

Ambiguity – Perspectives on Representation and Resolution

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Definition of Ambiguity

The representation of ambiguity

The resolution of ambiguity

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The representation of ambiguity

The resolution of ambiguity

The definition of ambiguity

What is ambiguity?

- ▶ Ambiguity is a hyperonym of homonymy and polysemy, this is beyond doubt. But what else is there?
- ▶ Ambiguity can arise in situations: unclear reference in pronouns and definite descriptions. (?)
- ▶ Important: ambiguity is not bound to lexicon or syntax – see biscuit conditionals and, famously, quantifier scope.

The definition of ambiguity

What is ambiguity **not**?

- ▶ Ambiguity is not the same as generality (vehicle).
- ▶ Ambiguity is not the same as underspecification.

But: how do we distinguish the two?

The definition of ambiguity

We think that there are three main ingredients:

1. Discreteness
2. Denotational properties (intermediate position between conjunction and disjunction – non-deterministic satisfaction?)
See Diego's talk!
3. Combinatorial properties: universal distribution, in particular of negation (no bank, no vehicle).

Note that in the absence of combinatorial properties, we conjecture that generality/underspecification becomes indistinguishable.

Consider the direct speech without author in a novel!

Definition of Ambiguity

The representation of ambiguity

The resolution of ambiguity

The representation of ambiguity

Here we had many interesting presentations/discussions.

- ▶ Henk uses stochastic frames; but more importantly: he departs from the most atomic/homogeneous readings to construct the ambiguous meaning!
- ▶ Paul questions the existence of readings altogether (same, maybe weaker for Lucia).

These positions strike us as two extremes. While from a philosophical point of view, Paul's position is very sympathetic to us, from a linguistic position we prefer Henk's:

At the end of the day, we want to have a readable (at least usable) representation of meaning!

The representation of ambiguity

As an interesting position which we feel is intermediate is vector semantics as presented by Gemma:

- ▶ Vectors (in any embedding we know) are based on (a subset) of actual usage;
- ▶ But vector representations are usable, though not readable (\Rightarrow blackbox)

We feel like one important question is whether distinct meanings should be distinctly represented. Our stance would be: this should depend on their semantic contingency (see Rainer).

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The resolution of ambiguity

We had several interesting talks on the resolution of ambiguity:
Uljana, Obata&Morita. We were wondering:

- ▶ In computational linguistics/annotation, maybe we should have genuine ambiguity as a category of its own – in the end, sometimes we just want to keep it!

Some highly recommendable literature

- Christian Wurm and Timm Lichte. The proper treatment of linguistic ambiguity in ordinary algebra. In Proceedings of the 21th conference on formal grammar. 2016.
- Christian Wurm. The logic of ambiguity: The propositional case. In *Proceedings of 22th Conference on Formal Grammar*, to appear.
- Christian Wurm. Reasoning with ambiguity. Submitted manuscript

Thank you for
speaking/listening/attending!