ABSTRACT. Mights plug gaps. If \( p \) lacks a truth-value, then ‘It might be that \( p \)’ should also lack truth-value. Yet epistemic hedges often turn an unassertible statement into an assertible one. The phenomenon is illustrated in detail for two kinds of statements that are frequently alleged to be counterexamples to the principle of bivalence: future contingents and statements that apply predicates to borderline cases. The paper concludes by exploring the prospects for generalizing this gap-plugging strategy.

Hedges loosen lips. Consider a journalist who has doubts about ‘The Iraqi army interfaces with messenger pigeons’. As long as he thinks the report has a chance of being true he can tell others that ‘The Iraqi army might interface with messenger pigeons’. But if he believes ‘The Iraqi army interfaces with messenger pigeons’ is false or meaningless or otherwise untrue, then he cannot sincerely assert it – regardless of whether he adds a hedge. This feature of assertion presents a methodological opportunity: Hedgeability is a test for cognitivism (the belief that the hedged statement has a truth value).

My primary interest is in dialectical applications of the hedge test: If the speaker is willing to sincerely hedge statement \( S \), then he cannot consistently say that \( S \) is neither true nor false. My secondary interest is in statistical applications of the hedge test: If most speakers are willing to hedge \( S \), then that is direct evidence that most people believe \( S \) is either true or false – which I take to be indirect evidence that \( S \) does indeed have a truth-value.

The hedge test is effective against those who model indeterminacy with truth-value gaps. I illustrate with a criticism of those who say future contingent propositions are counterexamples to the principle of bivalence. I also apply the hedge
test against supervaluationist treatments of vagueness. My criticisms are extended to fuzzy logic because it has been touted as being especially good at modeling hedges. (Lakoff, 1973) I contend fuzzy logic is especially bad at modeling hedges.

The generality of the hedge test makes it a resource for defenders of the law of bivalence: every proposition has a truth-value (true or false). Bivalence is controversial because it imposes sharp edges on phenomena that seem gappy or a matter of degree. The hedge test reveals the underlying cognitivism of most speakers and, often, the latent cognitivism of non-cognitivists.

Admittedly, there are idiosyncrasies of hedging that generate mistaken verdicts. No one demands infallibility from a test, just the practical capacity to rationally persuade the targeted audience. In this pragmatic spirit, safeguards are suggested in the final section along with a characterization of whom I intend to persuade with the hedge test.

1. HEDGE HOGS

In the preface of *Jarhead*, Anthony Swofford qualifies his entire memoir:

As a lance corporal in a U.S. Marine Corps scout/sniper platoon, I saw more of the Gulf War than the average grunt. Still, my vision was blurred—by wind and sand and distance, by false signals, poor communication, and bad coordinates, by stupidity and fear and ignorance, by valor and false pride. By the mirage.

Thus what follows is neither true nor false but what I know. (2003, 2)

Given that ‘know’ means propositional knowledge, Swofford has over-hedged. Since knowledge implies truth, he cannot know anything that lacks a truth-value.

Over-hedging can also involve epistemic possibility. This is the modality typically signaled by ‘might’ (though indicative uses of ‘possible’ are commonly epistemic). *Mights* mark alternatives that are compatible with a contextually specified
stock of knowledge. When the United Nations’ chief arms inspector said that Iraq might have nuclear weapons, he meant that for all the inspection team knew, Iraq had nuclear weapons. Since epistemic possibility is defined in terms of knowledge, you cannot consistently hedge a statement that you believe to be neither true nor false.

