Transparent Disquotationalism

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1 Background

God could use only the T-free fragment of English to uniquely specify our world. We are unlike God in that respect; we need a device that enables us to overcome finite constraints in our effort to describe the world. That device is 'true' or, for clarity, 'dtrue', a device introduced via rules of intersubstitution: that $\mathsf{dT}\langle A\rangle$ and A are intersubstitutible in all (transparent) contexts.[1] The sole role of dtruth – the reason behind its introduction into the language – is to enable generalisations that, given our finite constraints, we couldn't otherwise express.

So goes a common metaphor that guides many deflationary theories of truth. What distinguishes deflationists from non-deflationists is that the former take dtruth to be fundamental: if there are other truth predicates in the language, they are derivative, deriving from 'dtrue' and other connectives. In a slogan: all that need be explained about truth is explicable in terms of dtruth (and other logical tools).

With Hartry Field [13] I embrace deflationism – indeed, disquotationalism – as a methodological stance. The basic argument for 'methodological deflationism' invokes Ockham: If, as it (so far) appears, our truth-talk can be explained (or, in some cases, explained away) in terms of dtruth, then we ought to recognise only dtruth and its derivatives; positing more than dtruth would be postulation without profit. Moreover, it is a sound methodological strategy, as Field notes, to pursue disquotationalism as far (and earnestly) as we can; for in doing so – and, plausibly, only in doing so – we will either see where it breaks down (where, e.g., more than mere dtruth is required) or we will see its vindication. Either way, we will learn the dtruth about truth.

*NB: this is a late version of what was published in Beall et al., eds., *Deflationism and Paradox* (Oxford: OUP, 2008). Please cite only that version. (Many of these ideas have been superseded by those in *Spandrels of Truth* (Oxford: OUP, 2009).) Note very well: the date on this paper is the date of compiling a cleaner version, and *not* the original date—which was closer to 2005 or so.

[1] Throughout, I will use 'dT' to represent our expressive device – 'is dtrue' – and the angle-brackets as some sort of naming-device (where appropriate). (For the most part, I let context settle use-mention.)

2 Semantic Paradox

The guiding metaphor, as above, has us introducing 'dtrue' not to name some property in the world but, rather, to enable generalisations about the world and its features. The simplest way to achieve such a device is as above: that, for any (declarative) sentence A, $\mathsf{dT}\langle A\rangle$ and A are intersubstitutible in all (transparent) contexts. But 'dtrue' is a predicate, and introducing it into the grammar of English yields spandrels, unintended by-products of the device. Some of those spandrels are paradoxical:

The first displayed sentence in §2 is not dtrue.

The task is to figure out what to do with such sentences.

I agree with Field [15] that the game is over if, in the face of such paradoxes, the fundamental intersubstitutivity of $\mathsf{dT}\langle A\rangle$ and A is abandoned. Another desideratum (also shared with Field) is the validity of the T-schema. Such desiderata are not jointly achievable in a classical framework. A non-classical route is needed.

Field's recent work – under the program of 'pure disquotationalism' – appears to achieve the given desiderata while retaining a *consistent* expressive device, a consistent dtruth theory.[2] While his work, by my lights, is the most promising approach within the constraints of a consistent dtruth-theory, I will not discuss Field's theory in this paper.[3] My aim in this paper is merely to sketch an alternative approach: 'transparent disquotationalism', a version of 'dialetheic deflationism' that achieves the (above) desiderata by accepting that dtruth is an inconsistent device (given via an inconsistent theory). I believe that transparent disquotationalism sits well with the guiding deflationary metaphor and, more importantly, appears to be simpler than Field's position. Whether I am right about those (alleged) virtues is for debate to tell. For present purposes, my aim is simply to sketch the basic position and answer a few objections.[4]

3 Gaps, Gluts, and 'Not's: A Basic Framework

With Field I agree that there are gaps in the language, that some (meaningful) sentences are 'indeterminate' – that neither language (its rules, etc) nor the world determines that such sentences are dtrue or dfalse. Semantic paradoxes themselves, I believe, give no good reason to think that there are gaps. Rather, the appearance of gaps arises from reflection on vagueness, non-denoting terms, and other such familiar phenomena.[5] For present purposes, I will not argue for gaps but, rather, recognise them as a logical option for sentences. Some

[2] See Field's Chs n and m of this volume, and references therein.

[3] See Priest's chapter for discussion.

[4] This is part of a larger (monograph) project, which takes up many of the philosophical and logical issues that, for space-considerations, are suppressed here.

[5] I am *not* suggesting that gaps are *forced* upon us by the pressures of rational reflection. I claim only that the appearance of gaps is an initially strong one, one that, by my lights, we have no pressing reason to reject.

sentences are such that they may (logically) be neither dtrue nor dfalse; they are 'gappy', neither the world nor language determining their dtruth.

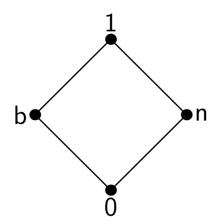
Recognising gaps calls for some account of how we can consistently express that A is gappy (assuming, as I do, that we can consistently express as much). For such purposes Field introduces a 'definitely' operator.[6] I prefer to recognise a device that is already commonly recognised – exclusion negation (or pseudo-exclusion, as I will explain below). When Agnes says that the king of France doesn't exist, presumably, Agnes is employing exclusion.[7] When Max says of a borderline sentence that it is not dtrue, presumably, Max is employing exclusion. And it does no harm to say the same about *'this sentence is dfalse' is not dtrue*: exclusion is at work.[8]

The idea, in short, is that dfalsity is dtruth of (let us say) choice-negation $\sim$, and to say that A is neither dtrue nor dfalse is to say something of the form $\neg(A \vee {\sim}A)$, where $\neg$ is exclusion.[9]

The apparent trouble with exclusion, of course, is that (due to paradoxical spandrels) it yields apparent gluts – sentences that are both dtrue and dfalse.[10] But since the current proposal allows for gluts, such apparent trouble is no trouble.

