

WRIGHT ON BORDERLINE CASES AND BIVALENCE¹

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Abstract. The aim of this paper is, firstly to explain Crispin Wright's *quandary* view of vagueness, his intuitionistic response to sorites and the relation of borderline cases and bivalence, and, secondly assess the objections to his ideas.

Keywords Indeterminacy · Borderline cases · Bivalence · Quandary · Ignorance · Intuitionistic logic

1. Borderline Cases and Indeterminacy

It is generally agreed that vague predicates like 'tall', 'fat', 'red', 'rich', 'tadpole' and 'child', have borderline cases. These are cases where it is not clear whether or not the predicate applies. For instance, a Chinese man, five feet six inches in height is a borderline case for 'tall', or a car whose color is between a definite red and a definite orange is a borderline case for 'red'.

Most vagueness theories agree that it seems borderline cases are falling within a gap between the cases of definite application of the predicate and cases of definite application of its negation. According to this common view the standard philosophical analysis defines borderline cases for vague predicate 'P' as items that are neither definitely [or determinately] P nor definitely not P. Thus when we say "John is tall", it is not determinate that whether this predicate applies to John or not. It seems that there is no precise point that marks the cutoff between being and not being tall.

Now the issue is that how we can cope with this phenomenon? How can we explain this indeterminacy? At first glance it seems there can be three options or views which can then be distinguished in terms of where each view locates the source of this indeterminacy: Epistemic, Semantic and In rebus approach.

2. Three possible options

1. The first option is that borderline cases present a kind of epistemic indeterminacy. The most prominent proponent of this approach is Williamson. Epistemic theorists retain classical logic and bivalence. According to epistemic account there is a precise fit between our language and the world. Everything we state has absolutely precise truth condition and perfectly determinate in truth-value. Thus on the spectrum of colors there will be a precise point where red turns to orange, or that the loss of a single hair can turn a man bald or that I can be not rich and then suddenly become rich by obtaining only one cent.

¹ I am grateful to Dr. Davood Hosseini, Tarbiat Modares University

This view characterizes borderline cases epistemically. Although there is a fact of the matter about whether John is tall – on the basis of bivalence either he is tall or not – we do not and perhaps cannot know which. There is a sharp but unidentifiable (there is a type of ignorance) threshold to e.g. colors, heights and heaps.

2. The other option is semantic approach that finds the root of this indeterminacy in some shortcoming of our language or a kind of shortfalls in the meaning we have assigned to expressions. A semantic theory explains vagueness in terms of being borderline cases that receive some value other than standard true or false as their semantic value. It involves the use of a non-standard semantics, one that allows the sentences to receive semantic values other than the classical values like true and false.

Semantic approach to vagueness is subdivided into two camps: contextualist theories and indeterminist theories. We concentrate on the latter which includes supervaluational approaches, subvaluational approaches, degree-theoretic approaches and three-valued logics. Most of the indeterminist theories present a challenge to the principle of Bivalence.

For instance, in in three-valued logics borderline cases receive some third value other than truth or falsity; or in degree-valued logics borderline cases receive degrees of truth, or verities, strictly between truth and falsity.

3. The last option is in rebus account that finds the root of indeterminacy not in our language but in the objects that we use language to describe. Thus being a borderline case is a matter of being within a penumbra, like the position of a point between the light and the dark in a shadow. It is the world that is ‘fuzzy’, and as a result there are objects or other things of which it is indeterminate whether they meet the precise satisfaction conditions of our predicates.

So according to Semantic and In rebus approach, if the language or the world were precise, there would be sharp thresholds, which the Epistemic view believes there already actually are.

To sum up the two last options, it seems that these two type of indeterminist views goes with the idea that borderline cases have a status incompatible with truthful that let alone knowledgeable verdicts about them.

3. Vagueness Trilemma

Wright in 2003 after mentioning these three broad conceptions of vagueness, claim that all of them are open to many different objections. So is there any other alternative? How there could be any other – fourth – type of view?

4. *Quandary as an alternative*

To illustrate the new idea of Wright, first we must explain his objection to any kind of Third Possibility views of indeterminacy which he calls simplest possible view of indeterminacy.