Hedged statements themselves have truth-values. Suppose you are teaching me poker and I worry out loud “He might have four queens”. You scold me: “No, the queen of clubs was discarded earlier and is now visible in the pile of exposed cards. Pay attention!” If my hedged statement were merely an expression of emotion (or a confession of ignorance), your observation would not have refuted me. Missed clues generate ignorance without generating epistemic possibility. (Hacking, 1967, 148–149)

When a speaker asserts a proposition he expresses the belief that he knows it. So over-hedging can also be approached from the angle of assertibility. Hedging a declarative statement with a ‘might’ is an act of caution. But security is achieved only if the might increases the assertibility of the statement. If the unhedged utterance is known to be false or meaningless or devoid of truth-value, then adding a might should leave it unassertible. Yet truth-value gaps have been postulated for some statements that can be successfully hedged with a might. The hedgeability of this statement should make the speaker believe that its unhedged counterpart possesses a truth-value after all.

‘Might’ does not make right (or wrong). The connection between hedgeability and truth-values is at the level of belief rather than entailment. If you are in a position to assert ‘It might be that S’ then you must believe that S has a truth-value. But your belief that S has a truth-value could be false.

This may have happened to readers of the University of Houston student newspaper The Daily Cougar. Richard Lotz ended his op-ed piece with “I admit that more people have been to Iraq than I have, so I don’t know everything.” (Lotz, 2003) Consider a cautious reader who infers ‘More people might have been to Iraq than Lotz has’. This commits him to
believing that Lotz’s sentence has a truth-value. But Lotz’s sentence is meaningless. Linguists call such constructions “Escher sentences”. (Other examples: ‘More people complained than I did’ and ‘More people have thought about Escher sentences than I have’.) As with the Escher lithograph “Waterfall”, we are slow to recognize the global incoherence because of the local coherence.

Or consider the student who hedges his Heidegger. The student’s sincere assertion “The nothing might nothing’ does not prove that “The nothing nothings” has a truth-value.

The fallibility of the hedge test is symmetrical. Refusal to hedge does not prove that a statement lacks a truth-value. Those who first hear the nursery rhyme “Mares eat oats” refuse to concede the first sentence might be true because the sing-song phonetics (left column) trick them into dismissing it as nonsense (the correct parsing is on the right):

\[
\begin{align*}
\text{Mairzie doats,} & \quad \text{Mares eat oats,} \\
\text{An doazie doats,} & \quad \text{And does eat oats,} \\
\text{An liddle amzie divy.} & \quad \text{And little lambs eat ivy.} \\
\text{A kiddly divy two,} & \quad \text{A kid’ll eat ivy, too,} \\
\text{Wooden tyu?} & \quad \text{Wouldn’t you?}
\end{align*}
\]

2. FUTURE CONTINGENTS

Truth-value gaps debut in ancient commentary on the problem of logical fatalism: How can I be free if there is already a fact of the matter as to what I will do? According to many scholars, Aristotle denied that contingent propositions about the future have truth-values. Future contingents become true or false with the passage of time. Medieval philosophers extend this solution to the problem of foreknowledge: If God already knows what I will do, how can I be free? By denying that future contingent propositions have truth-values and defining omniscience as knowledge of all truths, the Medi-
evals hoped to reconcile God’s perfection with human freedom.

Epistemic hedges give us a fresh basis to infer that future contingent statements have truth-values. Recall Aristotle’s musings about a looming naval engagement:

(1a) There will be a sea-battle tomorrow.

If (1a) lacks a truth-value, then its hedged counterpart, (1b), should also lack a truth-value.

(1b) There might be a sea-battle tomorrow.

But (1b) seems true even to friends of the open future. Indeed, (1b) reports the very indeterminacy that scholars were trying to model with truth-value gaps. This respect for indeterminacy explains why friends of the open future accept the disjunctive hedge (1c).

(1c) There will be a sea-battle tomorrow or there will not be a sea-battle tomorrow.

We can verify that (1b) expresses an epistemic possibility rather than alethic possibility by applying G.E. Moore’s (1962, 187) test: The statement ‘I know that there will not be a sea-battle tomorrow’ contradicts (1b) but does not contradict ‘It is possible that there will be a sea-battle’. Knowledge of non-actuality precludes epistemic possibility but not alethic possibility (the objective possibility studied by physicists, mathematicians, and others).

