Indeterminacy and normative silence

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Vagueness can be *narrowly conceived* or *broadly conceived*. Paradigmatic features of narrow vagueness include its susceptibility to sorites paradoxes, as well as the presence of borderline cases (cases where we'd like to say that it's vague whether Patchy is red, for example). Borderline or vague predications are usually thought of as examples of a more general phenomenon, vagueness in the broad sense or *indeterminacy*. Indeterminacy has all sorts of instances that aren't obviously associated with sorites series.

This paper highlights two puzzles arising from these commonplaces. The first puzzle concerns the hypothesis that there is a unified phenomenon of indeterminacy. How are we to reconcile this with the apparent diversity of reactions that indeterminacy prompts? The second puzzle focuses narrowly on borderline cases of vague predicates. How are we to account to the lack of theoretical consensus about what the proper reaction to borderline cases is? I suggest (building on work by Maudlin) that the characteristic feature of indeterminacy is *alethic normative silence*, and use this to explain both plurality and lack of consensus.

The plurality puzzle

The hypothesis that there is a single phenomenon that runs through cases commonly classified as indeterminate is powerful. (Field 2008) is a nice recent illustration of the dialectical interplay made available by assuming that vagueness and the ungroundedness of the semantic paradoxes are one in nature. But can we take the idea that there is a unified phenomenon of indeterminacy seriously? Consider the following ten questions:

1. Will the flipped coin currently spinning in the air land heads?
2. Is the liar sentence true?
3. Is Patchy red, and Patchy+ not red? (both being borderline cases, and the latter being a shade less red).
4. Is Patchy red?
5. Is this sharply delineated hunk of matter Tibbles' body?
6. Would this fair coin have landed heads, if I had flipped it?
7. Is the King of France bald?
8. Is *The Turn of the Screw* a ghost story?
9. In *The Italian Job*, does the vehicle eventually fall off the edge of the cliff?
10. Is this superposed particle spin-up?

In each case, answers like `it's indeterminate', `there's no fact of the matter', or `it's a borderline case' are endorsed by significant factions of the philosophical community. And each time there's some prima facie plausibility.

But why is this `indeterminacy' answer relevant to the question originally posed, rather than a change of subject? Contrast responses that seem obviously irrelevant: ``it's contingent whether Patchy is red'' or ``Patchy will be red in three years time''. In the latter cases, even if what's said is true, endorsing the result of prefixing an operator to the proposition one was asked about doesn't result in a relevant response. So when the result of such prefixed answers is relevant---for operators like `there's a 50/50 chance that…' or `it's indeterminate whether…'---we should be able to spell out *why* what is said is relevant.

I see just two options for the shape such a story will take:

(A) **Indeterminacy has a particular cognitive role.**
    The information that *p is indeterminate* constrains one's attitude to p.
(B) **Indeterminacy is merely ignorance-entailing.**
    The information conveyed is just that the answerer is not a good source of constraints on the appropriate attitude to adopt to p.

Let us assume (A) for the moment. Given this, we should expect to find some particular constraint on attitudes across the cases. This prediction is not borne out.

The reader is invited to reach a view on the attitudes appropriate to the various cases of indeterminacy listed earlier. Sometimes this is tricky, because it's *not obvious* what the right attitude is (this is grist to my mill, as discussed in the next section). Here are some representative reactions.

1. In the flipped coin case, the answer should be consistent with my retaining a definite partial belief (50/50 credence) in the coin landing heads.
2. The liar sentence, at face value, entails a contradiction---so it seems we should have no more confidence in it than in contradictions.
3. The `abominable conjunction' here is the heart and soul of the sorites paradox---surely it should receive vanishing small credence, if any at all.
4. The appropriate attitude to the atomic ascription of redness to borderline-Patchy feels very different---certainly not an utter rejection, but some sort of undecided, balanced state.
5. Similar to (4)
6. A sensible attitude to such a counterfactual would be 50/50 credence, matching one's credence in the coin landing heads *under the counterfactual supposition that it was flipped*.
7. With the presupposition-failure case, we're back to rejection on the mode of (2) and (3).
8. (8) and (9) concern incompleteness in works of fiction----but they seem to work differently. The *The Turn of the Screw* (arguably by design) admits readings as a straight ghost story, or as a story of someone suffering *delusions*. At first pass, it seems one could read it either way---so there is a kind of freedom to adopt whatever attitude you wish.
9. On the other hand, the literal `cliffhanger' ending of *The Italian Job* clearly calls for us to *wonder* and *try to work out* whether the gang survive. So it's more analogous to cases such as (1) than the others.

10. To ensure the empirical adequacy of quantum physics, one must find a way to preserve the `Born rule', whereby one matches one's credences to the square-amplitude of the wavefunction. And in cases of (seeming) indeterminate property attribution like (10), this will typically take an intermediate value.

