More Truthmakers for Vagueness

For Special Session 2: "Truthmaker Semantics and Situations" at Semantics and Philosophy in Europe 11

When vagueness matters, truth matters a lot. For example, a solution (degree theory of truth; [3]) to the sorites paradox questions our widely-believed property of truth by suggesting that their values do not have to be just true and false but many more between. Given truth matters when we talk about vagueness, *truthmakers* may matter as well. At least, Sorensen [4] employs truthmakers to present a variant of epistemicist solution (cf. [5]) to the sorites paradox. According to his account labeled as *truthmaker gap epistemicism*, there are sentences which are true but *unground* i.e. has *no truthmaker*. In the sorites case, an epistemicist of this type insists on the existence of some natural number k such that a sentence "a person with k hairs is bald" is true without any truthmaker. We are just ignorant to know the exact value of k. This move enables us to cross over the borderline or cutting point of vague predicates. What makes (K) "a person with k hairs is bald" true and (K+1) "a person with $k + 1$ hairs is bald" false? Sorensen's answer is *nothing*. (K) is unground i.e. has *no* truthmaker but true though.

However, Sorenson's solution calls unwanted byproduct. As Jago [2] points out, Sorenson's approach is incompatible with *higher-order vagueness*: vagueness on whether something is a borderline case, vagueness on whether something is a borderline case of a borderline case and so on. Sorensen's framework does not have enough tool for this higher-order vagueness because truthmaking is understood as clear-cut: truth is fully made or truth is not made at all. Nothing between them. This is problematic because we have many instances of higher-order vagueness (witness [6]). Further, it was originally the selling point of epistemicists' enterprise to give a quick account to higherorder vagueness. Sorenson's argument sacrifices too many things.

This paper suggests a more fine-grained account of sorites paradox, borrowing several resources of truthmaking theories (cf. [1]). My approach is inspired by Sorenson's idea: truth-makers (and lack of them) play a significant role in the sorites scenario. Mine is just richer and more fine-grained enough to capture higher-order vagueness. I first observe that truthmakers work behind the *tolerance principle* as well. Recall the tolerance says: a small change like pulling 1

hair does not make a person bald from non-bald. We can understand the tolerance in the following truthmaking manner: if a fact f_n (say, x has n hairs) is a truthmaker for Bx_n (x with n hair is bald), then another fact f_{n+1} is also a truthmaker for Bx_{n+1} (x with $n+1$ hairs is bald). Upon this understanding, we find several extra conditions over truthmakers to construct sorites paradox. To reach at the counter-intuitive claim "a person with 200,000 hairs is bald", for every n, f_n needs to be (i) *full*– no other truthmaker needed – and (ii) *unique* – the only truthmaker – to Bx_n. Without these strong properties, truthmaking gains its degree between "no truthmaker at all" and "fully grounded by a single truthmaker". For example, some sentence may be grounded independently by two sets of partial truthmakers. This gradation makes enough space for higher-order vagueness.

Next, I argue that canceling these two properties seem to be possible and even plausible in many scenario. The number of hairs may play some important truthmaking role in sorites but should not be exclusive. In fact, we may not be fully convinced that someone is bald just by knowing the number of his hair, canceling (i). Also, questioning (ii), someone may be counted as bald by facts which are independent of the number of hairs; we do not have to know the exact number of hair to judge someone is bald.

To reconcile higher-order vagueness, I add nothing odd other than vocabulary we have already been familiar with in the ongoing truthmaking industry. Namely, instead of the black-and-white notion of "lack" and "existence" of truthmakers as Sorensen did, we talk of *partial* and *full* truthmakers; and *loose*, *inexact*, and *exact* truthmaking.

References

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