Third possibility is the view that indeterminacy result or consists in some kind of status other than truth or falsity (a lack of truth value or the possession of some other truth value). He points out that neither supervaluationism (or any other third-possibility theory of vagueness) nor epistemicism cohere with the characteristic mental state of one for whom a proposition presents itself as borderline.

Wright also emphasis that Third Possibility entails but not entailed by *Verdict Exclusion*. Verdict Exclusion says that where P is borderline, no judgment that P is true or that P is false is knowledgeable. According to Verdict Exclusion, one ought to offer no verdict about a borderline case and to have no opinion which could be expressed in such a verdict.

Wright thinks these views (Third Possibility & Verdict Exclusion) are very difficult to sustain; Since he finds it quite unsatisfactory to represent *indeterminacy* as any kind of *determinate* truth status—any kind of middle situation, contrasting with both the poles (truth and falsity)—, since:

“[...] One cannot thereby do justice to the absolutely basic datum that in general borderline cases come across as *hard cases*: as cases where we are baffled to choose between conflicting verdicts about *which polar verdict applies*, rather than as cases which we recognise as enjoying a status inconsistent with both. Sure, sometimes people may non-interactively agree [...] that a shade of colour, say, is indeterminate; but more often—and more basically—the indeterminacy will be initially manifest not in (relatively confident) verdicts of indeterminacy but in (hesitant) differences of opinion (either between subjects at a given time or within a single subject’s opinions at different times) about a polar verdict, which we have no idea how to settle—and which, therefore, we do not recognize as wrong”.²

Now we can surmise his idea on the nature of borderline cases. He mentions: “To regard a case as borderline is not to regard it as having a status inconsistent with either polar verdict, but to feel that one cannot knowledgeably endorse a polar verdict”.³ If, for example, you take John to be borderline

² (Wright 2001, p. 70)

³ (Wright 2003, p. 93)

tall, you won't judge that it's neither true nor false that John is tall (this is what a supervaluationist will claim) but will instead be in a *quandary* about what to think about John's being tall. There is a kind of bafflement. So Wright's view will agree with Epistemicism just this far that: the root characterization of indeterminacy will be by reference to *ignorance*.

He represents indeterminacy as a kind of *epistemic* status and accepts a *psychological* account of vagueness: an account of vagueness in terms of the characteristic mental state of one for whom a proposition presents itself as borderline, the state he calls *Quandary*.

A proposition P presents a quandary for a subject S, at time T, iff, at T,

- (i) S does not know whether or not p,
- (ii) S does not know any way of knowing whether or not p,
- (iii) S does not know that there is any way of knowing whether or not p,
- (iv) S does not know that it is (metaphysically) possible to know whether or not p,
- (v) S knows that: it is not feasible to know that p/not-p

Now what draws our attention is that how does quandary enter into an account of vagueness. It is obvious that this question cannot be answered only by saying that borderline propositions are just those which give rise to quandary, because Goldbach's conjecture is also presents a quandary.

Against Third Possibility and Verdict Exclusion, Wright sets the following controversial contrary thesis of *Permissibility*:

"[...] A verdict about a borderline case is always permissible; it's always all right to have a (suitably qualified) opinion. [This] is a matter of its being consistent with everything one knows, when one competently takes a case to be borderline, that a verdict about that case is correct and that one who advances it does so warrantably".⁴

Permissibility maintains that to regard X as a borderline case of F is neither to recognize that there is no correct polar verdict about 'X is F', nor that no such verdict can be knowledgeable. Rather it is a failure to come to a view. So he think that the idea of failure of judgment (an inability of competent judge) is the best start point for an account of vagueness in which we are interested.

⁴ (Wright 2003a, p. 94)

He elaborates an Agnostic (intuitionistic) account to explain the borderline cases and Resolve the sorites paradox. Against indeterminism of semantic and in rebus views that involves adding Third Possibility, and so rejecting Bivalence while accepting Verdict Exclusion and Epistemicism that insists on Bivalence but rejects Third Possibility while accepting Verdict Exclusion he suggests the view that concerning borderline cases, accepts none of Third Possibility, Verdict Exclusion, and Bivalence.