As well in the variation in doxastic attitudes across the cases, there's a similar divergence in whether indeterminacy is *inquiry-ending*. Once one has taken on board that there's no fact of the matter on the question in hand, it seems *silly* to press the question (for example)---`I see that it's indeterminate, but still---is Patchy red or not?'. Field (2003) emphasizes this as one core aspect of indeterminacy as ordinarily conceived, and it's important to the way that philosophers often wield the notion. Sider (2001), discussing personal identity and making a case that there's no fact of the matter whether a psychological or bodily criterion is correct, characterizes the option as one on which `the battle weary of metaphysics' can `cast aside their swords'. This seems an important insight into the relevance of indeterminacy in some of the cases above (for example in cases (2), (3), (7)) in others it seems all wrong (e.g. in (1), (9) and perhaps (10)).

Grant that what has been described are the rational attitudes to adopt in each case, and that it's also correct to classify (1-10) as cases of indeterminacy. Then we have a puzzle. The reactions to these cases are *so* diverse, that it's hard to imagine *any* definite information on the at-issue content that the indeterminacy answer could be supplying across the board. So what is going on? This is the *Plurality Puzzle*.

We left open an escape clause---option (B). Perhaps indeterminacy is relevant to first order questions *solely* because it indicates the respondent *does not* have positive information to offer. After all, `I don't know' is a perfectly relevant response to a first-order question. And it precisely leaves open the question of what the relevant first order attitude is to be. It's a familiar enough idea that indeterminacy is ignorance-entailing---familiar enough for Greenough (2003) to make this alleged implication of borderlineness the centrepiece of what was intended to be a neutral definition of vagueness, and for the epistemicists to make it the centrepiece of their epistemic reduction of vagueness.

Two responses. First, the `ignorance only' response to the Plurality Puzzle is much stronger than the simple claim that indeterminacy entails ignorance.[1] As such it is interesting in its own right. The simpler thesis is incompatible with many views of indeterminacy that have been offered (e.g. Field 2000,2003, Schiffer 2003, Barnett 2009, Smith:2010)---but they predict something much stronger than mere ignorance and they count as strategies of type (A) rather than (B). Connectedly, someone endorsing the mere ignorance view, unless they go all the way to epistemicism, will have to explain why there's any point in speaking of *indeterminacy* in the first place, if the information it conveys is solely that one is ignorant of the matter in question (compare Williamson 1994, ch.5).[2]

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[1] Ignorance-entailment in particular has come in for considerable fire lately (cf. Wright 2001, 2003, Dorr 2003, Barnett:2009).

[2] The challenge is to articulate why the putative "indeterminacy" isn't an idle wheel in total theory. If it *explained* our ignorance, rather than just entailing it, then the challenge would be answered. But a theorist taking this line on strategy (B) would be walking a tightrope, in

Second, the `ignorance only' proposal is not a common factor that runs through the cases as presently described. It would leave unexplained many of the correlates of indeterminacy that---in the appropriate cases---motivate the other theorists to provide their richer account. In particular, the inquiry-endingness that often accompanies indeterminacy would go unexplained. The `only ignorance' idea---and (B)-type answers in general---are best seen as just one more among the plurality of proposals, consistent with the deployments of indeterminacy in some cases, perhaps, (especially (1) and (9)), but at odds with the intuitive data in many others. So the Plurality Puzzle remains.

The consensus puzzle

Consider vagueness in the narrow sense----borderline cases of paradigmatically vague predicates. If we look to the literature to see what p-relevant significance is attributed to the information that p is indeterminate, we find in incredible amount of diversity. Wright (2001) thinks that in borderline cases we are prepared to permit and tolerate opposed judgements; Smith (2010) thinks we should have an intermediate degree of belief (like the attitude we adopt to the result of flipping a fair coin); Schiffer (2003) proposes special-purpose vagueness-related partial beliefs to deal with the case; Field (2001,2003,2008) recommends utter rejection of the borderline cases---similar to the attitude we take to inconsistencies. Barnett (2009) thinks we should be in a state poised between belief and disbelief---it should be borderline whether we believe Patchy to be red. There's a striking lack of consensus here. What is going on?

To appreciate why this is surprising, contrast what should be analogous cases. Reports on chances, like reports of borderlineness, are relevant to first order questions. But the relevance in question, as articulated in the principal principle, is broadly common-ground. If someone doubted you should match your credences in the coin landing heads to its known chance (without some recheché setup), the natural reaction would be to doubt their competence with the concept. Likewise, if someone started thinking the *contingency* of whether Billy is in the library, is relevant to the question of whether Billy he in fact *is* in the library, we'd either think they were in a most peculiar informational context, or that they were confused about *contingency*. It's hard to think of examples where there is an operator which is agreed to be a *relevant* response to the question it embeds, but where we can't even agree on the broad outlines of *how* it's relevant. After all, if it's to be relevant in virtue of putting a constraint on our attitudes, it better be that there's a convention of conforming to those constraints, otherwise the whole practice would lose its point. But why, in the case of borderlineness, do we continue to find *radically* different accounts of this relevance at the level of theory? It is most mysterious.

