Occasion-sensitive semantics

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Outline

Context-sensitivity

- General area of today's talk: context-sensitivity in natural language semantics
- NL expressions encode information but some expressions encode information only in context / encode different information in different contexts
- Context sensitivity $\approx$ contextual information is necessary to determine which information is communicated by expressions.
- Different classes of expressions require different type of contextual information to be interpreted

Context-sensitivity: some examples

1. He is hungry ($\rightarrow$ John, Bill, Bob...) [contextually salient male]
2. Lara is tall ($\rightarrow$ for a 3-year old, for a basketball player) [contextual standards of comparison]
3. Bob weighs 70 kilos [different standards of precision]
4. John knows that the bank is open on Saturdays [low and high standards of knowledge]
5. The meal was tasty ($\rightarrow$ to me) [different judges]
6. John knows which card is the winning card ($\rightarrow$ the ace of spades, left/right) [different conceptual covers]

In (1) - (6) context-dependence has a linguistic source (associated with a certain class of expressions).

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Examples with no linguistic trigger

- The data I am interested in: context-dependence that has *no* obvious linguistic source; instead it is pragmatically mandated.

7. The leaf is green
8. Sid has a desk
9. The shoes are under the bed

- There are no obviously context-sensitive items in these sentences (modulo definite descriptions), so they should all have classical truth-conditions: their truth-valuations should not vary cross-contextually.

Travis case: The leaf is green

State of affairs: Pia's Japanese maple is full of russet leaves. Pia paints them green.

(10) *Zoe needs a green leaf for her decoration*

a. Zoe: Is that leaf green?
b. Pia: Yes, this leaf is green.

(11) *Zoe is a botanist seeking green leaves for a study of green-leaf chemistry*

a. Zoe: Is that leaf green?
b. Pia: # Yes, this leaf is green.
c. Zoe: No, this leaf is not green.

Travis cases: Sid has a desk

State of affairs: Sid, an impoverished student, uses a door over two stacks of milk crates as a desk to write on.

(12) *Concerned if Sid has a desk to write on*

a. Pia: Does Sid have a desk?
b. Max: Sid has a desk

(13) *On the look out for high end furniture*

a. Pia: Does Sid have a desk?
b. Max: # Sid has a desk
c. Pia: No, Sid does not have a desk

Travis case: The shoes are under the bed

State of affairs: Pia is looking for her shoes. Sid sees them, heels protruding from beneath the bed.

(14) *Retrieving shoes to go out*

a. Pia: Are the shoes under the bed?
b. Sid: The shoes are under the bed

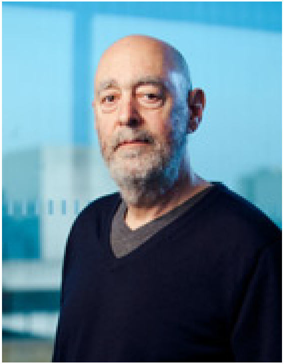
(15) *Pia wants to make sure that her shoes would not catch the eye of the kleptomaniacal Zoe and are well hidden*

a. Pia: Where are the shoes?
b. Sid: # The shoes are under the bed.
c. Pia: No, the shoes are not under the bed.

Analysis

- The same sentence (same standing meaning) uttered on two different occasions;
- The world of evaluation is the same on both occasions
- Different truth-evaluations, different answers considered correct (both declaratives and interrogatives affected)
- Different *goals*: decorating, studying chemistry
- The way the world is: conducive to one, not conducive to the other goal.

Key thesis of radical contextualism



Charles Travis
What words mean plays a role in fixing when they would be true; but not an exhaustive one. Meaning leaves room for variation in truth conditions from one speaking to another (Travis 2008: 94)

Applying insights from the semantics of questions

- RC: a sentence expresses not one but may express many different propositions (have many different interpretations)
- Models developed in the semantics of questions could be useful to capture this phenomenon
- So called *proposition-set approaches* take the meaning of an interrogative to be a set of propositions rather than a unique proposition
- To represent the pluralist nature of the meaning of declaratives and interrogatives we need a *richer* notion of a proposition as a set of classical propositions (information states)
- 'Minimal proposition' is modelled as a (maximal) proposition set, rather than a set of worlds.

Goals and goal-conduciveness

- Second ingredient in my account: the idea of goal-sensitivity of interpretation.
- The idea is that *worlds* (more precisely: the properties of worlds) could be *conducive* (or not) to contextually salient *goals* (e.g. the leaf being non-naturally green is *not* conducive to the botanist's goal)
- Goals: functions that map worlds properties of worlds (i.e. classical propositions) to goal-conduciveness values $\{+, -\}$
- Standing meaning gives the plurality of sets of worlds; goals narrow down this plurality to only goal-conducive ones.