Knowledge of non-actuality is often presumed to be a matter of being able to show the falsehood of rival hypotheses. But showing non-truth is enough. This is part of the lore of physics. Wolfgang Pauli was notorious for his habit of dismissing hypotheses as “utterly false”. But on one famous occasion, he was flexible enough to object, “That isn’t right. That isn’t even wrong”.

Only truths are objects of knowledge. The Medievals relied on this principle when trying to solve the problem of divine foreknowledge. But their approach is uncoordinated; they curb the objects of knowledge without simultaneously curbing epistemic possibility.
3. THE TEMPTATIONS OF DATING

Although we cannot date when propositions become true, we can date their truth-makers. If ‘There will be a sea-battle tomorrow’ is true, then it is made true by a future event (the sea-battle). If false, it is made false by the absence of that future event (or perhaps by events incompatible with a sea battle). This is the insight behind the (false) claim that it is not yet true or false that there will be a sea-battle tomorrow.

The datability of truth-makers no more supports an open future than an open past. For past facts can have future truth-makers. An annulment makes it the case that the couple was never married (in contrast with divorce). The voiding of a contract makes it the case that there was never any obligation. And recall the anecdote about the deliberating umpire. After a player dramatically slides into home plate, the umpire hesitates. The player impatiently demands to know whether he is safe or out. The umpire retorts ‘You ain’t nothing until I say what you are. If the umpire finally declares the player was out, the player counts as out prior to the declaration. (The official play-by-play record of the baseball game does not contain a period in which the score is indeterminate.) Contrary to what the umpire intimates, the player is not in logical limbo. The player was right to assume that he was either safe or out. Granted, the truth-maker had not yet transpired. But propositions do not wait for their truth-makers. Truth-making is not a causal relation.

Consider a waiting fan who reasons ‘It is not yet true or false that the player was safe, so he might have been safe and he might have been not be safe.’ Since the fan cannot predict whether the truth-maker will come to pass, his hedged conclusion appropriately reflects his ignorance. However, as even the proponent of the open future must agree, the fan’s premise is mistaken. For all sides of dispute agree that past contingent propositions have truth-values.

Proponents of the open future compare reality to a growing crystal. As time passes, reality gets bigger. There is indeed an accumulation of truth-makers over time (just as there is an
accumulation of truth-makers over space). More and more of them are behind us. But since truth-makers can confer truth-values retroactively, it does not follow that there is an accumulation of truths.

I have dwelt on the distinction between dating truth-values and dating truth-makers to expose a flaw in an influential inference that seems to vindicate the principle that gaps entail mights:

*It is not yet true that there will be a sea battle and not yet false.*
*Therefore, there might be a sea battle and there might not be a sea battle.*

The premise seems true when confused with the weaker proposition “There has not yet occurred a truth-maker for ‘There will be a sea battle’ and there has not yet occurred a false-maker”. But the premise says more. It entails that ‘There will be a sea-battle’ lacks a truth-value. If we know ‘There will be a sea battle’ lacks a truth-value, then it is false that ‘There will be a sea battle’ might be true. Knowledge of the conclusion contradicts the premise.

When the skeptic concludes ‘There is no knowledge’, critics object that conclusions are assertions and one can assert only what one believes one knows. ‘I know there is no knowledge’ is a contradiction. So although the proposition expressed by the skeptic is consistent (“There is no knowledge”), he cannot consistently assert his position. I am extending the same pattern of objection to the proponent of the open future. ‘There might be a sea battle tomorrow because I know that it is not yet true or false’ is a contradiction. Therefore, it is pragmatically inconsistent to assert ‘There might be a sea battle tomorrow because it is not yet true or false’.