A pessimistic conclusion is that philosophers (or maybe: philosophers other than the author of your favoured theory) have talked themselves into a blind alley, and confused themselves in the process. A better reaction to the situation would take the lack of consensus on these normative matters as a datum---and attempt to make it intelligible from the fundamental characterization of the phenomenon. It turns out we can do this and resolve the plurality puzzle, at the same time.

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explaining ignorance without appealing to constraints on our attitudes that pushes them into strategy (A).

Reactions

The plurality problem was that it looked like whatever we say about constraints that learning that p is indeterminate put on our attitude to p---whatever *relevance* or *doxastic role* it had---will fit only some exemplars of indeterminacy, failing to fit with many more. Some possible diagnoses:

- **Misdiagnosis.** Not all the examples are genuine cases of indeterminacy. All *genuine* cases fit a general pattern. (Maybe the case of the future contingents is just *not* indeterminacy at all).
- **Revision.** Our off-the-cuff reactions to apparent outlying accounts is the problem. In cases that don't fit one's favoured account of doxastic role, we should change our opinion.
- **Ambiguity.** `Indeterminacy' is ambiguous. There's openness of the future, borderlineness of vagueness, unsettledness of counterfactuals, and these are simply separate phenomena.

 You can try these out in various combinations. Perhaps we can bring order to the mess by judiciously throwing out some cases (misdiagnosis) and maintain that ordinary attitudes to other cases are wrong (revision). Having narrowed the range of disagreement, we could finish off by declaring that there are just a few distinct kinds of indeterminacy, each with a distinctive cognitive significance (ambiguity). But organizing the apparent chaos in this way is costly. The Misdiagnosis and Revision strategies will need to fight things out with the first-order literature on the future, on counterfactuals and credences, on ordinary material things, and so on. And there are specific worries: to endorse the first risks being uncharitable to one's colleagues (it's one thing to say that someone's theory is false, another to attribute to their key notion a cognitive role that makes it obviously inapplicable to the case at hand). The second is revisionary of common opinion, and many are uncomfortable with proposing such revision without specific and well-motivated reasons (a general concern for conceptual neatness wouldn't count). The third response is not credible unless something can be said to explain the resemblances between the (allegedly) diverse phenomena that have been called "indeterminacy", that accounts for why people have found it apt to classify them together so far. Importantly, none of these manoeuvres promises to illuminate the consensus puzzle.

Normative silence

The *Normative Silence* model of indeterminacy says t*here is no doxastic attitude it is right or wrong to take to p*, when p is indeterminate. God would believe all truths, and disbelieve all falsehoods. But when it comes to indeterminacies, God is unconstrained---he can believe or disbelieve what he likes. (The immediate inspiration for normative silence is the account of the Liar paradox in Maudlin (2004).[3]). Normative silence provides a basis for explaining both the Plurality and the Consensus puzzles.

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[3] But caveat emptor: Maudlin is quite explicit that he does not wish his full account to be broadened to vagueness narrowly construed (he treats vagueness as involving extra, non-classical truth values, rather than the absence of classical truth values---see *ibid* appendix C). His framing of the central idea is rather different to the one I use here (in particular, he doesn't work in a supervaluational framework).

To fill out the picture, take for granted a broadly supervaluational treatment of indeterminacy. There are multiple sharpenings, each of which induces a precise distribution of truth and falsity over meaningful claims. When a claim is true on each sharpening, it is supertrue. When it is false on each sharpening, it is superfalse. When it is true on some and false on others, it is indeterminate. Supertruth and superfalsity have the `cognitive loads' standardly associated with truth and falsity respectively. When something is supertrue, it is to be believed. When superfalse, it is to be rejected. This leaves the third status---indeterminacy. At this point we deny that there is any normative advice on what attitudes we are to adopt. To be clear: it is not that we leave the theory incomplete. The theory tells us that *so far as general alethic norms go* there are simply no constraints on what the Godlike attitude to p should be, when p is indeterminate.

The qualification that there is no *general `built-in'* normative status is important. Consider: there may be no *moral* norm telling you whether you should walk or cycle to work, but this doesn't mean there's *nothing* to be said in favour of cycling over walking. Given your preferences, the thing to do may be to cycle. Similarly, even if indeterminacy is a `normative gap' so far as alethic norms go, other more local considerations can kick in, so that *all things considered* one should believe the indeterminate proposition. In the case of the Liar, for example, Maudlin thinks that there are well-motivated set of local norms which predict that the Liar sentence should be believed.

