Contrastive Topics Revisited
a Simpler Set of Topic-Alternatives

Yurie Hara and Robert van Rooij

Kyoto University
University of Amsterdam

October 26-28, 2007,
38th Meeting of the North East Linguistic Society,
University of Ottawa

Contrastive-marking

- Contrastive meaning can be represented just by prosody as in German (Topic-Focus contour) and English (B-accent, fall-rise tone, H*L-H%)

(1) a. Who passed the exam?
     b. [$_{CT}$ Mary   ] passed.
            H*L-H%
         (implicates: 'Possibly, others didn't pass.')

Japanese

- Contrastive meaning can be represented by the combination of prosody and morphology as in Japanese (-wa) and Korean (-nun).

(2) a. Who passed the exam?
     b. MARY-wa ukat-ta
         Mary-Con pass-Past
         '[Mary]$_{Con}$ passed.'
         (I don't know about others)

Plan

- The use of Contrastive Topics is often accompanied by some implicatures. e.g. 'I don't know about others.'
- Previous analyses:
  - Partial Answerhood
  - Limited Competence in computing Gricean quantity implicatures
- Our proposal: CT indicates that one of the alternatives is not known to be true.

Büring 1997

- Büring [1997] characterizes Contrastiveness as Partial Answerhood.
- The CT-marking generates a Topic value, which is **a set of sets of propositions**, i.e., **a set of question meanings**.
- The CT-marked sentence is infelicitous if there is no unanswered question in its Topic value.

(3)   /ALLE Politiker   sind NICHT\ korrupt
      all   politicians are   not   corrupt

[Büring, 1997]

- 'It is not the case that all politicians are corrupt.'($\neg\forall$)
  (Open questions: How many are corrupt? Are most of them corrupt? etc.)
- *'All politicians are such that they are not corrupt'
  (*$\forall\neg$)
  (No uncertainty: unavailable reading)

Last Answer Problem

The partial answer approach makes the wrong prediction when questions can be completely resolved:

(4)   a.   Among John, Mary and Bill, who came to the party?
      b.   [CT John and Mary] came, and [CT Bill] didn't come.

Restricting the domain?

(4)   a.   Among John, Mary and Bill, who came to the party?
      b.   [CT John and Mary] came, and [CT Bill] didn't come.

- One might try to save Büring's analysis by limiting the domain of the partial-answer requirement to each conjunct.
- As long as each of the CT-marked conjuncts can be treated as partial answers, CT-marking is possible.

It doesn't help

However, this strategy fails since it also predicts the following to be felicitous.

(5)   Among John, Mary and Bill, who came to the party?
      a.   *[CT John and Mary] came , but [CT Bill] came.
      b.   *[CT John and Mary] came , and [CT Bill] came.

Generalization

The correct generalization should pertain to the ban on having positive answers for **all** the alternatives.

(6) The use of a Contrastive Topic is licit:
   a. when the speaker is not sure of the alternatives having the property, or
   b. when the speaker knows that alternatives do not have the property.

Interim Summary 1

- Contrastive Topic gives rise to a certain interpretation and there is a constraint which restricts its distribution.
- The uncertainty or partial answer approach to CT-marking seems to capture the intuition reported for the scope inversion.
- But, it faces a problem with the data where the question is completely resolved with certainty (Last Answer Problem).

Quantity Implicatures from Exhaustivity

- In the recent literature on conversational implicatures [Sauerland, 2004, Spector, 2003, van Rooij and Schulz, 2004, Schulz and van Rooij, 2006], quantity implicatures are derived from Exhaustivity.

(7) a. Who (of Mary and Peter) passed the exam?
   b. Mary.

- Quantity Implicatures are derived in two steps:
  1. Gricean Principle gives a primary weak implicature. 'The speaker does not know that Peter passed.'
  2. Competence Assumption gives a secondary strong implicature. 'The speaker knows that Peter didn't pass.'

CT as Limited Competence

Hara's (2005) Proposal

CT-marking specifies that the speaker's competence is limited.