3.1 A Formal Picture: FDE*

The idea can be modelled using a four-valued language along the lines of Anderson and Belnap's FDE [1, 2].[11] Our semantic values $\mathcal{V} = \{1, \mathsf{b}, \mathsf{n}, 0\}$ are ordered thus:



Intuitively, 1 models sentences that are dtrue but not dfalse, 0 sentences that are dfalse but not dtrue, b sentences that are both dtrue and dfalse, and n sentences that are neither. The designated values $\mathcal{D}$ are 1 and b, the idea being that dtrue sentences are designated (even when they are also dfalse).

[6] See Field's work (and references therein) in this volume.

[7] I am not suggesting that that conclusion is forced upon us, but only that it is a natural go.

[8] Note that if we didn't recognise more than one negation, then the apparent distinction between 'simple' and 'strengthened' liar-sentences collapses in a deflationary framework – or, at least, in a pure/transparent disquotational framework.

[9] Exactly how to model these negations is taken up in §3.1.

[10] The terminology of 'gaps' and 'gluts' stems, I believe, from Kit Fine's work [16].

[11] The name 'FDE' is now common for the following framework; however, it is perhaps unfortunately so named, since there are various accounts of 'first degree entailment'. But I shall follow what now seems to be common practice.

Interpretations are functions ν from sentences into $\mathcal{V}$ such that $\nu(A \wedge B)$ and $\nu(A \vee B)$ are the glb and lub of $\nu(A)$ and $\nu(B)$, respectively.[12]

In FDE we have only (what I shall call) 'choice negation' $\sim$, which toggles 1 and 0 and is fixed at both b and n. We add another negation, pseudo-exclusion $\neg$, which toggles 1 and 0, is fixed at b, but takes n (gaps) to 1. The result is (what I shall call) FDE*.[13] Accordingly, FDE*-interpretations 'obey' the following diagrams with respect to negation:

$\sim$	A
1	0
n	n
b	b
0	1

$\neg$	A
1	0
1	n
b	b
0	1

Notice that dfalsity, following standard thinking, remains dtruth of negation – dtruth of *choice* negation, as opposed to pseudo-exclusion (henceforth, exclusion).

A *model* of A is an FDE*-interpretation that designates A, that is, an interpretation ν such that $\nu(A) \in \mathcal{D}$. And a model of $\Gamma = \{A_1, \ldots, A_n\}$ is a model of A_i, for each $1 \leqslant i \leqslant n$.

Consequence $\Vdash$ is defined thus: $\Gamma \Vdash A$ iff every model of Γ is a model of A. Valid sentences are consequences of $\emptyset$.

3.2 Remarks

As expected, excluded middle fails for choice negation but holds for exclusion: $\nVdash A \vee {\sim}A$ but $\Vdash A \vee \neg A$. Moreover, both negations exhibit standard double-negation behaviour, at least in terms of 'inferences'. For example: $A \dashv\Vdash {\sim}{\sim}A$ and $A \dashv\Vdash \neg\neg A$.[14]

Standard de Morgan laws hold for choice: ${\sim}(A \vee B)$ is equivalent to ${\sim}A \wedge {\sim}B$ (and similarly for the other laws). But exclusion is different; de Morgan laws will generally hold in one direction but not both. Of particular importance – given the role of exclusion in the notion of 'gaps' – is that we have

$$\neg(A \vee B) \Vdash \neg A \wedge \neg B$$

but we do not have equivalence; in fact,

$$\neg A \wedge \neg B \nVdash \neg(A \vee B)$$

[12]For present purposes I lay out the propositional semantics; the predicate extension – including the resulting dtruth-theory – is straightforward. For general options see Priest [28].

[13]This is not the best name, as it might suggest an approach to FDE using the Routely star, but I trust that no confusion will ensue.

[14]Note, however, that in the double-exclusion case, this is only bi-consequence, not equivalence in the strong sense of 'same value' (which does hold in the choice case). What we have in the exclusion case is co-designation: A and $\neg\neg A$ are both designated or both undesignated on any $FDE^\star$-interpretation.

A counterexample: $\nu(A) = \mathsf{n}$ and $\nu(B) = \mathsf{b}$. In that case, $\nu(\neg A) = 1$ and $\nu(\neg B) = \mathsf{b}$, and so $\nu(\neg A \wedge \neg B) = \mathsf{b}$. But, then, $\nu(A \vee B) = 1$, and so $\nu(\neg(A \vee B)) = 0$.[15]

Is the 'non-standard' behaviour of exclusion – failure of some de Morgan principles – a problem? I see no reason to think as much, in general. Presumably, choice is our 'default' negation; we employ exclusion when we need to talk about failures of choice. Our 'intuitions' about de Morgan, in turn, are presumably based on choice – or, at least, based on 'normal cases', 'determinate cases', and so on. That some such (de Morgan) principles should fail for exclusion seems, as said, not to be a problem, in general.

On the other hand, one might worry that such de Morgan 'failures' pose a problem for the role of exclusion in the notion of gaps. Gappy sentences, I've said, are neither dtrue nor dfalse. But that, one would think, ought to be *equivalent* to saying that such sentences are (exclusion-) not dtrue and (exclusion-) not dfalse. The worry is that such equivalence fails, given that, as above, $\neg(A \vee B)$ and $\neg A \wedge \neg B$ aren't equivalent, in general.

Fortunately, the worry isn't serious: $\neg(A \vee B)$ and $\neg A \wedge \neg B$ *are* equivalent in the special case where B is $\sim A$, which is precisely the case involved in saying that A is neither dtrue nor dfalse. Accordingly, the general failure of de Morgan (for exclusion) seems not to be a particular problem for the notion of gaps.