The skeptic can reply to the charge of pragmatic inconsistency by heavy hedging: “I think there is no knowledge but I do not know. The standards for assertion are inconveniently high because they developed under the illusion that knowledge is common. We should not let our message be a slave to our medium of communication. We can muddle along by being vigilant against the imperfections of ordinary language.” Accordingly, Sextus Empiricus prefaces his skeptical lectures
with caveats against inferring that he knows what he is talking about. He is just giving his impressions. Sextus Empiricus guards his *ifs, ands* and *but* with *might* and *maybes*.

In principle, the proponents of the open future could endorse the skeptic's complaints and take refuge in a maze of hedges. In practice, most postulators of truth-value gaps believe that they are manifesting fidelity to common sense and sensitivity to ordinary language. They want to be like Aristotle, not Sextus Empiricus.

4. VAGUENESS

Truth-value gaps are also popular among commentators on the sorites paradox. To forestall any confusion between dating truth-makers and dating truth-values, and to prevent any confusion with metaphysical possibility, let us focus on a geometrical sorites. Since an obtuse angle must be greater than 90 degrees and less 180 degrees, we know the following slippery slope argument drives us from a true base step to a false conclusion:

Base step: A 179-degree angle is very obtuse.
Induction step: If an \( n \) degree angle is very obtuse, then an \( n-1 \) degree angle is very obtuse.
Conclusion: A 91-degree angle very obtuse.

'Obtuse' is a precise term that cannot generate a sorites argument. 'Very obtuse' is a vague term. Many philosophers say that when a predicate is applied to one of its borderline cases, the result is a statement that is neither true nor false. Supervaluationists say that when a statement *would* have the same truth-value regardless of how its meaning were reasonably completed, then the statement *actually* has that truth-value. For instance, 'Either a 120 angle is very obtuse or not' would come out true regardless of how 'very obtuse' were precisified. Supervaluationists say this linguistic counterfactual makes the statement actually true (ditto for 1c). All classical tautologies come out true by the supervaluationist's principle. Interestingly, the induction step of the sorites para-
dox comes out false regardless of how it is precisified. Therefore, the supervaluationists say that the induction step is actually false. They say this even while agreeing there is no pair of statements of the form ‘An \(n\) degree angle is very obtuse’ and ‘An \(n-1\) degree angle is very obtuse’, such that the first is true and the second is false.

Suppose you catch me saying (2a):

(2a) A 120 degree angle is very obtuse.

You persuade me that a 120-degree angle is a borderline case of a ‘very obtuse angle’. I retreat to (2b):

(2b) A 120 degree angle might be very obtuse.

This maneuver acknowledges your point that it is an open issue whether a 120-degree angle is very obtuse.

I would not be entirely acquiescing to your correction if I instead asserted:

(2c) A 120 degree angle might be definitely very obtuse.

For then I would be characterizing the indeterminacy of the 120-degree angle as itself indeterminate. To unequivocally express my submission to your correction, I should say

(2d) A 120 degree angle might be very obtuse and a 120-degree angle might not be very obtuse.

It will then be clear that I agree that ‘A 120 degree angle is very obtuse’ is neither definitely true nor definitely false. This agreement does not exhaust the content of (2d). For (2d) also implies that ‘A 120 degree angle is very obtuse’ is an object of knowledge (because it expresses a pair of epistemic possibilities). A statement that lacks a truth-value is not the sort of thing that can be known and so is not an object of knowledge.

I can assert only what I can appear to know. Statement (2b) is more assertible than (2a) because (2b) is knowable. (Remember, I am assuming, for the sake of an example, that a 120-degree angle is a clear borderline case of a ‘very obtuse angle’.) Since knowledge implies truth, and (2b) is knowable, (2b) has a truth-value (specifically, (2b) is true).
5. MIGHTS AND GAPS, ENTAILMENT OR PRECLUSION?

Mights pragmatically preclude gaps. This explains why the following sentence is self-defeating:

(2e) It is neither true nor false that a 120-degree angle is very obtuse but a 120-degree angle might be very obtuse.

