'Unsettledness' in a bivalent language: a modest, non-epistemic idea

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1 Introduction

In this paper, I suggest a novel, non-epistemic approach towards accommodating the appearance of 'unsettledness' or—in some sense—*gaps* in a bivalent language. While the suggestion is modest, I think it to be quite plausible. My aim is simply to lay out the proposal, as concisely as possible, and briefly consider a few objections. Accordingly, §2 sets out some terminology. (I should warn that §2 simply marches through some definitions without pause. Readers might prefer to first read §3 and, in turn, return to §2.) §3 sketches the main issue, namely, accommodating the appearance of (some sort of) 'gaps' or 'unsettledness' in our otherwise bivalent language. §4 and §5 present the main proposal. §6 briefly considers a few objections, and §7 offers a brief review and closing remarks.

2 Terminology

The following definitions will be used throughout. Not all of the definitions are entirely standard or, perhaps, even ideal; however, they will serve to focus the issue. Throughout, we let $\mathcal{D}$ be our given (non-empty) domain, α and β any sentences—where *sentences*, throughout, are meaningful, declarative sentences—and $\varphi(x)$ any unary predicate. (For simplicity, I put things in terms of unary predicates. The generalization to n-ary predicates should be straightforward but, for present purposes, needlessly multiplies symbols.) We let $\varphi(x)^+$ and $\varphi(x)^-$ be the extension and antiextension of $\varphi(x)$, respectively. (We also make the convenient assumption that $y \in \varphi(x)^-$ if y is not a sentence. This is not ultimately necessary, though dropping the assumption would require talk of 'range of application' and so on, which is ultimately important but, I think, may be set aside here without loss.) Throughout, *falsity* is taken to be truth of negation: α is false just if $\neg\alpha$ is true. Finally, for convenience, I rely on context to clarify use-mention.

Definition (Excluded Middle, LEM) $\alpha \vee \neg\alpha$ is logically true for all α.

Definition (Bivalence, BIV) $Tr(\ulcorner\alpha\urcorner) \vee Tr(\ulcorner\neg\alpha\urcorner)$ is logically true for all α.

Definition (Bivalent Language) Language $\mathcal{L}$ is *bivalent* just if $\varphi(x)^+ \cup \varphi(x)^- = \mathcal{D}$ for all objects $x \in \mathcal{D}$ and all $\mathcal{L}$ predicates $\varphi(x)$.

Definition (*Standardly* Gappy Language) $\mathcal{L}$ is *standardly gappy* just if $\varphi(x)^+ \cup \varphi(x)^- \neq \mathcal{D}$ for some $x \in \mathcal{D}$ and $\mathcal{L}$ predicate $\varphi(x)$.

Definition (Contraries) α and β are *contraries* just if $\alpha \wedge \beta$ is logically false.

Definition (Subcontraries) α and β are *subcontraries* just if $\alpha \vee \beta$ is logically true.

Definition (Contradictories) α and β are *contradictories* just if they are both contraries and subcontraries.

I should note that the point of setting out these definitions is not to foreshadow any sort of proof. Rather, setting out such terminology facilitates a concise presentation of the issue and, in turn, the chief proposal. I turn now to the issue at hand.

3 The issue: bivalence and apparent unsettledness

A challenge that confronts those, like myself, who endorse Bivalence, is the apparent 'unsettledness' of our language. In a nutshell, there appear to be 'gaps', in *some* sense. (In what sense there are 'gaps' is part of the issue. I will return to this.)

Vagueness is one of the driving phenomena behind the appearance of such 'unsettledness' or 'gaps'. Let R^{φ} be a 'tolerance relation' for (vague) predicate $\varphi(x)$, so that $R^{\varphi}x, y$ only if x and y are relevantly similar. Bivalence—plus plausible other logical assumptions—has the (prima facie untoward) consequence of 'sharp cutoffs' for $\varphi(x)$, namely,

SC. $\exists x \exists y (R^{\varphi}(x, y) \wedge \varphi(x) \wedge \neg\varphi(y))$

But philosophical intuition rails against such cutoffs. That there's a moment t such that at t you're a person but, for i as small as you like, at $t - i$ you're *not* a person strikes many philosophers as absurd, or at least too hard to believe. Our usage, one is inclined to think, is simply not that sharp. The swift step, in turn, is to mollify 'intuition' by acknowledging 'gaps' *in some sense*. Indeed, be it the prima facie repugnance of SC or background thoughts about meaning and use (and truth), many philosophers are inclined to accept the following, for some b.