- It signals that an exhaustive interpretation (the secondary implicature) is unavailable.

(8) [$_{\mathrm{CT}}$ Mary] passed.

- Applying CT-marking to the proposition 'Mary passed' generates a primary weak implicature:
  - the speaker is not sure that Peter passed, or
  - the speaker knows that Peter did not pass.
- This seems to be the desired interpretation

An answer to a multiple *wh*-question

Contrastive Topics
Revisited

Hara and
van Rooij

Introduction

PA

Limited
Competence

Proposal

Summary

References

(9) a. Who of John and Bill danced with who (of Mary and Sue)?
    b. [CT John] danced with [F Mary] and [CT Bill] danced with [F Sue] .

- Contrastiveness is represented by a Topic-Focus structure as an answer to a multiple *wh*-question.

The most salient interpretation:

John danced with only Mary, and only John danced with (only) Mary, and
Bill danced with only Sue, and only Bill danced with (only) Sue.

If Competence were removed...

Contrastive Topics
Revisited

Hara and
van Rooij

Introduction

PA

Limited
Competence

Proposal

Summary

References

(9) a. Who of John and Bill danced with who (of Mary and Sue)?
    b. [CT John] danced with [F Mary] and [CT Bill] danced with [F Sue].

- The Gricean primary implicature:
  the speaker does not know that 'John danced with Sue' is true.
- But, this sentence contains CT-marking.
- Hence, the speaker is signalling her limited competence.
- No strengthening.

We'd better not remove the competence

Contrastive Topics
Revisited

Hara and
van Rooij

Introduction

PA

Limited
Competence

Proposal

Summary

References

(9) a. Who of John and Bill danced with who (of Mary and Sue)?
    b. [CT John] danced with [F Mary] and [CT Bill] danced with [F Sue].

The Prediction of Limited Competence Approach

(9-b) implicates:
the speaker does not know that John danced with Sue
→ the speaker considers it to be possible that John danced with Sue.

- This is the **wrong prediction**.

Interim Summary 2

Contrastive Topics
Revisited

Hara and
van Rooij

Introduction

PA

Limited
Competence

Proposal

Summary

References

- Hara [2005] defines CT-marking as an indication that the speaker has a limited competence with respect to the property in question.
- The effect of CT-marking is to remove the competence assumption.
- This approach also bypasses the last answer problem.
- However, it makes the wrong prediction for the sentence which involves a Topic-Focus structure.

Why do we use Topics?

Contrastive Topics Revisited

Hara and van Rooij

Introduction

PA

Limited Competence

Proposal

Summary

References

The role of Topic-marking

To draw the hearer's attention to a particular entry in the set of alternatives.

The reason behind the use of Topic-marking

The speaker doesn't know that alternative propositions are true.
(provided that the speaker is following the Cooperative Principle).

CT-rule

Contrastive Topics Revisited

Hara and van Rooij

Introduction

PA

Limited Competence

Proposal

Summary

References

- $CT(P(T))$
- CT forms a simple set of Topic-alternatives (a set of propositions) $\{P(T') : T' \in Alt(T)\}$
- CT gives rise to the implicature that one of the Topic-alternatives is not known to be true.

(10)   CT-implicature:
$\exists T'[T' \in Alt(T)][\neg \mathbf{K}_{sp}(P(T'))]$

Last answer problem: Good case

Contrastive Topics Revisited

Hara and van Rooij

Introduction

PA

Limited Competence

Proposal

Summary

References

(11)   a.   Of John and Mary, who came to the party?
      b.   [CT John] came, and [CT Mary] didn't come.

(12)   a. $P = \lambda x \in D_e.\mathrm{came}(x)$;
      b.   Topic-alternatives: {John came, Mary came}
      c.   CT implicature:
the speaker does not know that Mary came.
(Possibly, Mary didn't come.)

- The CT implicature, $\neg \mathbf{K}_{sp}(\mathrm{Mary\ came})$, is compatible with the second conjunct.
- The assertion of the second conjunct, $\mathbf{K}_{sp}\neg(\mathrm{Mary\ came})$, merely strengthens the implicature.