One advantage of the two negations is that they may be combined to yield a stronger notion of truth, one that Dummett [12] highlighted in an argument (from gaps) against deflationism. Dummett pointed out that if A is gappy then calling A 'true' appears to be false. But, then, since dtruth requires that $\mathsf{dT}\langle A\rangle$ and A be equivalent, gaps thereby seem to undermine dtruth. But that is the wrong lesson to draw. What Dummett's argument shows is that there is a stronger notion of truth than dtruth – one according to which an ascription of 'truth' to A is false if A is gappy. Such a notion is definable in terms of our two negations and dtruth [7]. In particular, define our 'robustly true' predicate rT thus: $\mathsf{rT}\langle A\rangle$ iff $\mathsf{dT}\langle \sim\neg A\rangle$.[16]

It is also worth noting that the law of non-contradiction, in the form

$$\neg(A \wedge \neg A)$$

or, equivalently (given dtruth),

$$\neg\left(\mathsf{dT}\langle A\rangle \wedge \neg \mathsf{dT}\langle A\rangle\right)$$

holds for exclusion,[17] even though it is logically possible – and, indeed, according to transparent disquotationalism, actual – that some sentence A is such that $\mathsf{dT}\langle A\rangle \wedge \neg \mathsf{dT}\langle A\rangle$ is dtrue. A 'transparent disquotationalist' takes Liar-sentences

[15] The given 'inference' holds if our values are linearly ordered thus: $1 \succ \mathsf{b} \succ \mathsf{n} \succ 0$. But in that case, de Morgan will break down for choice.

[16] Note that Field [14] makes the same response to Dummett in terms of his 'definitely' operator. As above, I think that recognising exclusion is more natural (and ultimately simpler) than Field's 'definitely', but debate will tell.

[17] Of course, non-contradiction doesn't hold for choice, as there are no valid choice-negations.

not to undermine the dtruth of non-contradiction; such sentences indicate only that the law (so given) is also dfalse.

4 A Suitable Conditional

Most theories of dtruth emphasise the importance of the T-schema (or 'dtrue'-schema). I also take the T-schema seriously, but its status is derivative: If we have a conditional $\looparrowright$ that satisfies Identity (i.e., $\Vdash A \looparrowright A$), then the T-schema falls out of the fundamental intersubstitutivity of $\mathsf{dT}\langle A\rangle$ and A. One desideratum, then, is that our conditional satisfy Identity. Another desideratum is that it detaches – that some suitable version of Modus Ponens holds.[18]

Beyond such basic desiderata (e.g., Identity, Detachment), which, presumably, are desiderata common to most disquotational theories, other issues emerge for the current (paraconsistent) proposal. If, as I propose, we simply accept that our expressive device is inconsistent (that there are 'dtrue'-ful gluts), we need to rethink contraction-principles and contraposition.[19]

Contraction. Consider common versions of contraction (where $\looparrowright$ is some detachable conditional):

- $A \wedge (A \looparrowright B) \looparrowright B$
- $(A \looparrowright (A \looparrowright B)) \looparrowright (A \looparrowright B)$
- $A \looparrowright (A \looparrowright B) \Vdash A \looparrowright B$

Such principles give rise to triviality (everything being dtrue) in virtue of Curry's paradox [4, 11, 21, 22]. Spandrels such as 'If this sentence is dtrue, then every sentence is dtrue' pose a problem if the given conditional detaches, satisfies Identity (yielding the T-schema), and also contracts. For example, where dT is our expressive device (dtruth predicate), let C be of the form $\mathsf{dT}\langle C\rangle \looparrowright \bot$, where $\bot$ is an explosive sentence (like 'everything is true'), and $\looparrowright$ satisfies both Identity and Modus Ponens. Then explosive Curry is cooked thus:

$$\begin{array}{cl}
\underline{\mathsf{dT}\langle C\rangle \looparrowright (\mathsf{dT}\langle C\rangle \looparrowright \bot)} & \cdot \text{ T-schema (Simplification)} \\
\underline{\mathsf{dT}\langle C\rangle \looparrowright \bot} & \cdot \text{ Contraction for } \looparrowright \\
\underline{(\mathsf{dT}\langle C\rangle \looparrowright \bot) \looparrowright \mathsf{dT}\langle C\rangle} & \cdot \text{ T-schema (Simplification)} \\
\underline{dT\,\langle C\rangle} & \cdot \text{ Modus Ponens for } \looparrowright \\
\bot & \cdot \text{ Modus Ponens for } \looparrowright
\end{array}$$

[18] We already have two 'material conditionals' deriving from disjunction and the two negations. One of those (viz., choice) will fail to satisfy Identity; the other (exclusion) will satisfy Identity, since it satisfies excluded middle. But neither 'conditional' is suitable since neither detaches in any respect. (Disjunctive Syllogism is invalid in FDE*.)

[19] Of course, as Field and others have noted, *everybody* ought to rethink contraction, but it is particularly pressing in a strong paraconsistent setting such as transparent disquotationalism.

The other contraction-principles similarly yield triviality. So, a suitable conditional needs to avoid such contraction.[20]

Contraposition, in the form

$$A \looparrowright B \vdash \dagger B \looparrowright \dagger A$$

(where $\dagger$ is a negation), seems to be motivated by the thought that gluts are logically impossible. Given such (alleged) impossibility, it stands to reason that if B is dfalse and $A \looparrowright B$ dtrue (where $\looparrowright$ is detachable) then A too is dfalse (or gappy, and so its exclusion-negation dtrue). But reason doesn't so stand if we take gluts seriously; after all, B itself may be both dtrue and dfalse.[21]

4.1 Proposal

For purposes of a conditional (not necessarily the only conditional in the language, or even a conditional expressing *entailment*), we expand the language along modal lines – invoking points of evaluation. Exactly how this is done is not pressing, for present purposes.[22] I will assume that our interpretations are now expanded so that each sentence A is given a value at each point x, the value being $\nu_x(A)$.