G. $\varphi(x)$ is neither true nor false of b.

Of course, on standard non-classical schemes (e.g., Kleene), G itself is puzzling, at least if, as we're assuming, falsity is truth of negation. Still, be it SC or something else, the appearance of *some sort* of 'gappiness' in our language is a strong one. As such, those who endorse Bivalence face the challenge of either accommodating *some* sort of 'gappiness', some sort of 'unsettledness', or explaining it away. This is the task to which my proposal is aimed.

If, as I think, the logic of our language is fairly normal, SC is inevitable, given the 'exhaustive', LEM-satisfying 'nature' of negation. The challenge, as above, is to make sense of the strong appearance of 'unsettledness' or 'gaps', in some (clearly non-standard) sense of 'gaps'.

« *Parenthetical remark.* In saying that SC is inevitable given the exhaustive, LEM-satisfying 'nature' of negation, I am sneaking in a background assumption about truth, which I fully endorse but will not discuss in this paper. In particular, I am assuming that truth is entirely *transparent* in the sense that $Tr(\ulcorner\alpha\urcorner)$ and α are intersubstitutable in all (non-opaque) contexts, for all α in the language. While van Fraassen [8] showed that languages can enjoy LEM without thereby being bivalent, the former implies the latter where transparent truth is involved—at least as far as what can be (truly) said in the given language. Suppose, e.g., that we have the validity of $\alpha \vee \neg\alpha$. Assuming, as I will, that negation is a non-opaque context, the transparency of truth yields the equivalence of $\neg\alpha$ and $Tr(\ulcorner\neg\alpha\urcorner)$. Hence, $\alpha \vee \neg\alpha$ is equivalent to $Tr(\ulcorner\alpha\urcorner) \vee Tr(\ulcorner\neg\alpha\urcorner)$, which is just to say that Excluded Middle implies Bivalence. This assumption may be dropped without loss, although my remarks about 'exhaustive' negation will have to be read so as to ensure not only Bivalence, as a true principle expressible in the language, but a *bivalent language* too. *End parenthetical.* »

Of course, there are already a few well-known proposals that purport to accommodate apparent unsettledness in a bivalent language. In particular, classical *epistemicist* proposals, such as Sorensen's [7] and Williamson's [11], firmly accept—as I do—that our language is bivalent but nonetheless enjoys 'gaps'. The 'gaps', on such accounts, are *epistemic gaps*, gaps in our knowledge, as opposed to 'gaps' between truth and falsity (whatever, in the end, that might come to). On these approaches, SC is an inevitable consequence of the exhaustive nature of negation and the logical behavior of our other connectives. On this I agree.[1] How, then, does our language happen to be 'unsettled'? As above, the epistemicist proposal is that our 'gaps' are not in the language; they are in our knowledge. In short, we simply do not know the particular point at which we become a person, even though there is one. Moreover, we *cannot*—we *could not*—know the given point. The 'gaps' in question are not just actual; they're necessary.

My aim is not to evaluate epistemicist proposals, or even discuss them in any serious fashion. I mention epistemicism only as one—perhaps the leading—approach to accommodating *some sort of 'gaps'* in a bivalent language.[2] I do not have a knockdown argument against epistemicism; I have only the familiar autobiographical reason for rejection, namely, that I find it difficult to belive. While I accept, with epistemicists, that there's a point at which I'm a person and before which *not*, and also accept that we're *actually* ignorant of the particular point, I find it difficult to believe that we *couldn't* know the given point, even with all actual information (including the sufficient condition for *being a person*). Autobiography is not argument, but I am motivated to find an alternative course.

4 Stars: an abstract option

My aim is to suggest a non-epistemicist account of 'gaps' in a bivalent language. I accept, as above, that SC is inevitable—at least given the sort of logic in the background. I also accept that the appearance of 'unsettledness' is strong, that the appearance of 'gaps', *in some sense*, requires explanation. My aim is to offer a modest proposal towards accommodating such appearances, despite bivalence.

Given the definitions in §2, it is obvious that our language is bivalent only if it is not standardly gappy, in the sense of §2. The task is not to find a way of explaining how gaps, on the standard definition, might arise; we are fully embracing bivalence—fully embracing that our language is not standardly

[1] This is not to say that I ndorse the particular logic in question. Both Sorensen and Williamson endorse classical (or, at least, an 'explosive') logic, whereas I endorse a paraconsistent logic to accommodate the transparency of truth (given bivalence). While this difference is important in the broader scheme of issues, it's not particularly germane here, and so I leave the matter there.