Like G.E. Moore’s sentence ‘It is raining but I do not believe it’, sentence (2e) is consistent but cannot be consistently asserted.

Can we say that (2e) is only pragmatically odd in a harmless way? If gaps entail mights, then (2e) might be like ‘This triangle is equiangular but it is equilateral’. Speakers balk at ‘but’ constructions that contrast a statement with one of its consequences.

The contrast introduced by ‘but’ is not present in conditional constructions:

(2f) If a triangle is equiangular, then it is equilateral.

(2g) If it is neither true nor false that a 120-degree angle is very obtuse, then a 120-degree angle might be very obtuse.

Since equiangularity entails equilaterality, (2f) should come across as an analytic truth. And it does. If gaps entail mights, then (2g) should come across as an analytic truth. It does not.

Remarkably, all past analyses of epistemic possibility have ‘Gaps entail mights’ as a consequence. For instance, Ian Hacking says “‘It is possible that p’ means that p is not known to be false, nor would any practicable investigations establish that it is false.” (Hacking, 1967, 153) If p is neither true nor false, it is not known to be false, nor would any investigation establish that it is false: Gaps entail mights.

Were the analysts assuming the bivalence principle that each proposition has one of two truth-values, true or false? If there are no truth-value gaps, then ‘Gaps entail mights’ is a vacuous truth (ditto for (2g)). But then the analysts should have signaled the vacuity of this truth.
Some of the analysts reject bivalence. Keith DeRose (1998, 81–82) self-consciously integrates truth-value gaps with epistemic possibility in his analysis of the open future. He uses truth-value gaps in his account of assertion and integrates them into his contextualist epistemology. So the analysts do not all take bivalence for granted. Indeed, I think they all accept some truth-value gaps.

A more promising explanation is that the commitment to ‘Gaps entail mights’ arose inadvertently. I suspect the analysts of epistemic possibility would have preferred a neutral definition, one that could win (non-vacuous) assent from both those who believed in gaps and those loyal to bivalence.

In any case, the supervaluationist runs into pragmatic inconsistency when trying to model the indeterminacy of borderline cases with truth-value gaps. Although we cannot sincerely assert that $x$ is $F$ given the belief that $x$ is a borderline $F$, we can assert that $x$ might be $F$ and might not be $F$. If the supervaluationist knew that ‘$x$ is $F$’ is neither true nor false, then this knowledge would entail the falsehood of ‘$x$ might be $F$’.

6. FUZZY LOGIC IS WORSE OFF THAN SUPERVALUATIONISM

Mights also preclude intermediate truth-values. If I say that a 120-degree angle might be very obtuse, the fuzzy logician contradicts me by reporting ‘I know that it is not fully true that a 120-degree angle might be very obtuse’. He may not intend to contradict me. But the only objects of knowledge are full truths and all mights are directed toward objects of knowledge.

Fuzzy logic does a worse job at modeling hedging than supervaluationism. At least supervaluationists explain why an assertion can be hedged by disjoining it with its negation. The standard fuzzy rule for calculating the truth-value of a disjunction is to assign it the same truth-value as its highest disjunct. So unless the extra disjunct has a higher truth-value than the unhedged assertion, the hedged remark does not get an increased degree of truth – even when hedged into a tautology!
The flip side of this anomaly dogged Jan Lukasiewicz’s invention of fuzzy logic. He introduced 3-valued logic to solve the problem of fatalism.