This model can and should be generalized beyond the semantic paradoxes. The `local alethic norms' should be thought of as having the status of conventions. They are regularities in our attitudinal reactions to indeterminate cases, regularities that we play a role in sustaining, and that we have an interest in maintaining. There's no need to have the same convention for all cases of indeterminacy---what goes for borderline cases of vague predicates needn't go for conditionals or fiction, for example. Nor do the conventions need to be cover all instances (mixed cases, or complicated conjunctions of indeterminacy drawn from different subject-matters may simply outrun any entrenched regularities). The picture is from the start Pluralism-friendly.[4]

Since there's no built-in cognitive role associated with indeterminacy (just the metanormative principle of normative silence), there's no reason to expect that conceptual or linguistic competence with indeterminacy should bring along an awareness of any of the local roles.[5] This is the crucial disanalogy to the case of chance, where the general

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[4] An interesting twist on this is that *if* indeterminacy leaves things open like this, one could *at a local level* entrench a convention of acting *as if* there was a determinate truth value, over which one was ignorant. In local application, a community could judge and act in ways indistinguishable from that recommended by the epistemicist. If the normative silence story is coherent at all, then this sort of pretending-epistemicism is just a coherent way of behaving as rejectionism, sincere classicism or the alternatives. The \emph{game}-indeterminacies of fictions are a plausible case where we do this. Part of what it is to play the game in---say--- detective fiction, is to assume that questions that the story leaves undecided have answers that you can wonder and worry about. This can be reconciled with indeterminacy in what's true in the fiction, via normative silence and an as-if-there-were-facts local convention.

[5] Shouldn't it bring along an awareness of the meta-normative role? I wouldn't expect this--- normative roles are part of what guide us in deploying the concept and reacting to such deployments, whereas the absence of normative roles isn't action or reaction guiding in the same way.

normative role played is plausibly taken to be at the heart of concept-possession. As people who take part in and sustain the local regularities, it's not as though we're clueless. But getting clear on the regularities requires us to struggle to articulate conventional regularities, rather than introspect on rules involved in our concept-possession. This explains the lack of consensus we find in theories about borderlineness, and the contrast to cases of chance and contingency.

Conclusion

The fundamental characterization of indeterminacy the normative silence model offers---a complete absence of principled guidance---is phenenomologically plausible. It resolves the plurality puzzle without having to get into explicit conflict with ongoing first-order debates or common opinion. Nor does it need to posit unlikely ambiguities. It can straightforwardly account for the striking lack of consensus on such matters in the philosophical literature.

The good news for philosophers is that we have a lot more work to do uncovering the particular conventions in force in different places, and their rationale. But the theory of indeterminacy *as such* does not need to wait on the results of this investigation---its meta-cognitive role of normative silence gives the complete story. [6]

References
Barnett, David. 2009. 'Is vagueness sui generis?'. *Australasian Journal of Philosophy*, 87(1), 5–34.
Dorr, Cian. 2003. 'Vagueness and Ignorance'. *Philosophical Perspectives*, 17, 83–114.
Field, Hartry H. 2000. 'Indeterminacy, Degree of Belief, and excluded middle'. *Nous*, 34, 1–30. Reprinted in Field, *Truth and the Absence of Fact* (Oxford University Press, 2001) pp. 278-311.
Field, Hartry H. 2001. *Truth and the Absence of Fact*. Oxford: Oxford University Press.
Field, Hartry H. 2003. 'No fact of the matter'. *Australasian Journal of Philosophy*, 81, 457–480.
Field, Hartry H. 2008. *Saving Truth from Paradox*. Oxford: Oxford University Press.
Greenough, Patrick. 2003. 'Vagueness: A Minimal Theory'. *Mind*, 112(446).
Maudlin, Tim. 2004. *Truth and Paradox: Solving the riddles*. Oxford: Oxford University Press.
Schiffer, Stephen R. 2003. *The things we mean*. Oxford: Oxford University Press.
Sider, Theodore. 2001. *Four-dimensionalism*. Oxford: Oxford University Press.
Smith, Nick J. J. 2010. 'Degrees of truth, degrees of belief and subjective probabilities'. *In:* Moruzzi, Sebastiano, & Dietz, Richard (eds), *Cuts and Clouds*. Oxford: OUP.
Williamson, Timothy. 1994. *Vagueness*. London: Routledge.
Wright, Crispin. 2001. 'On being in a quandry'. *Mind*, 110.
Wright, Crispin. 2003. 'Vagueness: A fifth column approach'. *Pages 84–105 of:* Beall, J. C. (ed), *Liars and Heaps: New essays on paradox*. Oxford: Oxford University Press.