[2] Another approach is that of Weatherson [10]. While I think that this is an interesting approach, as are the epistemicist approaches, I will not discuss it here, chiefly for space reasons.

gappy.[3] The task, rather, is to consider another way in which our language might enjoy 'unsettledness' or 'gaps', in some other, suitably related sense of such terms. The terminology, in the end, is neither here nor there. The task, in the end, is to explore a possible phenomenon that, if actual, might well underwrite the appearance of unsettledness, or indeed be the phenomenon of 'vagueness'.

Before turning to the particular proposal, it'll be useful to consider the matter in abstract. In short, suppose that our language $\mathcal{L}$ is bivalent, in the sense in §2. Then there is no $b \in \mathcal{D}$ such that $\varphi(b)^+ \cup \varphi(b)^- \neq \mathcal{D}$. The question at hand, as above, is whether there's an alternative sense in which $\mathcal{L}$ might be unsettled, a sense that isn't too far from the standard sense. I suggest that there's a natural, modest sense in which $\mathcal{L}$ might nonetheless be 'unsettled'.

To simplify matters, suppose that $\mathcal{L}$ is devoid of 'semantic' terms like 'true' and the like.[4] Suppose that, for every 'positive atomic' predicate $\varphi(x)$ in $\mathcal{L}$, there is a 'star mate' $\varphi^*(x)$, which—for simplicity—is also an *atomic* predicate, though not a 'positive' one.[5] Now, suppose that the relation between our positive atomics and their star mates is *exclusive* but *not* necessarily *exhaustive*, in the sense that, for all x,

$$\text{EXC.} \quad \varphi(x)^+ \cap \varphi^*(x)^+ = \emptyset$$

but we *need not* have

$$\text{EXH.} \quad \varphi(x)^+ \cup \varphi^*(x)^+ = \mathcal{D}$$

In other words, while we never have some b of which both $\varphi(x)$ and $\varphi^*(x)$ are true, we might have some b of which neither $\varphi(x)$ nor $\varphi^*(x)$ is true.

Notice that, given familiar assumptions about negation and validity, EXC will yield

$$\varphi^*(x) \vdash \neg\varphi(x)$$

but we will *not* get the converse, since $\varphi^*(x)$ is simply an atomic governed only by the minimal constraints above—in effect, only EXC.

The idea, in abstract, may be put succinctly: for every 'positive atomic' $\varphi(x)$ in the language, there is an atomic *contrary*.

[3] As such, our task is different from that of Soames [6], wherein 'smidget' is introduced to illustrate how gaps, in the standard sense, might arise. That said, I embrace Soames' basic suggestion (though not his overall account). I return to this in §5.

[4] This isn't ultimately necessary, but I will not go into the matter here.

[5] I leave the notion of a 'positive predicate' at an intuitive level. For present purposes, predicates like 'is a book', 'is bald', 'is sad', and so on are one and all positive atomics.

« *Parenthetical remark.* I should note that it's not obvious that one must treat the given 'star mates' (or, for short, 'stars') as *atomic predicates*, but I do so for simplicity. If one were to treat $*$ as some sort of connective, the story wold be rather complicated. (One route might be along daCosta's 'negation' lines, wherein $*$ is interpreted in a *non-compositional* fashion [2]. Ultimately, though, the end result will have to be such that $\varphi^*(x)$ is, in effect, atomic, and so I simply treat it as such.) *End parenthetical.* »

Of course, given that negation itself is contradictory-forming operator, in the sense that $\neg\alpha$ is the contradictory of α for all α (see §2), we have

$$\varphi^*(x) \vee \neg\varphi^*(x)$$

for all given 'stars'. But this is simply the result of negation doing its 'exhaustive' job. As for our 'stars' themselves, while we have it that

$$\varphi(x) \wedge \varphi^*(x)$$

is *logically false* for all x and all $\varphi(x)$, we—importantly—do *not*, as mentioned above, have that, for all x, the following holds.

$$\varphi(x) \vee \varphi^*(x)$$

In other words, given standard assumptions of validity, we will have

$$\vdash \neg(\varphi(x) \wedge \varphi^*(x))$$

for any x, but, notably,

$$\nvdash \varphi(x) \vee \varphi^*(x)$$

This latter feature, I suggest, is at least one natural sort of 'unsettledness' or 'gaps', however modest it may be. The question, of course, is how, if at all, it applies to our actual language.