But that logic has some features which are very counterintuitive even when we do take the possibility of ‘neuter’ propositions seriously; in particular, a conjunction of two neuter propositions is neuter, even in the case where one is the negation of the other. If ‘There will be a sea-battle’ is neuter or undecided, it is no doubt reasonable that ‘There will be no sea-battle’ should be neuter or undecided too; but not that ‘There both will and won’t be a sea-battle’ should be—that, surely, is plain false. (Prior, 1967, 135)

Changing the rules and adding more truth-vales may help with objective hedges. But epistemic hedges are intensional and so are not truth-functional. Furthermore, mights are relative to stocks of knowledge. The history teacher knows Ali Hassan al-Majidi is Chemical Ali. Consequently, he regards ‘Ali Hassan al-Majidi might not be Chemical Ali’ and ‘Hassan al-Majidi is not Chemical Ali’ as equally false. The students are unsure of the identity, so one student can truthfully assert to another student ‘Ali Hassan al-Majidi might not be Chemical Ali’.

George Lakoff (1973) uses fuzzy logic to model predicate modifiers such as somewhat, sort of, and loosely speaking. His interest in hedging is inspired by the empirical research on prototypes by Eleanor Rosch (1978) (who was in turn inspired by Ludwig Wittgenstein’s discussion of family resemblance). She reports that people perceive category membership as a matter of degree rather than a clear-cut yes–no matter. Reaction time studies confirm that people distinguish between central members and peripheral members of a category. People are quicker to classify a robin as a bird than a penguin. In fuzzy set theory, membership comes in degrees. Thus the fuzzy logician seems poised to consolidate Rosch’s research.

Subsequent research shows that precise categories generate the same sorting pattern as vague categories; 7 is regarded as a better odd number than 437, the number 3 is more quickly recognized as an odd number than 2,643 (Armstrong and Gleitman, 1983). The participants in the experiment acknowledge that being an odd number is a yes–no matter.
Things that equally belong to a set can differ in how conspicuously they belong. The resemblance of glass snakes to snakes does not decrease their degree of membership in the category of lizards. Lakoff mistakes heuristics as metaphysics. Lakoff also neglects the fact that some precise properties come in degrees. A 170-degree angle is more obtuse than a 91-degree angle but both are obtuse angles. People more quickly recognize a 170-degree angle as obtuse, take it to be more typical, and so on. They will use predicate modifiers as hedges: ‘A 91-degree angle is somewhat obtuse’. But this form of hedging is done for all forms of unclarity; it has nothing special to do with vagueness.

Fuzzy logic is widely endorsed by commentators on hedging (Hyland, 1998, 159). They see it as structural support for Rosch’s research on category membership. However, in their hands the principles of fuzzy logic are decorative columns.

7. THE GENERATION GAP

Although the current generation of gap theorists tends to assume that gaps entail might, the previous generation assumed that gaps preclude might. Recall Peter Strawson’s (1950) seminal objection to Bertrand Russell’s theory of definite descriptions. According to Russell,

(3a) The present King of France is wise.

entails that there is a King of France. Since there is no King of France, (3a) is false. Strawson objected that (3a) is neither true nor false. Strawson did not regard this as reason to affirm (3b).

(3b) The present King of France might be wise.

Strawson believes that (3a) presupposes that the present King of France exists. Statement S presupposes P if and only if P is a necessary condition for S to have a truth-value. He went on to claim that many kinds of statements have presuppositions. If John has no children, then Strawson (1952, 175) judges both of the following statements to be neither true nor false.
(4a) All of John’s children are asleep.
(4b) All of John’s children might be asleep.

Given that Jack is dead, Strawson (1952, 213) judges both of the following statements to lack truth-values:

(5a) Jack will die in the course of the next two months.
(5b) Jack might die in the course of the next two months.

Strawson’s attribution of truth-value gaps is wide ranging. All of his examples abide by the principle that gaps preclude mights.

Rejection of ‘Gaps entail mights’ is crucial to Bas van Fraassen’s (1968) gappy solution to the liar paradox:

(6a) This statement is false.
(6b) This statement might be false.