Our set of points $\mathcal{W}$ is the union of two sets, $\mathcal{N}$ (normal points) and $\mathcal{NN}$ (non-normal points),[23] with a distinguished element $@ \in \mathcal{N}$ (the actual point) and $\mathcal{N} \cap \mathcal{NN} = \emptyset$. In addition, $\mathcal{W}$ is ordered by a heredity relation $\sqsubseteq$, intuitively, $x \sqsubseteq y$ iff everything dtrue at x is dtrue at y.

Finally, interpretations come equipped with an 'arbitrary evaluator' γ the task of which is to assign values to $\rightarrow$-claims at non-normal points: γ takes claims of the form $A \rightarrow B$ and yields elements of $\mathcal{V}$ at non-normal points.

With the foregoing in hand, our conditional $\rightarrow$ is given as follows

- Where $x \in \mathcal{N}$:
  - $A \rightarrow B$ is dtrue at x iff for every $y \in \mathcal{W}$ such that $x \sqsubseteq y$, if A is dtrue at y then B is dtrue at y.
  - $A \rightarrow B$ is dfalse at x iff A is dtrue at x and B dfalse at x.
- Where $x \in \mathcal{NN}$:

[20] If there are other conditionals in the language (as there may well be), the language – expanded to the predicate level – must be 'robustly contraction-free', to use Restall's terminology [31]. For extensive discussion of contraction in paraconsistent settings, see Restall [32, 33].

[21] Moreover, triviality ensues if, for example, $\looparrowright$ contraposes and that all As are Bs entails the dtruth of $A \looparrowright B$.

[22] For common options consult any of Beall and van Fraassen [9], Chellas [10], Hughes and Cresswell [17], Priest [28, 30], Restall [33], or other texts that discuss intensional frameworks.

[23] Non-normal points were first invoked by Kripke [19] to model Lewis systems weaker than S4 (systems in which Necessitation fails). Routley and Meyer [35] and Routley and Loparic [34] invoked such points for purposes closer to the current project, as have Priest [24] and Mares [20]. I will briefly return to the philosophical import of non-normal points in §6.

- $\nu_x(A \to B) = \gamma(A \to B, x)$
- CONSTRAINT: If, for any $x \in \mathcal{NN}$, $\gamma(A \to B, x)$ and $\gamma(B \to A, x)$ are designated, then $\gamma(C(A) \to C(B), x)$ and $\gamma(C(B) \to C(A), x)$ are designated, for any context C.[24]

Consequence is now given in terms of 'dtruth-preservation' over all base points (of any interpretation). So long as there's no interpretation that designates all A_i at @ but fails to designate B at @, then $A_1, \ldots, A_n \Vdash B$. Similarly, valid sentences are those that are designated at all base points of all interpretations.

4.2 Virtues of the Conditional

The target desiderata are achieved:[25]

DETACHMENT: While we don't have *all-points detachment* ('dtruth-preservation' over all points), we do have it at all *base-points* (at @ for any given interpretation). To get a counterexample to

$$A, A \to B \Vdash B$$

we would need $\nu_@(A) \in \mathcal{D}$, $\nu_@(A \to B) \in \mathcal{D}$ and $\nu_@(B) \in \{\mathsf{n}, 0\}$. But if $\nu_@(A \to B) \in \mathcal{D}$, then there's no point y such that $@ \sqsubseteq y$ and $\nu_y(A) \in \mathcal{D}$ but $\nu_y(B) \in \{\mathsf{n}, 0\}$. Accordingly, Modus Ponens (at the 'actual world') holds.

IDENTITY: We have the validity of $A \to A$, and hence (in the full predicate extension) the T-schema, given the fundamental (intersubstitutivity) rules governing 'dtrue'.[26]

NO CONTRACTION: Counterexamples to the given contraction principles emerge in virtue of non-normal worlds. Consider, for example, a 2-point interpretation in which $\nu_@(A) = \mathsf{n} = \nu_@(B)$ and, where $w \in \mathcal{NN}$, $\nu_w(A) = \mathsf{b}$, $\nu_w(B) = \mathsf{n} = \gamma(A \to B, w)$, and, for all other $\to$-claims at w, let $\gamma(C \to D, w) = \mathsf{b}$.[27] Then

$$\nu_@(A \to B) = \mathsf{n} = \nu_@(A \to (A \to B))$$

[24] Without the constraint, substitutivity of equivalents, if it is expressed via $\to$, will easily fail. Some might think the constraint ad hoc, but I think it not so. All that we're doing is finding that (proper) subset of 'arbitrary evaluators' that respect what we take conditionals to do – viz., satisfy substitutivity of equivalents. (That said, an alternative approach that delivers such substitutivity without explicitly invoking a constraint such as above, is Priest's framework in [24]. For discussion of Priest's framework that equally applies to the current proposal, see Mares [20] – though note that Mares is concerned with 'relevant conditionals' and $\to$, as here given, is not relevant in the technical sense.)

[25] It is worth comparing the virtues of this conditional with Field's (see chs n and m). Both conditionals seem to yield target desiderata, the difference being that this one does it in an apparently simpler fashion and, pending further discussion, it's not implausible that this one – unlike Field's – models some genuine conditional in natural language (though I'm not yet prepared to press that point). But, as with other issues concerning the two positions, debate will tell. (And see §6 for some discussion.)

[26] But see §6 for further discussion.

[27] Letting γ assign b to all other $\to$-claims at w ensures heredity – i.e., $@ \sqsubseteq w$.

and, in turn, since $@ \sqsubseteq w$ and $\gamma(A \rightarrow (A \rightarrow B), w) = \mathsf{b}$,

$$\nu_@ ((A \rightarrow (A \rightarrow B)) \rightarrow (A \rightarrow B)) = \mathsf{n}$$

and hence $\nVdash (A \rightarrow (A \rightarrow B)) \rightarrow (A \rightarrow B)$. Similar models serve to invalidate the other contraction principles.