Last answer problem: Bad case

Contrastive Topics Revisited

Hara and van Rooij

Introduction

PA

Limited Competence

Proposal

Summary

References

(13)   Of John and Mary, who came to the party?
      a.   *[CT John] came , but [CT Mary] came.
      b.   *[CT John] came , and [CT Mary] came.

- The CT of the first conjunct implicates $\neg \mathbf{K}_{sp}(\mathrm{Mary\ came})$,
- This contradicts what the second conjunct entails, $\mathbf{K}_{sp}(\mathrm{Mary\ came})$.

A structured set vs. a simple set

- Unlike Büring's approach, our proposal does not involve a complicated structure of Topic alternatives.
- However, our CT-rule can handle the scope inversion data.

Scope Inversion

(3)   /ALLE Politiker   sind NICHT\ korrupt
        all   politicians are   not   corrupt
                                                    [Büring, 1997]

   a. 'It is not the case that all politicians are corrupt.'($\neg\forall$)
       implicates 'Possibly, some are corrupt.'

   b. *'All politicians are such that they are not currpt.' (*$\forall\neg$)

$\neg\forall$ reading

(14)   Topic Alternatives of $\neg\forall$ reading of (3)
         {$\neg$**all** $x(\text{politician}(x), \text{corrupt}(x))$,
         $\neg$**most** $x(\text{politician}(x), \text{corrupt}(x))$,
         $\neg$**some** $x(\text{politician}(x), \text{corrupt}(x))$}

(15)   CT-Implicatures of $\neg\forall$ reading

   a. $\neg\mathbf{K}_{sp}(\neg$**most** $x(\text{politician}(x), \text{corrupt}(x)))$

   b. $\neg\mathbf{K}_{sp}(\neg$**some** $x(\text{politician}(x), \text{corrupt}(x)))$

- This implies that the speaker thinks that it is possible that some politicians are corrupt.

$\forall\neg$ reading

(16)   Topic Alternatives of $\forall\neg$ reading of (3)
         {**all** $x(\text{politician}(x), \neg\text{corrupt}(x))$,
         most $x(\text{politician}(x), \neg\text{corrupt}(x))$,
         some $x(\text{politician}(x), \neg\text{corrupt}(x))$}

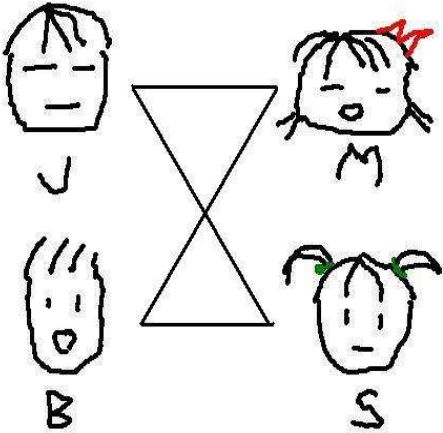(17)   CT-Implicatures of $\forall\neg$ reading

   a. $\neg\mathbf{K}_{sp}(\textbf{most } x(\text{politician}(x), \neg\text{corrupt}(x)))$

   b. $\neg\mathbf{K}_{sp}(\textbf{some } x(\text{politician}(x), \neg\text{corrupt}(x)))$

- Both are incompatible with the speaker's knowledge entailed by the assertion,
  $\mathbf{K}_{sp}(\textbf{all } x(\text{politician}(x), \neg\text{corrupt}(x)))$.
- Thus, the $\forall\neg$ reading is ruled out.

