

# Truth and knowledge on vagueness

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# observations

GI

- $s$  does not know whether  $Fa$  or not.

$S$  is hesitantly to do the predication.

# observations

HI

- *s' may know Fa, and even that s may know Fa in a different environment.*
- *When s is hesitant to judge Fa, s' may make the predication for certain, and s is tolerant to the predication; and also s in a different environment may judge that Fa is true for certain.*

# Two premises of TSA

1. There is a complete semantic theory of vague predicates.
2. Our (qualified) use is exactly conducted by it.

Qualified use is based on knowledge.

# Failure of TSA

- If  $a$  is a borderline case of  $F$ , then  $Fa$  has a third truth-status different from true and false determined by the semantics of  $F$ . (premise 1)
- Qualifies use towards borderline cases should be different towards clear cases. (premise 2)
- GI is the characterization of qualified use of borderline cases, then it is inconsistent with HI.
- If GI is not, then HI shows that use in borderline cases can be the same as use in clear cases, contradicting to premise 2.

# The quandary view

Abandoning premise 1:

The semantics of vague predicates are incomplete.

# Two generally accepted premises

1. Epistemic states of  $Fa$  supervene on the semantics of it.
2. The semantics of  $Fa$  supervenes on the objects that  $a$  refers to when the vague predicate  $F$  is fixed.

# The argument

- (1) GI shows that  $Fa$  has different semantics in borderline cases other than in clear cases. (premise 1)
- (2) HI shows that epistemic states of  $Fa$  are different among different attributers and different environments.
- (3)  $Fa$  has the semantics among different circumstances of evaluation. (premise 2).
- (4) (2) and (3) are contradict (premise 1).



# Intuition against premise 2

VT

If a vague predication is true, it is feasible to know the predication.

# An alternative?

Epistemicism:

- Bivalence principle holds.
- VT is false.
- Borderline cases present ignorance, not a third truth-status.

# on BC

- GI
- The meaning of vague predicates are determined by the total (qualified) use of them. But we can never know how.
- Our total (qualified) use varies during time, thus the meaning of vague predicates varies during time, the concept a particular vague predicate refers to may be different (of different extensions) during time.
- We cannot distinguish vague concepts referred by the same vague predicate of similar extension.
- Knowledge should be reliable, constrained by margins for error principles.
- Borderline cases are those cases around the boundaries, for we cannot distinguish cases just around the boundaries, thus we do not know their truth.

- HI
- our each individual use are only roughly the same, by parasite on the precise meaning of it;

# On tolerance intuition (anti-KK)

- (1)  $\forall m K(Hm \rightarrow \sim K \sim Hm-1)$  premise
- (2)  $\forall m (K\Sigma \& (\Sigma \Rightarrow \sim Hm)) \rightarrow K \sim Hm$  premise
- (3)  $K \sim H0$  premise
- (4)  $KK \sim H0$  ((3), KK) $\times$ MP
- (5)  $K(H1 \rightarrow \sim K \sim H0)$  (1) $\times$  $\forall$ -
- (6)  $K \sim H0 \& (H1 \rightarrow \sim K \sim H0) \Rightarrow \sim H1$  MP,contraposition
- (7)  $K \sim H1$  ((4), (5), (2) $\times$  $\forall$ -, (6)) $\times$ MP

- $K\sim H0 \rightarrow K\sim H1$  is similar to  $\sim H0 \rightarrow \sim H1$ , but they are different.
- We just put the explanatory burden on our falsely believing KK principle.
- Neither margins for error principles nor KK principle distinguishes vague predicates from precise predicates (by epistemicism).

# Semantics based on VT

- The semantics of a vague predicate  $F$  is a partial function  $f$  from objects to a set of **partial** functions:  $\{(a, e) \mid a \text{ is an attributer and } e \text{ is an environment}\} \rightarrow \{\text{true, false}\}$ .
- $F^a$  is the set of **examples** of  $F$  to an attributor  $a$ , and **different competent speakers have different examples with respect to the same predicate**;
- $\sim_{(a, e)}$  is the epistemically indistinguishable relation of an attributor  $a$  between a mental state (an example) and an object in an environment  $e$ .

The semantics of a vague predicate  $F$  satisfies:

- $f(a, e)(t)=T$  iff  $\exists x(x \in F^a \& (t \sim_{(a, e)} x))$
- $f(a, e)(t)=F$  iff  $\exists x(x \in G^a \& (t \sim_{(a, e)} x) \& F^a \cap G^a = \emptyset)$ .



# On borderline cases

- GI

- ① The function is partial, so the truth-value of  $p$  is not determined by the semantics in borderline cases.

- HI

- ① Examples of a vague predicate are different among different competent speakers. Thus  $T[f(a, e)]$  varies among different attributers with respect to the same environment and the same predicate.
- ② We are ignorant of what exactly others' examples are.

# On margins for error principles

- The failure of ME:
- We mix up epistemic indistinguishable relation with perceptual indistinguishable relation. The former is between an mental state and an object, the later is between two objects.

# On tolerance intuition

- (1)  $B_n$                       premise
- (2)  $B_n \rightarrow KB_n$         VT
- (3)  $KB_n \rightarrow B_{n+1}$     ME
- (4)  $B_{n+1}$                     (((1), (2))xmp, (3))xmp

ME and VT together lead to tolerance principle.

# conclusion

- All present theories of vagueness except for contextualism are constrained by two premises.
- Theories of these two premises are inconsistent in explaining the phenomenon of borderline cases.
- VT and ME are contradict to each other .
- Epistemicism denying VT did not give a plausible explanation to the phenomenon of borderline cases, the intuition of VT and tolerance intuition.
- We construct a semantics denying ME can explain the phenomenon of borderline cases, the intuition of margins for error principles and tolerance intuition.