

# Reference and Communication

*It takes two to make a reference*

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# Reference

- A relation between a linguistic expression and an object in the real world
- Remains a controversial topic since Frege and Russell
  - What is the mechanism of reference? How does a referring expressions get attached to a particular object?
  - Is it the same mechanism for all types of referring expressions?
  - What is the relation between reference and meaning?
  - What is the relation between reference and truth?

# Dynamic Semantics

- Dynamic semantics (Kamp 1981 , Heim 1982):
  - The purpose of referring expressions is to identify a previously established *discourse referent* (Karttunen 1976)
- Or a mental referent in the hearer's mind:
  - Dossier (Grice 1975)
  - File card (Heim 1982)
  - Mental file (Recanati 2012)
  - Entity representation (Kamp 2015)
- Claim: no relation to the real world is required for the success of communication

# Mental Referents

- Mental representations in our minds that stand for objects which we were causally connected to
- They are created and updated when we:
  - Perceive an object
  - Are told about it
  - Infer new information concerning it
- There is no permanent link between a mental referent and a real referent
  - *How can something inside the head refer to something outside the head?* (Devitt 1990)

# Back Reference

- But there are temporary causal links from reality to our mental referents
  - Perceiving an object or being told about it evokes (actualizes) a certain mental referent
  - So it is not mental referents who refer to reality
  - Reality refers to a mental referent by causing its activation
  - Different events evoking the same mental referent can be seen as acts of coreference
  - Some events can lead to erroneous information
  - Yet they are causal sources (of this misinformation)

# Communication

- I assume that communication is the main and primary purpose of language
- Communication is information transfer
  - I take information from my mind, not from an external source
    - Perceptual knowledge also has to be first reflected in my mind before it can be expressed linguistically
  - Uttering a sentence I want to update (or create) a certain mental representation in the hearer's mind
  - I need the hearer to activate that mental referent first

# Mental Reference

- Activating the hearer's mental referent has to be mediated by words
  - We cannot look up into someone else's mind to activate a referent there or take it out and use it in the sentence
  - Hence there is no direct link in my sentence to the hearer's mental referent, nor to a real one
  - I can provide only some descriptive info that the hearer can use as a pattern to search in her mental database
  - So an expression refers to a mental referent in the hearer's mind, not to an object in the world

# Successful Reference

- *It takes two to make a reference* (Lewis 1983)
  - Successful reference requires not only an intention on the speaker side
  - But also a reception on the hearer side
  - Reference is successful if the hearer is able to identify the mental referent which the speaker wants her to identify
- Reference failures (Kamp 2015):
  - Failure to refer – the hearer is not able to identify a referent using the speaker's expression
  - Misreference – the hearer identifies the referent but not the one the speaker intends her to



# Fictional Referents

- If reference is a relation to a mental referent
  - We can refer to fictional characters or unreal objects which the hearer believes to exist
  - As soon as she possesses mental representations of them
  - No need to treat them differently
  - What matters is not the relation of the message to reality
  - But rather its relation to the hearer's beliefs
  - If she accepts the information then the communication is successful

# Singular Propositions

- There is no direct link in the sentence to any referent
  - It is always propositions (intensions) and not their extensions which form constituents of a sentence.
  - But the sentence still can express a singular proposition about a particular referent
  - Because no sentence forms a proposition on its own
  - Representation of the sentence itself and mental representation it creates in the mind are different things
  - While the latter can be seen as a proposition
  - The former is a sequence of instructions to update the hearer's mental database

# Instructional Semantics

- A sentence is a sequence of instructions
  - *The cat is sleeping*
    - find x: cat(x)**
    - update x: sleep(x)**
  - Here variable x does not represent a particular referent
  - It is a free variable, which will get an assignment only after a proper execution of the first instruction
  - The whole script forms a singular proposition in the mind:
    - sleep(theCat)**
  - Constant 'theCat' is a mental referent of a particular cat