An answer to a multiple *wh* question

Contrastive Topics Revisited

Hara and van Rooij

Introduction

PA

Limited Competence

Proposal

Summary

References

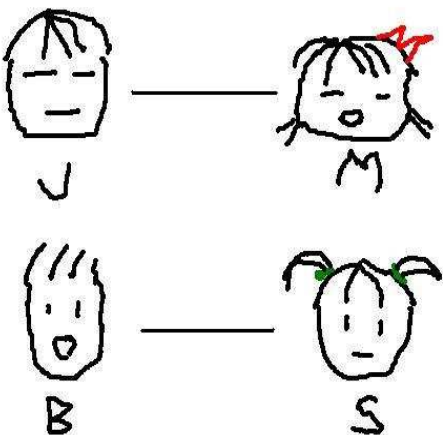(9) a. Who of John and Bill danced with who (of Mary and Sue)?

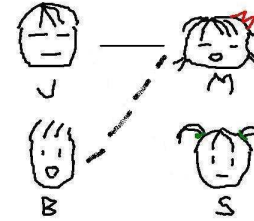b. [$_{CT}$ John] danced with [$_F$ Mary] and [$_{CT}$ Bill] danced with [$_F$ Sue] .

Putting all together

Contrastive Topics Revisited

Hara and van Rooij

Introduction

PA

Limited Competence

Proposal

Summary

References

[$_{CT}$ John] danced with [$_F$ Mary]   [$_{CT}$ Bill] danced with [$_F$ Sue]

- Gricean secondary implicature: $\mathbf{K}(\neg danced(john, sue))$
- CT implicature: $\neg\mathbf{K}(danced(bill, mary))$

- Gricean secondary implicature: $\mathbf{K}(\neg danced(bill, mary))$
- CT implicature: $\neg\mathbf{K}(danced(john, sue))$

Overall Interpretation

Contrastive Topics Revisited

Hara and van Rooij

Introduction

PA

Limited Competence

Proposal

Summary

References

(9) a. Who of John and Bill danced with who (of Mary and Sue)?

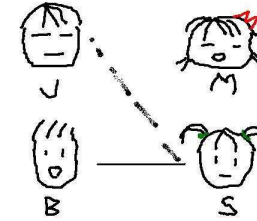b. [$_{CT}$ John] danced with [$_F$ Mary] and [$_{CT}$ Bill] danced with [$_F$ Sue] .

Summary

Contrastive Topics Revisited

Hara and van Rooij

Introduction

PA

Limited Competence

Proposal

Summary

References

- Our formalization of Contrastive Topics involves an operation over a **simple** set of topic alternatives (**a set of propositions**).
- A complicated structure of alternatives is not necessary to account for the scope inversion data.
- Our approach does not run into the last answer problem since Topic is defined as an indication that one of the alternatives is not known to be true rather than a mere uncertainty.

Summary

Contrastive Topics
Revisited

Hara and
van Rooij

Introduction

PA

Limited
Competence

Proposal

Summary

References

- Furthermore, the speaker's competence for computing Gricean quantity implicatures is retained.

- Hence, our approach makes the correct prediction for the construction where a contrast is represented by a Topic-Focus structure as an answer to a multiple *wh*-question.

Daniel Büring. The Great Scope Inversion Conspiracy. *Linguistics and Philosophy*, 20:175–194, 1997.

Yurie Hara. Contrastives and Gricean Principles. In Paul Dekker and Michael Franke, editors, *Fifteenth Amsterdam Colloquium*, pages 101–106. Universiteit van Amsterdam, 2005.

Uli Sauerland. Scalar implicatures in complex sentences. *Linguistics and Philosophy*, 27(3):363–391, 2004.

Katrin Schulz and Robert van Rooij. Pragmatic Meaning and Non-monotonic Reasoning: The Case of Exhaustive Interpretation. *Linguistics and Philosophy*, 29:205–250, 2006.

Benjamin Spector. Scalar Implicatures: exhaustivity and gricean reasoning. In B. ten Cate, editor, *Proceedings of the ESSLLI'03 student session*, 2003.

Robert van Rooij and Katrin Schulz. Exhaustive interpretation of complex sentences. *Journal of Logic, Language and Information*, 13:491–519, 2004.

Contrastive Topics
Revisited

Hara and
van Rooij

Introduction

PA

Limited
Competence

Proposal

Summary

References