No Contraposition: We have two versions of contraposition, one for exclusion and one for choice. Each version fails. Consider, for example, a 2-point interpretation according to which $\nu_@(A) = 1 = \nu_@(B) = \nu_w(A)$ and $\nu_w(B) = \mathsf{b}$. In that case, $\nu_@(A \rightarrow B) = 1$ and, since w is a point such that $@ \sqsubseteq w$ and $\sim B$ is designated but $\sim A$ undesignated, $\nu_@(\sim B \rightarrow \sim A) = \mathsf{n}$. (Again, to ensure heredity, just let γ assign b to all the target conditionals.) Accordingly, we have

$$A \rightarrow B \nVdash \sim B \rightarrow \sim A$$

The same counterexample invalidates the exclusion-version of contraposition; hence, $A \rightarrow B \nVdash \neg B \rightarrow \neg A$.

Substitutivity of Equivalents: This is ensured via the constraint on 'arbitrary evaluators' γ. We have, for any context C, that $A \rightarrow B \Vdash C(A) \rightarrow C(B)$.

There are other virtues but, for present purposes, I briefly turn to the emerging philosophical picture.[28]

5 The Philosophical Picture: Transparent Disquotationalism

The philosophical picture is straightforward. Dtruth (or 'dtrue') is a device that we introduce solely for purposes of generalisations – generalisations that we couldn't otherwise express. The device is not introduced to name some important property or, in general, to generate 'new claims' about the world; it is introduced to be *transparent*, to 'reveal' claims that – given our finite situation – we couldn't otherwise express. But, of course, some 'new claims' are inevitable – those such that 'dtrue' cannot be eliminated via the fundamental rules of intersubstitutivity. Consider, for example, the first displayed sentence in §2. The (non-linguistic) world leaves the matter open, leaving the language (if anything) to settle the matter. The status of the first displayed sentence in §2 turns on whether 'not' is choice or exclusion. Transparent disquotationalism is open to various (logical) options. In the choice case, the given sentence is

[28] The proposed conditional is a variant of techniques used in 'relevant' literature; it arose from my failed attempts to enlist the services of a 'Melbourne restricted quantification' conditional [8], with which the current proposal has many common features. (I should also point out that I am tempted by a linear-ordering of $\mathcal{V}$, instead of the more standard ordering given here. There are various virtues of a linear-ordering, but also many oddities. For purposes of sketching the general position – transparent disquotationalism – I avoid discussion of the differences engendered by a linear-ordering.)

gappy; in the exclusion case, glutty. But there is no reason to squirm at either result. Our device is doing its work in a simple way.[29]

I should also make plain that there is no reason to recognise gluts beyond the 'merely semantic' fragment of the language. The 'dtrue'-free fragment, I believe, is glut-free.[30] The position is that our expressive device (dtruth), introduced into the grammatical environment of English (in which we have two different negations), earns its keep in a way that – incidentally (by way of 'spandrels') – renders it inconsistent at various 'fixed points' in the semantic fragment of the language. But, again, so long as such inconsistency doesn't interfere with the job of 'dtrue' or our inquiries, in general, then it needn't be shunned. Moreover, as Priest [22, 26] has argued for some time, there seem to be no non-question-begging arguments for thinking that truth – or, in the current case, dtruth – must be consistent. And for a deflationist of any stripe, who cannot invoke some 'robustly consistent nature of truth', the point is even more to the point: that there seems to be no good reason not to accept the apparent inconsistency of dtruth.[31]

Transparent disquotationalism takes the transparency of 'dtrue' seriously and allows at least the logical possibility of both gaps and gluts. In the end, the main argument for transparent disquotationalism is one of simplicity and naturalness: compare it with its rivals. The point of this paper is to put the general framework on the table for such comparison.[32] For now, I briefly answer a few objections.

6 A Few Objections and Replies

Objection. Just dtrue T-conditionals: While $\rightarrow$, as given above, satisfies the desideratum of Identity – and thereby yields the T-schema (via the fundamental intersubstitutivity governing dtruth) – it fails to achieve another desideratum: namely, that instances of the T-scheme never be dfalse. After all, if A is both dtrue and dfalse (at @), then $A \rightarrow A$ will likewise be dtrue *and dfalse*, and hence $\mathsf{dT}\langle A\rangle \rightarrow A$ will be dtrue *and dfalse*. But we want not only that such T-conditionals always be dtrue; we want that they never be dfalse. Transparent disquotationalism, at least with the conditional so given, fails to

[29] See §6 for a bit more discussion on taking choice-Liars to be gappy (versus glutty).

[30] This sort of 'simply semantic inconsistency' can be modelled along Kripke/Woodruff lines, although there are difficulties bringing in pseudo-exclusion. I have (and continue to) work on this [6], but I will skip it here. One early attempt at 'simply semantic inconsistency' is Woodruff [36] (though, again, monotonicity is lost if pseudo-exclusion is brought in, and Woodruff's framework also lacks a suitable conditional).

[31] Note that I am *not* arguing that rational reflection forces an inconsistent dtruth-theory upon us! I believe that, qua disquotationalist (or deflationist, in general), an inconsistent dtruth-theory is the simplest and most natural, but I know of no knockdown arguments for the position.

[32] This paper is part of a monograph. The paper is included in this volume not to discuss all the details but, rather, simply to set the general approach beside the represented rivals.

deliver the latter desideratum.[33]

Reply: Two replies.

