bedroom. It is said that Charles's success is to be explained by the disjunction <the hammer is either in the basement or in the bedroom>'s having its substantive truth property. But even if under strong pluralism this disjunction can only be true in a deflationary way, the strong pluralist can outsource the explanatory job to one disjunct's having its substantive truth property, which necessitates the disjunction's being true. Such explanatory outsourcing can be generalized to every non-atomic proposition whose truth value is determined by the truth values of its atomic parts. For those non-atomic propositions, we can always outsource the expected explanatory role played by their being true/false to their atomic parts' being true/false. Thus, truth can do the explanatory jobs equally well so long as the non-atomic propositions in question are truth-functional.

§7. Conclusion

In this paper, I have argued that to make sense of some truth-involving universal statements (e.g., 'every truth is true', and (V)), strong pluralists are *motivated* to concede that the truth predicate in every truth-involving universal statement is metaphysically deflationary. By making this concession, strong pluralists can use my quasi-deflationary solution to (partially) solve the problem of mixed inferences (PI). To further solve the problem of mixed compounds (PC) – a special case of PI – strong pluralists are *required* to further take mixed compounds to be apt for deflationary truth property.

The quasi-deflationary solution, contrary to several proposals in the literature that attempt to solve PI and/or PC for strong pluralism, does not require strong pluralists to embrace non-classical logics.[49] That said, there are two notable ramifications of the quasi-deflationary solution. First, it requires strong pluralism to include a metaphysically deflationary truth predicate into the framework, which leads to a non-standard version of strong pluralism. But this consequence should not be taken as a major drawback for my solution, since (i) the strong pluralist is forced to include a deflationary truth predicate anyway (as I have shown in §2 & §3.2) and (ii) the resulting strong pluralism can avoid several major criticisms to full-fledged deflationism (as I have shown in §3.2, §5, and §6). Second, it suggests that the viability of strong

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[49] See Beall (2000); Pedersen (2006); Cotnoir (2013); Ferrari, Moruzzi, and Pederson (2020) for other proposals.

pluralism very much hinges upon whether there are multiple semantic accounts (though all can be under the heading of truth-theoretic semantics) regulating the semantics of atomic sentences.

The prospect of strong pluralism is not yet clear, but I hope I have shown that the two pressing problems discussed in this paper do not pose any formidable challenge to strong pluralism as many have believed.

Disclosure statement

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References

Armour-Garb, B. 2010. "Horwichian Minimalism and the Generalization Problem." *Analysis* 70(4): 693-703.

Armour-Garb, B., Stoljar, D., and Woodbridge, J., "Deflationism About Truth", The Stanford Encyclopedia of Philosophy (Summer 2022 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/sum2022/entries/truth-deflationary/>.

Asay, J. 2013. *The Primitivist Theory of Truth*. Cambridge University Press.

Beall, J. C. 2000. "On mixed inferences and pluralism about truth predicates." *The Philosophical Quarterly* 50(200): 380-382.

Cook, R. T. 2011. "Alethic Pluralism, Generic Truth and Mixed Conjunctions." *The Philosophical Quarterly* 61(244): 624-629.

Cotnoir, A. J. 2013. "Validity for Strong Pluralists." *Philosophy and Phenomenological Research* 86(3): 563-579.

David, M. 2009. "The Correspondence Theory of Truth." Stanford Encyclopedia of Philosophy. http://plato.stanford.edu/entries/truth-correspondence.

Davidson, D. 1984. "Truth and Meaning". *Engagements Across Philosophical Traditions*, 69.

Davidson, D. 1990. "The Structure and Content of Truth." *The Journal of Philosophy* 87(6): 279-328.

Dewey, J. 1941. "Propositions, Warranted Assertibility, and Truth." *The Journal of Philosophy* 38(7): 169-186.

Dummett, M. 1959: "Truth." *Proceedings of the Aristotelian Society* 59: 141-- 162. Page references to a reprint in Dummett, M. 1978. *Truth and Other Enigmas*. Cambridge, MA: Harvard University Press.

Dummett, M. 1973: *Frege: Philosophy of Language*, New York: Harper and Row.

Edwards, D. 2018. *The Metaphysics of Truth.* Oxford University Press.

Ferrari, F., Moruzzi, S., Pedersen, N. J. L. L., Wyatt, J., Kim, J., Lynch, M. P., & Kellen, N. 2020. "Austere Truth Pluralism." In *The Nature of Truth: Classic and Contemporary Perspectives*. MIT Press, 2021.

Gamester, W. 2018. "Truth: Explanation, Success, and Coincidence." *Philosophical Studies* 175(5): 1243-1265.

Gamester, W.(forthcoming a). "Truth Pluralism without Domains." *Synthese.*

Gamester, W. (forthcoming b). "Nothing is True." *The Journal of Philosophy*.

Glanzberg, M. 2015. "Correspondence Theory of Truth." In *Meaning without Representation: Essays on Truth, Expression, Normativity, and Naturalism*, 81.