5. *Agnostic / Intuitionistic response to the Sorites*

Wright regards sorites – only as common sense – as *reductio* of its premiss and initiates by explaining a misdescription of what it is for a predicate to be vague. He tries to explain that what is wrong with the following conditional:

$$(\exists x)(Fx \ \& \ \neg Fx') \rightarrow F \text{ is not vague (the misconceived conditional)}$$

According to this conditional if there is a sharp cut-off point in the series in question—a last F case immediately followed by a first non-F one—then F is after all precise—at least in that series—rather than vague. And contraposing, there is no sharp cut-off if F is vague.

Here the Wright’s point is if we consider the classic formulation of Sorites that presents an inconsistent triad over a suitably ordered finite series:

$$\{F_0, \neg F_n, (\forall x)(Fx \rightarrow Fx')\} \Rightarrow \Lambda$$

the inconsistency remain even after the major premise $[(\forall x)(Fx \rightarrow Fx')]$ is taken in a form which seems just to be a description of F's vagueness:

$$\{F_0, \neg F_n, \neg(\exists x)(Fx \ \& \ \neg Fx')\} \Rightarrow \Lambda$$

Wright calls it “No Sharp Boundaries paradox” and tries to resolve it by finding something amiss with the misconceived conditional. As we mentioned he has taken an agnostic stance that does not accept Bivalence. Thus:

“We do not [...] know of any sufficient reason for the view that each such predication [predications of a vague F over the objects featuring in a Sorites series for F] results in a proposition such that either it or its negation is true. Then we must also take it that we have no sufficient reason for accepting the antecedent of the misconceived conditional. For if we had, then [...] we should know that it consisted in an initial segment of F cases followed immediately by a remainder of non- F ones—and then we'd know Bivalence held over the series of propositions in question, contrary to hypothesis”.⁵

But we also do not have any sufficient reason for affirming the negation of the antecedent of the misconceived conditional—the paradox itself rules that out.

Thus the misconceived conditional is unacceptable for Wright, since it is epistemically open that its antecedent is false. But the consequent—that F is not vague—is false by hypothesis (not accepting Bivalence).

The concern is what misconceived conditional has to do with resolving Sorites? Wright's answer is that there is no obstacle to treat the Sorites inference as the *reductio* of its premiss and motivations like the thought that — *vagueness of F should suffice for the truth of the major premise, taken in the form: $(\exists x)(Fx \ \& \ Fx')$* — is now rejected by misconceived conditional. And

“For [...] any agnostic about Bivalence for the relevant range of statements, recognition of the vagueness of F has to be consistent with agnosticism about the existence of a sharp cut-of in the series in question; that is, consistent with open-mindedness about the truth of $(\exists x)(Fx \ \& \ Fx')$ ”.⁶

Wright's answer to the apparent implication of a sharp threshold in Sorites series is that it can be avoided if we refuse _by an intuitionistic move_ the transition from

$$\neg \neg (\exists x)(Fx \ \& \ Fx')$$

to

$$(\exists x)(Fx \ \& \ Fx')$$

⁵ (Wright 2003a, p. 98)

⁶ (Wright 2003a, p. 99)

Such restrictions (demurring from taking LEM to be valid) will be well motivated if there is indeed a strong case for agnosticism about Bivalence. In the next section we will explain what is that case.

6. Motivations for agnosticism about Bivalence

First Motivation:

Suppose we are working in a discourse which we regard as a subject to the principle of Evidential Constraint:

(EC) $P \rightarrow$ it is feasible to know that P

And suppose that we think we know that Bivalence holds over the discourse. Then we ought to think that we know that the disjunction

It is feasible to know P or it is feasible to know not P

Holds. The matter is what if the discourse be number theory and P be Goldbach's Conjecture that is an example of statement Wright calls it a *Quandary*?

A statement P presents a quandary for a thinker T just when the following conditions are met:

- (i) S does not know whether or not p ,
- (ii) S does not know any way of knowing whether or not p ,
- (iii) S does not know that there is any way of knowing whether or not p ,
- (iv) S does not know that it is (metaphysically) possible to know whether or not p

Note that the clauses for Quandary did not include undecidability:

- (v) T knows that it is impossible to know whether or not P

It seems if P is a quandary for T , then the claim that

It is feasible to know P or it is feasible to know not P

is unwarranted for T. So if P belongs to a range which we regard as subject to EC, Bivalence is unwarranted as applied to P and other statements in the same case.

Second Motivation:

Wright in the second motivation points out that even without endorsement of EC we can conclude the same point. Suppose an Agnostic stance about EC that reserve the possibility that it might emerge as correct.