# Preliminary vs Proper DRS

- DRT already has this distinction (Van Der Sandt 1992)
  - Preliminary DRSs contain separate presupposition sections which are resolved and removed in Proper DRSs
  - These sections directly correspond to search instructions in my terminology
  - Resolving presuppositions as anaphora involves the search for their antecedents
  - It is Preliminary DRS which constitutes a genuine representation of a sentence
  - While Proper DRS is a natural device for a mental representation

# Unified Account

- All referring expressions form propositional content for a search instruction
- They just differ in what content they contribute:
  - Proper names contribution is limited to the predicate **named (x, 'Name' )** (Geurts 1997)
  - Pronouns might contribute just gender, number or animacy (if anything at all)
  - Demonstratives appeal to perceptual information: *“look where the speaker is pointing to and use the perceptual information to find the mental referent”*

# Context Dependence

- All types of referring expressions normally need to be evaluated in the context
  - None of them can refer directly
  - All require thinking on the hearer side along the lines:  
*“What can the speaker refer to using such-and-such expression in this situation?”*
- Degree of context dependence can vary
  - Unique designators (*Plato, the sun*) are less dependent
  - Other expressions (*John, the child*) are more dependent

# Double Vision Puzzle

- Consider the sentences
  - *Hesperus is Phosphorus*
  - *Fred believes that Cicero, but not Tully, was Roman*
  - If names were directly referential then the first sentence would be a trivial tautology and the second would ascribe contradictory beliefs to Fred
- Solution
  - Mental referents (unlike real referents) can be split and merged as the agent's mental state changes
  - If we know that they are split we can refer to each part separately without telling tautologies

# Existence Puzzle

- Consider the sentences
  - *Vulcan does not exist*
  - *Socrates existed but does not exist*
  - Vulcan and Socrates must exist to form a constituent of the proposition
- Solution:
  - It is the mental referent that forms the constituent of the proposition in the mind
  - The mental referent exists in our mind although the corresponding real referent does not exist in reality



# Reference Shift Puzzle

- Kripke 1980: proper names refer in virtue of the causal chain that goes back to the naming event
  - Then how is it possible that a name sometimes changes its reference?
  - Madagascar used to refer to a part of the African mainland
- Solution:
  - Only the last step in the causal chain is relevant
  - If the speaker uses the name incorrectly and I accept that
  - We two can spread out the new usage of the name and it can become widely accepted

# Apparent Necessity Puzzle

- Consider the sentence
  - *I am here now*
  - On the one hand it is necessarily true
  - On the other hand it is not necessary for the speaker to be in a particular place at a particular time
- Solution:
  - The sentence itself is not a proposition but a script
  - So it does not have a truth-value
  - The proposition it creates in the mind is not necessarily true
  - It just happens that this particular script hardly can create a false proposition

# Changed Picture Puzzle

- The speaker points behind herself to the picture of Carnap and says:
  - *This is the greatest philosopher of the twentieth century*
  - She does not realize that the picture has been changed
  - Does she refer to Carnap or to the person who is actually on the picture?
- Solution:
  - This is likely a reference failure (misreference)
  - The speaker intends to refer to Carnap
  - But the audience take the proposition to be about a different person

# To sum up

- What is the mechanism of reference?
  - Referring expressions refer to a mental referent in the hearer's mind by providing a pattern to search for it
- Is it the same for all types of referring expressions?
  - Yes
- What is the relation between reference and meaning?
  - Meaning of a referring expression is the propositional content it contributes to the pattern of search
- What is the relation between reference and truth?
  - What matters is the hearer's beliefs not reality

# Conclusions

- Reference should be seen as a relation to a mental referent in the hearer's mind, not to a real object
  - This view leads to a natural solution for a number of reference puzzles.
- No sentence constitutes a proposition on its own
  - A sentence is rather a sequence of instructions (a script) to update the hearer's mental database
  - It can create a (singular) proposition in the hearer's mind when properly applied to that database.

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Thank you!