

Inference, Ellipsis and Deaccenting

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1 Introduction

Background: Direct and Indirect Parallelism

- **Direct Parallelism:** Parallel LF's A and B must be structurally identical, except for accented material
- **Indirect Parallelism:** Given Parallel LF's A and B, there must be an LF A' such that A entails A', and A' and B satisfy Direct Parallelism
- ((Fox, 2000), following (Rooth, 1992))

Proposal: Triggered Inference

- General Constraint on Inference: Inference is available when triggered by a semantically visible violation
- Indirect Parallelism is only available when triggered
- Distance Constraint: shorter inferences block longer inferences
 - Given an LF L which violates a constraint, and L1 and L2 such that both L1 and L2 are inferrable from L and remedy the violation
 - If L1 entails L2, then the inference to L2 is ruled out (L1 is *closer* to L)

The Plan

- Solving Rooth's Problem: Unifying Ellipsis and Deaccenting
- Inference in Ellipsis
 - Webber: Inference in VPE
 - Merchant: Inference in Sluicing
- Solving Webber's Problem: The Case of the Missing Inferences
 - VPE and Inference
 - Sluicing and Case Matching
- Beyond the Triggering Constraint: What Inference Cannot Do
 - Islands in Sluicing: Why Inference is not Involved

2 Unifying Ellipsis and Deaccenting

Direct Parallelism – Deaccenting

(1) First someone told Mary about the budget cuts, then someone told SUE about them.

A = *someone told Mary about [the budget cuts]*; B = *someone told SUE about them*_i

- Direct Parallelism is satisfied

Indirect Parallelism – Deaccenting

(2) First someone told Mary about the budget cuts, then SUE heard about them.

$A = \text{someone told Mary about [the budget cuts]}_i$ $B = \text{SUE heard about them}_i$

- Direct Parallelism is violated

(defeasible) inference: A : someone told Mary about the budget cuts $\Rightarrow A'$: Mary heard about the budget cuts

$A' = \text{Mary heard about [the budget cuts]}_i$ $B = \text{SUE heard about them}_i$

- Now parallelism is satisfied

Indirect Parallelism – VP Ellipsis

(3) First someone told Mary about the budget cuts, then SUE did.

- can't mean: *SUE heard about them*
- So *heard about them* can be deaccented, but not elided
- (Rooth, 1992): inference is available only for deaccenting. ellipsis is additionally subject to a strict LF identity condition
- The triggering condition allows this conclusion to be avoided: (3) has an acceptable alternative reading: *Sue told Mary about the budget cuts*

3 Inference in Ellipsis

Webber: Inference in VPE

(4) Irv and Mary wanted to dance together, but Mary couldn't, because her husband was there. (Webber, 1978)

$A = \text{Irv and Mary wanted to dance together}$ $B = \text{Mary couldn't dance together}$

B is ill-formed – *dance together* requires plural subject.

Triggered inference:

A : *Irv and Mary wanted to dance together* $\Rightarrow A'$: *Mary wanted to dance with Irv*

A' : *Mary wanted to dance with Irv* $B = \text{Mary couldn't dance with Irv}$

- Now violation is removed

Aside: Is Inference Really Needed?

- What about this alternative?

(5) Irv and Mary wanted to dance together, but Mary couldn't [dance] because her husband was there.

- *dance* is interpreted as *dance with Irv* because of context.
- This won't account for examples like (6)

(6) Mary and Irv had planned to nominate each other, but Mary couldn't, because of her political obligations. (Hardt, 1993)

- Here, the reading is "Mary couldn't nominate Irv"
- Unlike *dance*, *nominate* cannot appear without its object.

Merchant: Inference in Sluicing

- (Merchant, 2001): Inference allows Sluicing (interrogative ellipsis) without identity.
- (7) Bob ate dinner and saw a movie that night, but he didn't say which. (*[Bob saw x] / * [Bob ate dinner and saw x]*)
(Merchant, 2001)[p 223]
- Required inference:
Bob ate dinner and saw a movie \Rightarrow *Bob saw a movie*

4 The Case of the Missing Inferences

What Inferences are Available?

- “there seem to be no hard and fast rules delimiting the class of productive inferences relative to verb phrase ellipsis.” (Webber, 1978)[p. 4-38]
 - But – there's a crucial factor in example (4) – the interpretation without inference is unacceptable, involving, as it does, a kind of agreement violation between the singular subject *Mary* and the VP *dance together*.
 - This fact is the key to solving the problem posed by Webber – only inferences triggered by violations are possible.
- (8) Irv and Mary wanted to dance together, but Tom and Susan didn't want to.
- Here, the default, or non-inference reading is acceptable: *Tom and Susan didn't want to dance together*.
 - Unlike (4), the inference is not available here: this variant cannot mean *Tom and Susan didn't want to dance with Irv*.