5 Proposal: 'gaps' via star mates

The proposal is that our own language has such 'stars'. While our language is bivalent, there is also unsettledness in a non-epistemic sense; there are 'gaps' in the sense that, for some b and vague $\varphi(x)$, we have the following.

$$\neg\varphi(b) \wedge \neg\varphi^*(b)$$

In other words, b falls into the 'gap' between $\varphi(x)$ and $\varphi^*(x)$, though—given bivalence—obviously not the (non-existent) gap between $\varphi(x)$ and $\neg\varphi(x)$.

We do not, of course, have predicates in English that are spelled with 'stars'. What, then, plays the role of 'star mates' in our language? My suggestion is that something along the lines of 'non-$\varphi(x)$' is what does the 'star' work in our (natural) language, though it may well be some deviant usage of 'not' that results in an *atomic* 'not-$\varphi(x)$'. For present purposes, I'll assume the former ('non-') construction. In particular, for each positive atomic predicate $\varphi(x)$, at least of our base 'semantic-free' fragment, we have a star mate expressed by 'non-$\varphi(x)$'. The star mate, as in the abstract sketch above, is an *atomic* predicate, however much it may superficially look like a molecular predicate.

« *Parenthetical remark.* I should emphasize, again, that this assumption is probably not necessary. If one took 'non-' to be an operator, it would have to be something other than negation, and, as above, likely have to be non-compositional. As such, it strikes me as simpler to just assume that such 'star mates' are atomic predicates in their own right. *End parenthetical.* »

The proposal, as in §4, has it that our star mates, expressed via some *atomic* 'non-$\varphi(x)$' construction, are *contraries* of $\varphi(x)$, with EXC being their fundamental constraint. The pressing question concerns the satisfaction conditions for such stars. What are they?

There might be different, equally viable approaches to this question. For present purposes, I suggest a simple and familiar idea about vague predicates. In particular, setting our 'star mates' aside for the moment, I shall adopt the idea, made explicit by Soames [6], that 'vague' or 'unsettled' predicates are those for which our practice has established only a sufficient condition for satisfaction.[6] The idea, in short, is that our (vague) positive atomics $\varphi(x)$ enjoy only some sufficient satisfaction condition $\psi(x)$, so that we have only something of the following sort governing $\varphi(x)$.

$$\psi(x) \rightarrow \varphi(x)$$

Soames's well-known 'smidget' example is intended to show how a language might come to have 'gappy' predicates, in the *standard* sense of 'gaps' (see §2). Soames suggests that, in addition to $\varphi(x)$ getting only a sufficient condition, so too for the molecular, *negation*-ful predicate $\neg\varphi(x)$. In particular, Soames's smidget example has us giving a sufficient condition for $Smidget(x)$, namely,[7]

$$x \leq 20 \rightarrow Smidget(x)$$

[6] NB: Soames's (contextual) development of the idea is not something to which I'm subscribing, but rather only his initial setup—or, at least, part of his setup.

[7] This is not exactly Soames's example, but the idea is the same.

and also a sufficient condition for the molecular (negation-ful) predicate $\neg Smidget(x)$, namely,

$$x \geq 25 \rightarrow \neg Smidget(x)$$

This latter step is curious (at best) on the current proposal, wherein we're assuming bivalence, and hence that negation itself is fully exhaustive (i.e., that LEM holds). As such, there's no need to give a sufficient condition for $\neg\varphi(x)$, since this is already covered by the exhaustive 'nature' of negation.

Let me emphasize that this is *not* an objection to Soames's account or even his 'smidget' example. His example is intended to illustrate how we might 'enjoy' a *standardly* gappy language in the sense of §2. For present purposes, I'm assuming that we do not have *standard* gaps, but still think that Soames's illustration is relevant—not for *negation*, but for our 'stars'.

The natural suggestion for our 'star mates', which are similarly 'vague', is the same: we have only some sufficient condition for $\varphi^*(x)$.

$$\mu(x) \rightarrow \varphi^*(x)$$

In turn, so long as we do not have $\psi(x) \vee \mu(x)$, we need not have $\varphi(x) \vee \varphi^*(x)$. In cases—perhaps 'precise' ones—in which we *do* have $\psi(x) \vee \mu(x)$, then we'll have $\varphi(x) \vee \varphi^*(x)$. But, again, there's no reason to think that we'd have such 'star exhaustion' (i.e., 'star excluded middle') for all such predicates.