Gupta, A. 1993. "A Critique of Deflationism." *Philosophical Topics* 21(2): 57-81.

Horisk, C. 2007. "The Expressive Role of Truth in Truth-Conditional Semantics." *The Philosophical Quarterly* 57(229): 535-557.

Horisk, C. 2008. "Truth, Meaning, and Circularity." *Philosophical Studies* 137: 269-300.

Horwich, P. 1998. *Truth*. Clarendon Press.

Kim, S., & Pedersen, N. J. 2018. "Strong Truth Pluralism." In *Pluralisms in Truth and Logic* (pp. 107- 130). Palgrave Macmillan, Cham.

Kölbel, M. 2002. *Truth without objectivity*. Routledge.

Künne, W. 2003. *Conceptions of Truth*. Clarendon Press.

Lasersohn, P. 2016. *Subjectivity and Perspective in Truth-Theoretic Semantics* (Vol. 8). Oxford University Press.

Lepore, E., & Ludwig, K. 2005. *Donald Davidson: Meaning, Truth, Language, and Reality*. Clarendon Press.

Lynch, M. P . 2001. "A Functionalist Theory of Truth." In *The Nature of Truth: Classic and Contemporary Perspectives*: 723-750.

Lynch, M. 2004. "Truth and multiple realizability." *Australasian Journal of Philosophy* 82: 384–408.

Lynch, M. P. 2009. *Truth as One and Many*. Oxford: Oxford University Press.

Lynch, M. P. 2013. "Three questions for truth pluralism." In *Truth and Pluralism: Current Debates*. Oxford University Press.

Oms, S. 2019. "Conceivability, minimalism and the generalization problem." *Dialogue: Canadian Philosophical Review/Revue canadienne de philosophie* 58(2): 287-297.

Pedersen, N. J. L. 2006. "What can the Problem of Mixed Inferences Teach Us about Alethic Pluralism?" *The Monist* 89(1): 102-117.

Pedersen, N. J. L. L., & Wright, C. D. 2013. "Pluralism about Truth as Alethic Disjunctivism." In *Truth and Pluralism: Current Debates*. Oxford University Press.

Pedersen, N. J. L. L., & Wright, C. D. 2018. "Pluralist Theories of Truth." The Stanford Encyclopedia of Philosophy (Winter 2018 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/win2018/entries/truth-pluralist/>.

Podlaskowski, A. C. 2018. "Compositionality and the Prospect of a Pluralistic Semantic Theory." *Australasian Journal of Philosophy*.

Schindler, T., & Schlöder, J. J. 2022. "The Proper Formulation of the Minimalist Theory of Truth." *The Philosophical Quarterly* 72(3): 695-712.

Sher, G. 1998. "On the Possibility of a Substantive Theory of Truth." *Synthese* 117: 133–172.

Sher, G. 2005. "Functional pluralism." *Philosophical Books* 46: 311-30.

Sher, G. 2013. "Forms of Correspondence: The Intricate Route from Thought to Reality." In *Truth and Pluralism: Current Debates*. Oxford University Press.

Schroeder, Mark. 2008. *Being For: Evaluating the Semantic Program of Expressivism*. Oxford: Clarendon Press.

Soames, S. 1984. "What is a Theory of Truth?" *The Journal of Philosophy* 81(8): 411-429.

Soames, S. 1999. *Understanding Truth*. Oxford University Press on Demand.

Strollo, A. 2022. "Alethic Pluralism, Logical Validity, and Natural Truth." *Philosophia* 50(1): 269-284.

Tappolet, C. 1997. "Mixed Inferences: a Problem for Pluralism about Truth Predicates." *Analysis*: 57(3).

Tappolet, C. 2000. "Truth Pluralism and Many-Valued Logics: A Reply to Beall." *The Philosophical Quarterly* 50(200): 382–385.

Tarski, A. 1944. "The Semantic Conception of Truth: and the Foundations of Semantics." *Philosophy and phenomenological research* 4(3): 341-376.

Tarski, A. 1983 [1932]. "The Concept of Truth in Formalized Languages." In *Logic, Semantics, Metamathematics*, 2nd ed. Indianapolis: Hackett.

Williams, M. 1999. "Meaning and Deflationary Truth." *The Journal of Philosophy* 96(11): 545-564.

Williamson, T 1994. 'A Critical Study of 'Truth and Objectivity'.' *International Journal of Philosophical Studies* 30: 130-144.

Wright, C. 1992. *Truth and Objectivity*. Cambridge: Harvard University Press.

Wright, C. 2012. "Meaning and Assertibility: Some Reflections on Paolo Casalegno's 'The Problem of Non-conclusiveness'." *Dialectica* 66(2): 249-266.

Wright, C. 2013. "A Plurality of Pluralisms." In *Truth and Pluralism: Current Debates*. Oxford University Press.

Wyatt, J. 2013. "Domains, Plural Truth, and Mixed Atomic Propositions." *Philosophical Studies* 166(1): 225-236.