According to van Fraassen, the liar paradox is avoided by classifying (6a) as neither true nor false. If van Fraassen says that (6b) has a truth-value, he will be embroiled in a variant of the liar paradox [specifically, a paradox intermediate between the possible liar (Post, 1970) and the knower paradox (Anderson, 1983): If (6b) is false, then it is false that (6b) might be false. So (6b) would follow from what is known. But if (6b) follows from what is known and knowledge implies truth, then (6b) is true. Since (6b) is true if false, (6b) is true. Indeed, this very chain of reasoning gives us knowledge of (6b). But wait! If (6b) is true, it accurately reports the epistemic possibility that it is false. So on second thought, we have demonstrated that (6b) is not known. Therefore, (6b) is both known and not known. Contradiction.

Van Fraassen will try to derail the might-liar by insisting that (6b) lacks a truth-value. So must any defender of a supervaluational solution to the liar paradox.

8. MIGHT AND SEMANTIC ASCENT

A supervaluationist might interpret (2d) as a meta-linguistic remark about mixed interpretations:
2d. A 120-degree angle might be very obtuse and a 120-degree angle might not be very obtuse.

7. There is a precisification under which ‘A 120-degree angle is very obtuse’ is true and another precisification under which it is false.

This paraphrase has an artificial ring. (2d) seems to be about the obtuseness of angles. Yet the paraphrase concerns the existence of two predicates that possess every clear case possessed by ‘very obtuse’ but which differ between themselves as to whether they apply to a 120-degree angles. If we drop the vague intensifier ‘very’, we get a statement that clearly does not call for any semantic ascent:

8. A 120-degree angle might be obtuse.

This statement is clearly true because any angle over 90 degrees is obtuse. Why should the introduction of the vague term ‘very’ suddenly confer a meta-linguistic function on might?

Notice that a similar paraphrase fails to work for ambiguity. There is a disambiguation of ‘American pilots bombed Iraq and occupied Kuwait’ under which it is true and a disambiguation under which it is false. But this does not support the truth of ‘It might be case that American pilots bombed Iraq and occupied Kuwait’. Ambiguous statements are not objects of knowledge. Supervaluationists characterize vagueness as hyper-ambiguity. This makes it hard to explain how vague statements could be the sorts of thing that could be known or about which we could be ignorant.

Statement (7) would be more promising as a paraphrase of (2d) if the precisifications were possibilities. For then (7) would be expressing two alethic possibilities that were compatible with everything known. But precisifications are not possibilities.

In mathematics, all possibilities are necessities. If it is possible for a 120-degree angle to be very obtuse, then a 120-degree angle is necessarily very obtuse. Thus replacing the epistemic possibility in (2d) with metaphysical possibility turns a truth into a falsehood:
(2g) It is possible for a 120-degree angle to be very obtuse and it is possible for a 120-degree angle to not be very obtuse.

A correct paraphrase of ‘A 120-degree angle might be very obtuse’ must respect this asymmetry. The paraphrase should vindicate a disjunction that contrasts epistemic and metaphysical possibility:

(2h) Either a 120-degree angle might be very obtuse but it is impossible for a 120-degree angle to be very obtuse or a 120-degree angle might not be very obtuse and it is necessary that a 120-degree is very obtuse.

9. COMPLICATIONS IN ADMINISTERING THE HEDGE TEST

Philosophers have postulated truth-value gaps for a wide variety of statements: judgments of taste, aesthetic remarks, moral utterances, performatives, indicative conditionals, conditional assertions, religious discourse, fictional statements, scientific theories, category mistakes, probability claims, first person avowals of pain, “legal gaps”, laws of nature, and sexist remarks. All of these statements can be hedged. Therefore, the hedge test militates against a diverse battery of objections to the law of bivalence.