The proposal, in short, is that we can understand the apparent 'unsettledness' of our (bivalent) language along 'star' lines. Given bivalence (and other logical features of the language), we do not have 'gaps' in the standard sense. Still, our practice, governing 'vague' predicates, leaves lots of 'star gaps' (as it were); for many (vague) predicates $\varphi(x)$, there are objects y such that neither $\varphi(x)$ nor $\varphi^*(x)$ is true of y. This, I think, is a modest way in which 'unsettledness' arises in our (bivalent) language.

6 Objections and replies

In this section, I briefly consider a few objections to the proposal. For convenience, I put the objections as if directed against me, so that 'you' denotes me.

Objection. Your proposal still leaves SC intact, and hence fails to remove the untoward consequence of sharp cutoffs. But it's precisely such 'sharp cutoffs' that many want to avoid in accepting that our language is 'unsettled'. At the very least, it isn't clear how you explain—or, perhaps, explain away—why so many find SC to be repugnant.

Reply. The answer, in the end, invokes conflation. Of course we have SC, which, as said, is inevitable given our negation (and other features of our logic). Given bivalence, reflection makes it clear that—assuming other logical features—there's always a 'cutoff' when negation is around to do the cutting; that's just how negation is, and the job that negation does. Usage may've—and, I think, has—left many 'gaps' for predicates, but the gaps are quickly closed by negation. The 'gaps' of our (vague) predicates are not *standard* gaps (as in §2); rather, they are 'star gaps', as it were, that arise from the distinctive sufficient-condition-only practice that governs vague terms. If we reflect on the role and standard-gap-closing features of negation (which I'm assuming), we needn't scream in the face of SC. The proposal is that our screams against SC are actually screams against a different but perhaps superficially similar principle, namely,

SC*. $\exists x \exists y (R^{\varphi}(x, y) \wedge \varphi(x) \wedge \varphi^{*}(y))$

The unsettledness of our language essentially involves our star mates—our atomic 'non-$\varphi(x)$' constructions—and, so, we would rightly scream if SC* were true. But SC* is not true.

Objection. Your proposal has some similarities to the supervaluationist response.[8] It too is committed to

- It is true that there is a point at which $\varphi(n) \wedge \neg\varphi(n+1)$.

but they too seek to avoid this seemingly untoward consequence by asserting 'the confusion hypothesis'. They charge that the truth to which they are committed is confused with another, namely

- There is a point for which it is true that $\varphi(n) \wedge \neg\varphi(n+1)$.

Only the latter is taken to imply the existence of a 'sharp boundary', but they take themselves to only be committed to the supposedly distinct former claim. The question for you: why not, then, simply go with supervaluationism?

Reply. I am sympathetic with supervaluationism, and certainly have no knockdown argument against it. My chief reason for pursuing a different course is that, as mentioned, I'm committed to bivalence—not simply LEM—and the whole point of supervaluationism is to enjoy a lot of 'classical' nega-

[8]This objection is directly from Dominic Hyde (correspondence), and the reply is also indebted to Hyde.

tion behavior while nonetheless rejecting bivalence.[9] What fuels my commitment to bivalence is a background theory of truth and commitment to the 'exhaustive', LEM-satisfying behavior of negation. In particular, as in the parenthetical remark on page 3, I think that truth is fundamentally a fully transparent device: it is a device $Tr(x)$ such that $Tr(x)$ and x are intersubstitutable in all (non-opaque) contexts, for all sentences x in the language. Given LEM and transparency of truth, we quickly get $Tr(\ulcorner\alpha\urcorner) \vee Tr(\ulcorner\neg\alpha\urcorner)$, which is the principle of bivalence (at least given, as I assume, that falsity is truth of negation). While other 'transparent truth theorists', like Field [3], go on to recognize stronger notions of truth in addition to our fundamental transparent one, I do not, at least as yet, see the need to do so. The reason that such theorists pursue stronger notions of truth arises from a prior rejection of bivalence—for transparent truth theorists, a prior rejection of LEM. If there were no way to accommodate the appearance of 'unsettledness' (in *some* sense of the term) given bivalence, then I would likely go the route of Field or, perhaps, something along the lines of McGee [5]. The current paper, however, offers a proposal on how we might enjoy 'unsettledness' (in a non-standard sense) while also enjoying bivalence.