Suppose we are so open-minded or unpersuaded that we find regarding simple color predications like (is Red) as subject to EC, compelling, but sufficiently moved to doubt that we know that their truth is in general subject to no form of evidential constraint. Suppose we are also satisfied that their vagueness deprives us of any grounds for thinking we can in principle decide any such statement.

Now we are in a position that we are not rationally persuaded of neither EC nor Bivalence. Thus the first motivation kicks in, since Bivalence lacks the kind of support that a fundamental metaphysical principle should have.

In the next section we explain the objections to Wright's ideas. Among wright's critics we can only mention Schiffer and Greenough.

7. Objections to the idea of Quandary

Stephen Schiffer in his "Quandary and Intuitionism" criticizes Wright's 2001 and 2003 articles. His main objection is to the fourth (iv) and especially fifth (v) line of the Quandary. It seems the issue in both of them is the view Wright calls Verdict Exclusion. Schiffer after mentioning Wright's reasons for not accepting Verdict Exclusion, criticize them. To deny Verdict Exclusion is to assert that it's not impossible for a proposition to be both borderline and known. Note that although Wright not accept Verdict Exclusion, also don't accept its negation (since he denies DNE), instead he has an agnostic stance about it.

1. First reason for not accepting Verdict Exclusion is that he finds it incompatible with the plausible principle of *Evidential Constraint* (EC). To explain it Wright states: "[A] wide class of

vague expressions seem to be compliant with an intuitive version of Evidential Constraint: If someone is tall, or bald, or thin, that they are so should be verifiable in normal epistemic circumstances. Likewise if they are not bald, not tall, or not thin”.⁷

Suppose ‘P’ is a predicate that satisfies EC. Then, following Wright, we may represent the satisfaction of EC by ‘P’ by the pair of EC conditionals

$$\begin{aligned} Px &\rightarrow \text{it is feasible to know that } Px \\ \neg Px &\rightarrow \text{it is feasible to know that } \neg Px \end{aligned}$$

Now, the predicates that satisfy EC may have borderline cases, and for these atomic predicates Px is borderline iff $\neg Px$ is; so if it were not feasible to know a borderline proposition, then the consequents of the two displayed EC conditionals would be false, and we would have the contradiction $\neg Px \ \& \ \neg\neg Px$.

Schiffer thinks that there are two problems with this reason:

First “*every* vague expression must satisfy EC if Wright is to have a fully general account of vagueness and a complete resolution of the sorites; but even if *some* vague expressions, such as ‘red’, satisfy EC, it’s highly doubtful that they *all* do. ‘Brave’, for example, is vague, but it’s doubtful that it’s evidentially constrained”.⁸

And second “I should think that whatever case there may be for EC pales by comparison with the case for thinking that it’s metaphysically impossible for a proposition to be both borderline and known, and anyway I don’t see that there is much of a case for EC. What *does* seem right about EC is that if a thing is *definitely red*, then it may be known to be red, and if a thing is *definitely not red*, then it may be known not to be red”.⁹

2. The Second reason is that if we knew that no verdict about a borderline case could be knowledgeable, then we would be “committed to regarding anyone who advanced a verdict, however qualified, as strictly out of order—as making an ungrounded claim and performing less than competently”¹⁰; but we are not, since “the impression of a case as borderline goes along with a

⁷ (Wright 2003b, 96)

⁸ (Schiffer Forthcoming, p. 20,21)

⁹ (Schiffer Forthcoming, p. 21)

¹⁰ (Wright 2003b, 94)

[warranted] readiness to tolerate others' taking a positive or negative view—provided, at least, that their view is suitably hesitant and qualified and marked by a respect for one's unwillingness to advance a verdict".¹¹

Schiffer thinks the ways in which we must recognize that a person needn't be at fault in taking a "suitably hesitant and qualified" view about a borderline proposition are entirely consistent with our knowing that the proposition can't be known.

Patrick Greenough is another critic that has elaborated on an objection mainly to Wright's idea of Permissibility in his 2008. There are two claims about Permissibility:

Strong Permissibility: It is always permissible to make a verdict about a borderline case.

Weak Permissibility: For all one knows, a particular verdict concerning a borderline case constitutes knowledge / fails to constitute knowledge.