As is the case with most tests, the appeal to hedgeability is less effective against radicals. Logical positivists say ‘God exists’ has no truth-value. The cognitivist disagrees and notes that many cautious people are willing to say ‘God might exist’ or ‘God might not exist’. The positivist reminds the cognitivist that the hedge test only shows that the speaker believes that the statement has a truth-value, not that it actually does. Since the positivist is unwilling to hedge, he is not caught in an inconsistency. Since the positivist believes that people are prone to attribute truth-values to meaningless statements (such as moral appraisals, religious remarks, laws of nature, etc.), the positivist also rejects statistical applications of the hedge test.
Happily, most proponents of the open future and supervaluationists about vagueness are less revisionary. They postulate truth-value gaps in the hope of getting a better fit with ordinary language and common convictions. Supervaluationists about vagueness contrast themselves with nihilists who think that vague predicates do not apply to anything. Proponents of the open future are defending the proposition that we are responsible for many of our actions. Both wish to hedge remarks about the future and remarks about borderline cases.

As in case of most tests, the appeal to hedgeability must reflect awareness of confounding factors. There are subtleties of hedging, which if overlooked, generate false positives. Consider vicarious might. Analysts of epistemic possibility generally assume that the speaker is part of the relevant epistemic community. For instance, Robert Stalnaker says \( p \) is possible in the epistemic sense means that \( p \) “is compatible with what the speaker knows” (1984, 143). With communitarian analyses, the commitment is shifted to side-constraints. For instance, Keith DeRose makes no mention of the speaker in his definition of epistemic possibility:

\[
S's \text{ assertion } \text{“It is possible that } P \text{” is true if and only if (1) no member of the relevant community knows that } P \text{ is false, and (2) there is no relevant way by which members of the relevant community can come to know that } P \text{ is false. (DeRose 1991, 593594)}
\]

DeRose stresses flexibility as to who gets included in the community. However, he ultimately compels the speaker to be a member. He thinks this requirement is needed to explain the oddity of sentences such as “I know that Michael doesn’t lead the league in scoring, though it’s possible that he does” (DeRose, 1998, 75). But this compulsory membership overlooks epistemic empathy. A game show host who knows that there is no prize behind door number one can tell a contestant ‘There might be a prize behind door number one’. He is speaking from the perspective of the contestant. Since an empathic speaker can sincerely hedge what he knows to be false, he can also sincerely hedge what he knows to be neither true
nor false. The simplest way to cope with this hazard is to focus the hedge test on speakers who are not simulating epistemic aliens.

There are also peculiarities of hedging that create the opposite danger of false negatives (statements with truth-values that nevertheless resist hedging). For instance, performatives resist hedging because they must be explicit. A circumspect preacher at a wedding cannot epistemically hedge: ‘I hereby might pronounce you man and wife’. At an auction, I cannot bid ‘Approximately $100’. Performatives must be specific. They resist disjunctive hedging, witness the peculiarity of ‘I hereby demand or request your resignation’. When the Massachusetts Historical Society commissioned a monument to the discovery of anesthesia, a priority dispute broke out. Should the bust be of William Morton or of Charles Jackson? The physician Oliver Wendell Holmes suggested that there should be busts of both men along with the inscription “To Ether”.

Priority disputes are so contentious because the logic of honor precludes hedging. One may honor two scientists as co-discoverers. But that is an unhedged affirmation of a tie. In many priority disputes, it is clear that there was no co-discovery; exactly one scientist made the discovery but it is unclear as to who that individual was.

In sum, hedging some statements with a might yields statements that are pragmatically odd (though perhaps true). In these circumstances, the evidential value of the hedge test is compromised. Happily, there are other methods of plugging the gaps postulated for performatives (Sinnott-Armstrong, 1994). And there remains reason to believe that the hedge test will be of service elsewhere. It is easier to assert ‘Judicial torture might be morally permissible’ than ‘Judicial torture is morally permissible’. ‘In The Thief of Baghdad Ali Baba might have an even number of pores’ is more assertible than ‘In The Thief of Baghdad Ali Baba has an even number of pores’. Although the hedge test cannot rescue bivalence from all of its challengers, it promises to be of wide service.
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