Semantic and intuitive truth-conditions

- Consider a sentence uttered without and with a contextually salient goal. (a) and (b) specify intended interpretations:

(16) The leaf is green

a. The leaf is green in some way or other (as opposed to not green)

b. The leaf is green in a way conducive to the goal γ (as opposed to green in a way not conducive to γ or not green at all)

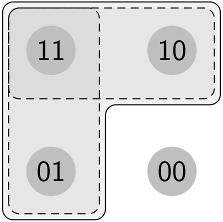
- (16a) is true iff the leaf is green in some way or other $\approx$ semantic truth-conditions
- (16b) is true iff the leaf is green in a way that is conducive to γ $\approx$ intuitive truth-conditions (acceptability conditions)
- Show how to get from one to another

Meaning as the proposition set

- If we construe meaning as a (downward closed) set of classical propositions (or states) it is easy to show how to get from minimal proposition to a contextual proposition: i.e. by restricting the initial set to only those propositions that are conducive to the contextually salient goal
- E.g. assume that there are only two ways of being a green leaf, naturally green (NG) and painted green (PG). Then the meaning of 'The leaf is green' is a set that includes propositions that the leaf is naturally green and that the leaf is painted green (where each of these is a set of worlds).

Illustration: minimal proposition

- (11) both PG and NG, (10) only PG, (01) only NG, (00) none.

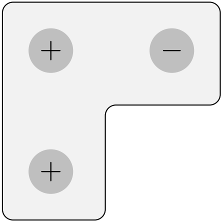


(a)

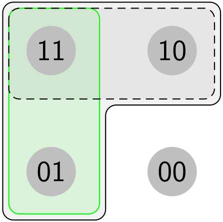
Figure: Minimal proposition expressed by sentence (16)

Illustration: contextual proposition

Travis cases show that not all the propositions constituting minimal proposition contain accepted truth-makers for the sentence (15): e.g. in the botanist context, the world 10 is not an accepted truth-maker for the sentence because it matters in this context that the leaves are naturally green



(a) Botanist's map



(b) Contextual proposition

Language and semantics

Simple propositional language L

$$\phi := p, \neg\phi$$

where $p \in A$, the set of atomic sentences.

Valuation function

For every atomic formula $p \in \mathcal{A}$, a possible world w is a valuation function that assigns p a truth value such that either $w(p) = 1$ or $w(p) = 0$.

Minimal proposition expressed by φ and $\neg\varphi$

$$[[p]] = \wp(\{w : w(p) = 1\})$$
$$[[\neg\varphi]] = \wp(\overline{\bigcup[[\varphi]]})$$

Atomic formulas

The minimal proposition expressed by an atomic formula p contains all classical propositions α whose elements are possible worlds in which p is true.

Negation

The minimal proposition expressed by $\neg\varphi$, is determined by first taking the union of all the propositions for φ, and then taking the complement of this union, $\overline{\bigcup[[\varphi]]}$.

Goal-conduciveness function

Goal γ is a function that maps every classical proposition $\alpha \in [[\varphi]]$ to a goal-conduciveness value. I.e. $G : \Pi_C \upharpoonright [[\varphi]] \rightarrow \{+, -\}$

G is the set of goals γ, Π_C is the set of classical propositions, and $\Pi_C \upharpoonright [[\varphi]]$ is the set of classical propositions *restricted* to those that are contained in $[[\varphi]]$, and $\{+, -\}$ is the set of goal-conduciveness values.

We write α_γ^+ for a goal-conducive state and α_γ^- for a state which is not conducive to goal γ.

Contextual proposition expressed by ϕ wrt γ

$$[[p]]_\gamma = \{\alpha_\gamma^+ : \alpha_\gamma^+ \in \wp(\{w : w(p) = 1\})\}$$
$$[[\neg\varphi]]_\gamma = \wp(\overline{\bigcup[[\varphi]]_\gamma})$$

Atomic formulas

The proposition expressed by an atomic sentence p on an occasion where the goal γ is operative is a set of all goal-conducive propositions $\alpha_\gamma^+ \in \wp(|p|)$.

Negation

The contextual proposition expressed by $\neg\varphi$, is determined by taking the complement of the union of goal-conducive propositions expressed by φ, $\overline{\bigcup[[\varphi]]_\gamma}$.

Applications and extensions

- Applications: disagreement and cancelability
- Extensions: interrogatives (goal-dependence of truthful resolutions); a uniform treatment of declaratives and interrogatives reveals some interesting consequences for contextual negation