Greenough argues that both of them are open to many objections. There are three main problems against Strong Permissibility:

First problem is that if we suppose the knowledge as the norm of a verdict, then S should make the verdict that P only if S is in a position to know that P; Now if P be a borderline proposition, then according to Strong Permissibility S could make a verdict as to whether or not P. And this brings Strong Permissibility into conflict with the first clause of quandary (S does not know whether or not p).¹²

Second problem is that since for Wright 'is red' is a response-dependent predicate, if an object judged (under normal conditions) to be red/not red, then that object is red/not-red. And such judgment cannot be false. Also S is in a position to know that x is red/not-red. According to Strong Permissibility such judgments can be made in the borderline area, and that brings it into conflict with the first clause of quandary again.¹³

These two problems points out the inconsistency between Strong Permissibility and first clause of quandary.

¹¹ (Wright 2003b, 92)

¹² (Greenough 2009, 403)

¹³ (Greenough 2009, 403)

Third problem is that suppose that S is in a position that knows that are confronted by a borderline case. Strong Permissibility says that this subject is permitted to make a verdict about such a case. And is in a position that knows that are permitted to make a verdict. Weak Permissibility entails that, for all S is in a position to know, a particular verdict constitutes knowledge/fails to constitute knowledge. Suppose that S's verdict that p is permissible iff S is in a position to know that p. Thus, Weak Permissibility entails that, for all S is in a position to know, a verdict concerning the borderline case is permissible/is not permissible. This latter conjunct amounts to the claim that S is not in a position to know that a verdict concerning a borderline case is permissible. Contradiction.¹⁴

Thus we must reject Strong Permissibility. But there are three main problems against Weak Permissibility too:

First problem is that if we suppose that S is in a position to know that p is a borderline, given closure and the first clause of quandary, S is in a position to know that they are not in a position to know that p/not-p. Given Weak Permissibility, S is not in a position to know that they are not in a position to know that p/not-p. Contradiction.¹⁵

For understanding the second problem, first we must consider the Rosenkranz Problem: Suppose that S is in a position to know that p is a borderline. Suppose that S knows what this amounts to in respect of Weak Permissibility. Thus, S is in a position to know that: they are not in a position to know that they are not in a position to know that p/not-p. Given the factivity of *being in a position to know*, S is not in a position to know that they are not in a position to know that p/not-p. However, if S is in a position to know that p/not-p then S is in a position to know that they are not in a position to know that not-p/p. Thus, S is not in a position to know that p/not-p. From the first supposition, via closure, S is not in a position to know that they are not in a position to know that p/not-p. Contradiction.¹⁶

Greenough in *Second problem* present an strengthened version of the Rozenkranz problem: given that The Rosenkranz Problem is treated as a reductio of the assumption that a subject knows (or is in a position to know) that p is a borderline case then borderline cases are impossible. This is

¹⁴ (Greenough 2009, 403)

¹⁵ (Greenough 2009, 404)

¹⁶ (Rosenkranz, 2005)

because the assumptions used in the proof of the Problem (e.g. Weak Permissibility) are necessarily true. So, necessarily, the subject lacks knowledge that p is borderline. But if it is metaphysically impossible to know that p is borderline then, via EC, borderline cases are impossible (given Weak Permissibility).¹⁷

Third problem is that if we suppose that S is in a position to know that they are in a quandary, according to the last problem this supposition will be false and since this derivation depends on assumptions that are taken to be necessary (e.g. Weak Permissibility), then, necessarily, S does not know that they are in a quandary. Given EC, quandary is impossible then; and since Wright suppose borderline cases as subclass of quandary, then borderline cases are impossible too.¹⁸

Thus we must reject Weak Permissibility too.

Greenough after this objections stabilize the quandary conception as follows:

1. Quandaries are a subclass of borderline cases
2. A subject can know that a proposition is borderline
3. Retain all of Wright's original clauses of quandary, stated in terms of being in a position to know
4. Reject the thesis that typical vague predicates are observational
5. Reject Strong Permissibility
6. Reject Weak Permissibility

8. Conclusion

Quandary and permissibility in their primitive formulations are open to many problems and a Wrightean conception of vagueness should revise them in weaker formulations, such as Greenough's ones.

¹⁷ (Greenough 2009, 404)

¹⁸ (Greenough 2009, 405)

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