First, unless one is objecting to gluts, in general, it isn't clear why the alleged desideratum is a desideratum. After all, suppose that we allow that some sentence A is both dtrue and dfalse, that is, that A and $\sim A$ are dtrue. Then A is a dtrue sentence that is equivalent to a dfalse sentence, and hence $\mathsf{dT}\langle A\rangle \rightarrow A$ is a conditional with a dtrue antecedent and a dfalse consequent. Why shouldn't the given T-conditional be dfalse? As far as I can see, the only reason for imposing the alleged desideratum stems from a prior complaint against gluts, something that – as far as the objection explicitly goes – is not at issue.[34]

Second reply. Suppose that, against the first reply, the alleged desideratum is imposed, that T-conditionals are never to be dfalse. As the objection points out, that desideratum is not achieved for $\rightarrow$ as currently given; however, one can – if need be – achieve the desired result by stipulating different 'dfalsity conditions' for @ and any point $y \neq @$. In particular,

- $A \rightarrow B$ is never dfalse at @;
- For any normal $x \neq @$, $A \rightarrow B$ is dfalse at x iff A is dtrue at x and B dfalse at x.

The virtues of $\rightarrow$ still hold under this set-up, but there will be no interpretation ν such that $\nu_{@}(\sim(A \rightarrow A))$ is designated. (I should point out that, pending some motivation, I am not attracted to this second reply. I give it only as an option, should good reason to endorse the current objection emerge.)

Simplicity lost: Perhaps transparent disquotationalism affords a very simple framework for dtruth, but only in that there are no restrictions placed on the predicate and no apparent revenge problems. But surely the resulting system is more complicated 'in daily life', since it undermines much of our usual reasoning – e.g., Disjunctive Syllogism (DS).

Reply: The general thrust of this objection has been sufficiently answered by Priest [22], but it is important to emphasise two points. The first is that, although not developed here, transparent disquotationalism, as here proposed, recognises inconsistency – sentences that are both dtrue and dfalse – only at the semantic level; there is no suggestion that such inconsistency emerges in semantic-free sentences (sentences that do not use one or more of our expressive devices). Accordingly, there is a straightforward sense in which DS is perfectly

[33] This objection is due to conversation with Hartry Field.

[34] As Daniel Nolan noted (in conversation), one might also expect that T-conditionals be dtrue *and dfalse* especially if, as in the current case, the proposed theory of dtruth is openly inconsistent. Given the fairly important status of T-conditionals in a theory of dtruth, an explicitly inconsistent theory of dtruth ought (in some sense) to have dfalse (and dtrue) instances of the T-scheme. While I think there's something to Nolan's suggestion, I won't pursue the point here.

reliable when its instances are restricted to sentences in which (for example) 'dtrue' is eliminable – 'grounded sentences', along Kripkean lines.

Second point. While the logic developed here – i.e., the logic that results from the semantic framework discussed in this paper – is monotonic, the position may be filled out along 'adaptive' lines of Batens [3]. An adaptive paraconsistent logic is a non-monotonic logic that serves to model the idea that for a large fragment of the language, instances of (for example) DS are 'dtruth-preserving'; it's just that when A and $\sim A$ are dtrue, a weaker paraconsistent base kicks in.[35] Accordingly, the alleged complications involved in 'losing' DS are not nearly as clear as the objection suggests.

Uniformity of Solutions: Priest [29] argues that a virtue of dialetheism is that it gives uniform solutions to both the semantic and logical paradoxes (and, in fact, that Ramsey's very 'distinction' is thereby not genuine). Transparent disquotationalism is far from uniform in the same respect, as not all paradoxical claims – even within the same family (e.g., Liars) – are treated alike. Choice Liars – and Curry sentences – are taken to be gappy while exclusion Liars are glutty. This gives a speckled theory that fails to respect the obvious uniformity of the phenomena.

Reply: There is a plain sense in which I agree with Priest's arguments against Ramsey's 'distinction', that both families of paradox are treated alike: such phenomena are either gluts or gaps.[36] On the other hand, the objection is correct that, unlike Priest's uniform solution, I do not accept that all Liars (or the like) are gluts. But that is more to the 'transparent' point of disquotationalism. If neither language nor the world determines that 'this sentence is dfalse' is dtrue or dfalse (or both), then such is the status of that Liar: it is simply underdetermined, neither dtrue nor dfalse. But language does determine the dtruth (and dfalsity) of some Liars – e.g., exclusion-Liars. The resulting picture is indeed speckled compared with Priest's uniformity of gluts, but it isn't clear why such speckles should be a blot against the theory. Why not accept that language and world call for a speckled theory (in the given sense)? No obvious reason is forthcoming.[37]

Of course, as far as FDE* goes, one could (logically) treat 'simple Liars' – choice-Liars – as gluts, as opposed to gaps. But, methodologically, I'm inclined

[35] For an adaptive version of FDE, see the appendix in Beall [5], which can easily be expanded to yield an adaptive logic of FDE*. (The version in [5] is a more general version of Priest's gap-free 'minimally inconsistent LP'. Priest discusses the philosophical import of such a non-monotonic framework in [23].)

[36] I should note that I do not accept Priest's arguments about *mathematical sets*, but I will not pursue the issue here. (I *do* accept that semantic *extension*-theory is inconsistent, but the identification of mathematical sets – whatever the set-theory – and semantic extension-theory is something that I reject. But, again, this is for elsewhere.)

[37] I should point out that the related expressive device 'denotes' is not easily treated along Priest's 'uniform gluts' line. It seems to me that *some* paradoxes of denotation call for gluts, and some for gaps, although some of this will turn on how one decides to treat cases of denotation-failure. I leave this for discussion elsewhere, but see Priest [25, 27] for some of the issues.

to accept the principle that if neither the world nor language determines the dtruth or dfalsity of A, then there's no good reason to accept that A is both dtrue and dfalse. And since excluded middle fails for choice, there's no obvious reason to think that choice-Liars are gluts. Similarly with respect to standard truth-tellers: logically – as far as FDE* is concerned – one can treat them as gaps, gluts, or classically evaluable; however, since language and world fails to determine their dtruth or dfalsity, I leave them at that, as 'undetermined', simply gappy.