Missing Inferences: Sluicing and Case Matching

- Sluicing is subject to a case-matching requirement ((Ross, 1967))
- (9) Er will jemandem schmeicheln, aber sie wissen nicht wem.
He wants someone.DAT flatter, but they know not who.DAT.
He wants to flatter someone, but they don't know whom
- (10) Er will jemandem loben, aber sie wissen nicht wen.
He wants someone.ACC flatter, but they know not who.ACC.
He wants to flatter someone, but they don't know whom
- the wh-word in (9) must take dative case, which is the case assigned by *flatter*
 - In (10), the wh-word is required to take accusative case, which is the case assigned by *praise*.
 - *The sluiced wh-phrase must bear the case that its correlate bears.* (Merchant, 2001)

What has not previously been noticed is that case matching fails to interact with inference. This is illustrated by (11):

- (11) John traf jemanden, aber ich weiss nicht wen [John traf x] /*wer [traf John].
John met someone, but I don't know who [John met x] / who [met John].
- wh-word must have accusative case (“wen”), the nominative “wer” gives rise to ill-formedness
 - “met” is a symmetric predicate: “John met someone” is semantically equivalent to “Someone met John”
 - on a semantic condition like Merchant's, the nominative “wer [traf John]” should also be permitted
 - Inference is not triggered here, because case-matching is not a *semantically visible* condition

Missing Inferences in Deaccenting

(12) A doctor saw every patient. A NURSE saw every patient, too.

(13) A doctor saw every patient. A NURSE saw many patients, too.

- These examples are subject to a *scope parallelism* constraint – a *doctor* takes wide scope in the first sentence only if a *nurse* also takes wide scope in the second.
- In (13), the deaccented material does not match – *every* has changed to *many*.
- (13) requires this inference
 $(A \text{ doctor } x) (every \text{ patient } y) x \text{ saw } y. \rightarrow (A \text{ doctor } x) (many \text{ patient } y) x \text{ saw } y.$
(every-many inference)
(This follows if one assumes that there are many patients.)
- The situation here is exactly analogous to the problem with case-matching: the possibility of inference threatens to undermine the scope parallelism constraint, since there is an inferential relation between the two scopes of *exists* and *every*.

Consider the following LF representations for (12):

(14) a. $(A \text{ doctor } x) (every \text{ patient } y) x \text{ saw } y.$

b. $(every \text{ patient } y) (A \text{ NURSE } x) x \text{ saw } y.$

- The intention of the scope parallelism constraint is to rule out this representation.
- But parallelism could be satisfied by the following intervening inference: $(A \text{ doctor } x) (every \text{ patient } y) x \text{ saw } y \rightarrow (every \text{ patient } y) (A \text{ doctor } x) x \text{ saw } y.$
- Triggering Constraint rules this out: (12) can satisfy scope parallelism without resorting to inference
- Similarly with (13)

A = $(A \text{ doctor } x) (every \text{ patient } y) x \text{ saw } y.$

B = $(A \text{ NURSE } x) (many \text{ patients } y) x \text{ saw } y.$

Infer from A, A'

A' = $(A \text{ doctor } x) (many \text{ patients } y) x \text{ saw } y.$

B = $(A \text{ NURSE } x) (many \text{ patients } y) x \text{ saw } y.$

- This satisfies Indirect Parallelism

We need to ensure that this represent fails to satisfy Indirect Parallelism:

A = $(A \text{ doctor } x) (every \text{ patient } y) x \text{ saw } y.$

B = $(many \text{ patients } y) (A \text{ NURSE } x) x \text{ saw } y.$

The problem is, we can first infer A' from A, as above:

A' = $(A \text{ doctor } x) (many \text{ patients } y) x \text{ saw } y.$

From A' we can infer A''

A'' = $(many \text{ patients } y) (A \text{ doctor } x) x \text{ saw } y.$

B = $(many \text{ patients } y) (A \text{ NURSE } x) x \text{ saw } y.$

- But A'' and B are Directly Parallel

The inference from A to A'' is ruled out by the *Distance Constraint*. (13) can potentially satisfy Parallelism with either of two inferences:

- $A \Rightarrow A'$ and $A \Rightarrow A''.$
- But since $A' \Rightarrow A''$, A' is closer to A, and the shorter inference blocks the longer one

5 Beyond the Triggering Constraint: What Inference Cannot Do

No New Lexical Items

- (15) Joe was murdered by someone, but we don't know who.
- (16) *Joe was murdered, but we don't know who [Joe was murdered by x].
- (Chung, 2005): (16) violates Merchant's semantic condition on sluicing, since *Joe was murdered* entails *Joe was murdered by someone*.
 - Also violates Triggering condition
 - Chung's proposal: no new lexical items in deleted IP.
 - Must be combined with Triggering Condition (because of symmetric predicates and case-matching, and Webber examples)

Inference and Islands

Merchant appeals to inference to remedy island violations in sluicing, as in (7), repeated here:

- (17) Bob ate dinner and saw a movie that night, but he didn't say which. (*[Bob saw x] / * [Bob ate dinner and saw x]*)
(Merchant, 2001)[p 223]
- Required inference:
Bob ate dinner and saw a movie \Rightarrow *Bob saw a movie*

But, such inferences don't seem capable of solving such island constraints generally:

- (18) I knew they had died because someone had poisoned them, but I didn't know who. (Johnson, 2005)
- (19) I knew they left because someone had contacted them, but I didn't know who.
- (20) Ben can simultaneously eat a taco and play SOME video game, but I don't remember which.
- In these examples, islands can't be removed by inference.
 - In (20), it can't mean "I don't remember which x (video game) Ben can play" – has to be "I don't remember which x (video game) Ben can simultaneously eat a taco and play x"

6 Conclusions

References

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