16. PARADOXES OF VAGUENESS

THE SHIP OF THESEUS

> The ship wherein Theseus and the youth of Athens returned [from Crete] had thirty oars, and was preserved by the Athenians down even to the time of Demetrius Phalereus, for they took away the old planks as they decayed, putting in new and stronger timber in their place, insomuch that this ship became a standing example among the philosophers, for the logical question of things that grow; one side holding that the ship remained the same, and the other contending that it was not the same.   Plutarch, *Theseus*.

Plutarch asks whether the ship would remain the same if it were entirely replaced, piece by piece. One can also ask what happens if the replaced parts were used to build a second ship. Which, if either, is the original Ship of Theseus.

THE SORITES PARADOX

> 1 bean does not make a heap.
> If 1 bean does not make a heap then 2 beans do not.
> If 2 beans do not make a heap then 3 beans do not.
> …
> If 9,999 beans do not make a heap then 10,000 do not.
> _____
> 10,000 beans do not make a heap.

Requires only *modus ponens* and the ability to chain arguments together (*Cut*).

Some responses:

(i) three valued logic: true,false, neither true nor false. Problem: isn't the borderline equally vague.

Borderline Case Paradox

Suppose Jones is a borderline case of bald. Then he is not bald, and not not-bald either. Letting B stand in for Jones is bald, Jones is not bald and not not-bald can be written ~B&~~B. Letting A stand in for ~B, we get A&~A. That's a contradiction! Yet there didn't seem to be anything contradictory about Jones being a borderline case of bald.

(ii) continuum valued logic. Still get problems with higher order vagueness. Couldn't it be vague that 'it is cold' is truer of today than 'it is wet'?

(iii) supervaluation: a sentence is *supertrue* iff all of its precisifications are true. It is superfalse iff all of its precisifications are false. Otherwise it is neither supertrue nor superfalse. Clever: (p v ~p) remains

valid: each instance is supertrue, even when neither of the disjuncts are. But you lose the T-schema ('p' is supertrue iff p). And there are some other odd consequences: the sentence 'For some n, n+1 grains make a heap, and n grains do not' is supertrue, even though no instantiation is.

(iv) epistemicism: there is a sharp border, but we don't (can't) know where it is.

PROBLEM OF THE MANY

1. There is one cloud C in the sky.

2. Any cloud is composed of a set S of water droplets.

3. S' (= S without its outermost droplet) forms a cloud if S does.

4. Clouds composed of different droplets are not identical.

5. So there are at least two clouds C and C' in the sky.

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6. Assumption 1. leads to a contradiction; so there are many clouds out there or none.

INDETERMINATE IDENTITY PARADOX

Suppose you see a pile of leaves on the road on two consecutive days. Some of the leaves are gone and the position is a bit different, but today's pile T is still quite similar to yesterday's Y. There would seem to be no fact of the matter about whether T = Y. The paradox is that this implies that there is a fact of the matter. Leibniz's Law says that things with different properties are non-identical, pure and simple. T has the property P of being determinately identical to T. Y lacks this property, so T ≠ Y.

24.00 Problems in Philosophy
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