Field Uniformity: Field's 'pure disquotationalism', with his 'definitely' and conditional (see this volume), appears to give a unified solution to all (relevant) paradoxes – semantic, 'extensions' (properties), and even soritical paradox.[38] And, it seems, he does as much consistently. Transparent disquotationalism, as developed here, is inconsistent (due to exclusion instead of Field's 'definitely') yet seems not to yield a unified approach to paradox in Field's sense. Why not, then, just go with Field's approach?

Reply: Again, there is a plain sense in which I too give a unified response to both semantic and soritical paradox: the phenomena are either glutty or gappy. Moreover, I agree that, in some sense, both phenomena arise from indeterminacy in the language. The difference is that the indeterminacy yields – on my picture – overdeterminacy (gluts) in some (purely semantic) cases. Still, the objection is correct that Field's theory treats the relevant phenomena exactly alike, whereas I do not. Part of the trouble in assessing the current objection is that, by my lights, we remain without a general account of *vagueness*. (We have many responses to the sorities, but that is different from having a clear account of vagueness itself.) Pending such an account, it is hard to tell – and, perhaps, premature – to judge whether vagueness-related paradox and semantic paradox are, at root, the same basic phenomenon calling for a unified theory along Fieldian lines. For now, I leave the ultimate weight of the current objection open. As above, the merits of transparent disquotationalism over Field's alternative will need to be weighed on standard pragmatic virtues. The question, I believe, is whether achieving a consistent dtruth-device is worth the apparent complexity involved.[39]

Druth at a point: *Dtruth at a point* is essential to your account of the given conditional. How can this be cashed out in terms of dtruth? How, that is, is this compatible with disquotationalism?

Reply: One option is to go 'fictionalist' with respect to such points, and take 'dtrue at a point' along the lines of 'according to the story'. On such an approach, all the 'truth' involved in 'dtrue at a point' is dtruth: we have an

[38] Actually, I do have some worries about whether Field's approach resolves the paradoxes of denotation, but I will not pursue those worries here.

[39] I should emphasise that while, as I've said, I do not think that Field's approach is as natural or simple as the current proposal, I do believe that it's the best of the current 'consistentist' disquotational options.

operator α_x (intuitively, 'according to story x') and dT, and the fundamental intersubstitutivity of dtruth needn't fail in the context of α_x – e.g., one may go from $\alpha_x \mathsf{dT}\langle A\rangle$ to $\alpha_x A$ and back. Accordingly, no threat to disquotationalism arises.

Some such fictionalist line also sits well with a promising account of 'non-normal worlds' due to Priest [24].[40] Non-normal points, on this proposal, are simply points (fictions) according to which conditionals behave in rather bizarre patterns. If we are already prepared to recognise 'points of evaluation' in our semantics (e.g., in standard 'possible worlds' accounts), there seems to be no a priori reason that we shouldn't recognise different sorts of such 'points'. In particular, there's no a priori reason against points – 'worlds' – at which actual logical laws fail. And that, in the end, is all that the non-normal points – our fictions – amount to. For present purposes, I will leave the matter there (and take up a fuller discussion elsewhere).

I think that there are other options (including something along Lewisian realist lines, but with an absolute, primitive notion of actuality); however, the fictionalist route is sufficient to show that there are options available.[41]

Supervenience Transgressed: Many philosophers have the intuition that truth – dtruth or otherwise – *supervenes* on the 'non-semantic facts'.[42] The current proposal bucks the supervenience constraint: some sentences – e.g., the exclusion version of the first displayed sentence in §2 – do not supervene on non-semantic facts (that is precisely why they're 'merely semantic') but, according to transparent disquotationalism, they are none the less dtrue. This is a defect of the position.

Reply: While supervenience is not maintained globally (over the whole language) in $FDE^\star$, the intuition is none the less respected over all 'non-essentially semantic' (grounded) sentences.[43] And that is important. After all, it is precisely the non-paradoxical fragment – the 'grounded' fragment – on which our intuitions about 'supervenience' are built. That the (unexpected) 'spandrels'

[40]Note that, unlike the current proposal, Priest does not subscribe to a fictionalist account of such points (or 'worlds'). Priest treats the 'nature' of normal and non-normal points the same; it's just that the latter are points at which logical fictions 'take place' or are 'made true'. The suggestion sits well with the current proposal, on which the points themselves be treated along fictionalist lines.

[41]Another option is take such 'points' and 'dtruth at a point' at face value, as merely mathematical models that happen to be useful in getting a grip on the language. Such a line requires, of course, a fuller story about mathematics, in addition to explaining (away) standard objections to instrumentalist approaches to such points. But I think such a route might also available.

[42]Kripke himself suggests such a feature, but see Michael Kremer [18] for discussion on that point.

[43]This is not obvious from the presentation in this paper, but in the fuller framework, a constraint yielding 'simply semantic inconsistency' is imposed. (In effect, one defines models in such a way that, for example, $\nu(A) \in \{1, n, 0\}$ for any A in the dT-free (and, in general, semantic-free) fragment – and, in turn, given the constraints of intersubstitutivity on dT, similarly for any ascription of dT to such A. This is filled out in [6].)

serve as (the only) exceptions to supervenience seems not unreasonable.[44]

7 Closing Remarks

Transparent disquotationalism is a (strong) paraconsistent approach to dtruth, recognising both gaps and gluts as logical options for dtruth-ascriptions. Any argument for the position will turn on pragmatic virtues of 'naturalness' and 'simplicity' in comparison with rival theories. I have not made the case for the position in this paper; that is for a larger project. The aim of this paper is to put the general position on the table, letting readers begin the comparative analysis against other approaches represented in this volume.[45]

References

[1] Alan Ross Anderson and Nuel D. Belnap. *Entailment: The Logic of Relevance and Necessity*, volume 1. Princeton University Press, Princeton, 1975.