Objection. An obvious problem is that you still get 'sharp borders' with your 'star mates' (i.e., the atomic contraries). In particular, any soritical series will be cut up into three disjoint regions: you'll have the y that satisfy $\varphi(x)$, the y that satisfy $\varphi^*(x)$, and the y that satisfy neither $\varphi(x)$ nor $\varphi^*(x)$. But this is just another untoward consequence against which philosophical intuition screams, and so your account fails to resolve all of the relevant problems, notably, 'higher-order vagueness'.

Reply. I am not sure what to make of 'higher-order vagueness', and so give at most a tentative reply here. The chief reply is that such 'sharp borders' are to be expected if, as they are, they're characterized in terms of *negation*. In other words, given the 'border-drawing' nature of negation, such 'borders' are inevitable and, in the end, to be expected—at least if, again, the given result essentially involves negation (e.g., that we have three *different* regions, etc., where 'different' is understood via negation, or more to the point the 'neither. . . nor' clause.) On the other hand, there's no reason to think that we'd have 'sharp borders' where this is characterized in terms of our 'stars'. Negation has the job of cutting borders; the stars—our atomic contrary predicates—leave matters looser. So long as we do not have 'sharp borders'

[9]Of course, one could have bivalence on a *subvaluationist* approach, with which I'm also sympathetic; however, this approach will similarly have a notion of truth with which I'm not sympathetic. See below. (And see Hyde [4] and Varzi [9] for subvaluationism.)

expressed via stars (as opposed to negation), then it seems we have no reason to scream—at least on reflection.

Objection. Your proposal is viable only if we have such 'star mates' (i.e., atomic contraries) in our language. But why would we have such things?

Reply. This is a very important question for which I currently have at best a tentative answer. Pending a full and plausible answer, the proposal remains only an option worthy of further exploration. My current (and only sketchy) answer is twofold. First, we clearly have atomic contraries in our language. Predicates like 'good' and 'bad' are examples. (If these are not good examples, use examples that are good!) Assuming, as I think plausible, that 'bad' is not definable in terms of 'good' and negation, there must be some reason that we introduced the (atomic) contrary 'bad'. (If there isn't such a reason, then the current objection strikes me as less pressing. I assume that there is such a reason.) Whatever the reason might be, it is not implausible to think that there'd be motivation to generalize to all (say, 'positive') predicates. It is often very easy, though perhaps not always productive, to let the motivation in a particular case serve as motivation for all relevant cases. The conjecture is that we simply specified (only sufficient conditions) for star mates—in particular, 'non-$\varphi(x)$' (or some such deviant usage of 'not' or 'non')—for all of our positive, vague atomics.

Of course, the details of this story need to be told, and the account ultimately turns on empirical linguistics. For now, notwithstanding details, I find the basic proposal to be plausible, or at least a viable suggestion.

7 Closing remarks

I have suppressed a great deal of background assumptions about truth and logic, or at least about my own views on these matters [1], which details partly motivate the current proposal. Still, there is an independently recognizable project that I've tried to briefly sketch and modestly answer.

In short, if our language is bivalent, how can we accommodate apparent unsettledness in the language? One answer—or class of answers—is epistemic. Other answers might posit special features of truth.(See references above.) I have shied away from these only given my own background views on truth, not because I think that they're not worthy of serious consideration. While such answers are interesting and prima facie viable, I have pursued a different one. Specifically, the modest suggestion is that, as Soames [6] notes, we can recognize a sort of unsettledness arising from the fact that vague predicates have only sufficient conditions of satisfaction. Unlike Soames, we do not also need to say that such predicates have (only) a sufficient condition for 'anti-satisfaction' (as it were), that is, satisfaction of the molecular predicate $\neg\varphi(x)$. Given bivalence, the 'anti-satisfaction' condition of such predicates is already ensured by features of negation (and other background logical features, including contraposition). Where unsettledness arises is in our 'star mates', atomic contraries of our other vague atomic predicates.

While philosophical intuition would rightly scream at SC*, there's no need to scream at SC, since that's just negation—in concert with other logical features—doing its sharp-cutting job. Given that we don't get SC*, there's no need to scream at all.

This paper, of course, gives only a very brief sketch of the idea. There is much work to be done by way of details. Still, I hope to have at least pointed in the direction of a viable, non-epistemic approach to enjoying both unsettledness and bivalence.[10]

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