[2] Alan Ross Anderson, Nuel D. Belnap, and J. Michael Dunn. *Entailment: The Logic of Relevance and Necessity*, volume 2. Princeton University Press, Princeton, 1992.

[3] Diderik Batens. A survey of inconsistency-adaptive logics. In D. Batens, C. Mortensen, G. Priest, and J-P Van Bendegem, editors, *Frontiers of Paraconsistency*, pages 49–73. Research Studies Press, King's College Publications, Baldock, 2000.

[4] JC Beall. Curry's paradox. In Edward N. Zalta, editor, *Stanford Encyclopedia of Philosophy*. CSLI, Stanford University, 2001 (January Edition).

[5] JC Beall. True and false — as if. In Graham Priest et al., editor, *The Law of Non-Contradiction*. Oxford University Press, Oxford, 2003.

[6] JC Beall. Simply semantic inconsistency. To appear in *Australasian Journal of Logic.*, 2004.

[7] JC Beall. Deflationism and gaps: untying 'not's in the debate. *Analysis*, 62(4), October 2002.

[8] JC Beall, Ross Brady, Alan Hazen, Graham Priest, and Greg Restall. Relevant restricted quantification. To appear. Partially funded by a University of Melbourne small grant., 2004.

[44] Another (very tentative) reply is this: The supervenience of dtruth on the 'non-semantic facts' seems itself to be inconsistent, at least on the surface. After all, the supervenience intuition requires that a sentence is not dtrue if not 'grounded'. Consider, then, a dtruth-teller: 'this sentence is dtrue' (call it τ). Supervenience demands that τ be not dtrue. But, then, to claim of τ that it is dtrue is to claim something dfalse – at least if the supervenience principle (or relation) itself is a sufficiently non-semantic 'grounder'. Hence, τ itself says something dfalse, and so is dfalse. But that is inconsistent with the dictates of the supervenience principle.

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[9] JC Beall and Bas C. van Fraassen. *Possibilities and Paradox: An Introduction to Modal and Many-Valued Logic*. Oxford University Press, Oxford, 2003.

[10] Brian F. Chellas. *Modal Logic: An Introduction*. Cambridge University Press, Cambridge, 1980.

[11] Haskell B. Curry. The inconsistency of certain formal logics. *Journal of Symbolic Logic*, 7:115–17, 1942.

[12] Michael Dummett. Truth. In M. Dummett, editor, *Truth and Other Enigmas*. Duckworth, London, 1978.

[13] Hartry Field. Deflationist views of meaning and content. *Mind*, 103:249–285, 1994. Reprinted in [**?**].

[14] Hartry Field. No fact of the matter. *Australasian Journal of Philosophy*, 81:457–480, 2003.

[15] Hartry Field. The semantic paradoxes and the paradoxes of vagueness. In JC Beall, editor, *Liars and Heaps: New Essays on Paradox*, pages 262–311. Oxford University Press, Oxford, 2003.

[16] Kit Fine. Models for entailment. *Journal of Philosophical Logic*, 3:347–372, 1974.

[17] G. Hughes and M. Cresswell. *A New Introduction to Modal Logic*. Routledge, London, 1996.

[18] Michael Kremer. Kripke and the logic of truth. *Journal of Philosophical Logic*, 17:225–278, 1988.

[19] Saul A. Kripke. Semantical analysis of modal logic II: Non-normal modal propositional calculi. In Addison et al., editor, *The Theory of Models*, pages 206–220. North-Holland Publishing Co, 1965.

[20] Edwin D. Mares, editor. *Relevant Logic: A Philosophical Interpretation*. Cambridge University Press, Cambridge, 2004.

[21] Robert K. Meyer, Richard Routley, and J. Michael Dunn. Curry's paradox. *Analysis*, 39:124–128, 1979.

[22] Graham Priest. *In Contradiction: A Study of the Transconsistent*. Martinus Nijhoff, The Hague, 1987.

[23] Graham Priest. Minimally inconsistent LP. *Studia Logica*, 50:321–331, 1991.

[24] Graham Priest. What is a non-normal world? *Logique et Analyse*, 35:291–302, 1992.

[25] Graham Priest. On a paradox of hilbert and bernays. *Journal of Philosophical Logic*, 26:45–56, 1997.

[26] Graham Priest. What is so bad about contradictions? *Journal of Philosophy*, XCV(8):410–426, 1998.

[27] Graham Priest. Semantic closure, descriptions and triviality. *Journal of Philosophical Logic*, 28:549–558, 1999.

[28] Graham Priest. Paraconsistent logic. In Dov M. Gabbay and Franz Günthner, editors, *Handbook of Philosophical Logic (2nd Edition)*, volume 6. D. Reidel, Dordrecht, 2000. in press.

[29] Graham Priest. *Beyond the Limits of Thought (Expanded, revised edition)*. Oxford University Press, Oxford, 2001.

[30] Graham Priest. *An Introduction to Non-Classical Logic*. Cambridge University Press, Cambridge, 2001.

[31] Greg Restall. How to be *Really* contraction-free. *Studia Logica*, 52:381–391, 1993.

[32] Greg Restall. *On Logics Without Contraction*. PhD thesis, The University of Queensland, January 1994.

[33] Greg Restall. *An Introduction to Substructural Logics*. New York: Routledge, 2000.

[34] Richard Routley and A. Loparic. Semantical analyses of arruda-dacosta P-systems and adjacent non-replacement systems. *Studia Logica*, 37:301–320, 1978.

[35] Richard Routley, Val Plumwood, Robert K. Meyer, and Ross T. Brady. *Relevant Logics and their Rivals*. Ridgeview, 1982.

[36] P. Woodruff. Paradox, truth, and logic. *Journal of Philosophical Logic*, 13:213–252, 1984.