The Argumentative Properties of some Implicatures

Grégoire Winterstein

Laboratoire de Linguistique Formelle, Université Denis Diderot-Paris 7
gregoire.winterstein@linguist.jussieu.fr

August 11 2008

Core-data

Implicatures in Discourse

- Classical case of scalar implicature :

(1) a. *A :* Do you know whether John will come ?
b. *B :* It's possible
c. $\rightsquigarrow$It's not sure

- Reinforcement :

(2) a. It's possible, but it's not sure
b. #It's possible, and it's not sure

- Why use *but* ? Are the two segments opposed in some way ?
- Is the preference related to the nature and presence of the inferences at hand ?

Extended Data

- Some implicatures can't be reinforced with adversatives
- (3)
  a. Gwen took off her socks and jumped into bed, (#but/and) in that order
  b. Billy cut a finger, (#but/and) it was his
  c. Sam and Max moved the piano, (#but/and) they did it together
  d. If you finish your thesis by September you'll be eligible for the job, (#but/and) only in this case
- Others demand an adversative
- (4)
  a. Jack met some of the students, (but/#and) he didn't meet all of them
  b. Bill is in the kitchen or the living room, (but/#and) I don't know which
  c. John thinks that Mary is pregnant, (but/#and) she isn't
  d. Sam caused Max's death, (but/#and) he didn't kill him on purpose

Adversatives

The meaning of *but*

- Anscombre and Ducrot (see [AD77]) : *but* marks an *argumentative opposition*
- (5) A sentence p *but* q is felicitous iff there is a proposition H such that :
  a. p is an argument for H
  b. q is an argument for $\neg H$

Terminology

- *Adversary* inferences : are opposed to the utterance that conveys them.
  - Test : adversative discourse connective for reinforcement
  - (6) It's possible, but it's not sure
- *Allied* inferences : have the same argumentative orientation as the utterance that conveys them
  - Test : adversative connective can't be used for reinforcement
  - (7) Sam and Max moved the piano, (# but) together
- *Turncoat* inferences : appear to have an underspecified argumentative orientation (examples to follow)

Working Hypothesis I

- The preference for adversatives is linked to the presence of an implicature
- All implicatures of the same type have the same argumentative properties
- *Argumentativity* can be reduced to inferential mechanisms

Two Frameworks

- Neo-Gricean (Horn's *Q*/*R*-implicatures)
- Sperber and Wilson's Relevance

Horn's Division of Labor

Q and *R* Implicatures

[Hor89] distinguishes between *Q* and *R* implicatures

- *Q-based* implicatures stem from stronger, more informative, relevant forms the speaker could have uttered but chose not to.
  - $\Rightarrow$ economy for the hearer (the speaker *"says as much as possible"*)
  - *Example :* Grice's *Quantity-1* and some *Manner* related implicatures
- *R-based* implicatures are enrichments of an utterance related to underspecified aspects of the propositional content
  - $\Rightarrow$ economy for the speaker (use of *stereotypes*)
  - *Example :* temporal ordering, causal relations...

Cancellation

- [BK98] : adversatives are used to cancel *R*-implicatures (cf. (8)), but not *Q*-implicatures (cf. (9)).
  - (8)
    a. Gwen took off her socks and jumped into bed, but not in that order
    b. Billy cut a finger, but it wasn't his
    c. Sam and Max moved the piano, but not together
    d. If you finish your thesis by September you'll be eligible for the job, but not only in this case
  - (9)
    a. Jack met some of the students, (#but/and in fact) he met all of them
    b. Bill is in the kitchen or the living room, (?but/and in fact) I know which
    c. John thinks that Mary is pregnant, (?but/and in fact) she is indeed expecting a child
    d. Sam caused Max's death, (?but/and in fact) he actually killed him on purpose

Hypothesis

The meaning of *but*

Benndorf and Koenig's version (adapted from Anscombre and Ducrot) :

(10) a. A sentence *p but q* is felicitous iff there is a proposition *H* such that :
b. *H* is an *R*-inference or a "world inference" derived from *p*
c. *q* together with the common ground entails $\neg H$

	Q-based (Adversary)	*R-based* (Allied)
Reinforcement	but	$\emptyset$
Cancellation	in fact	but

Tab.: Preferred Connectives and Arg. Orientation

Problem 1 : A Counter-Example

- Cancelling a *Q*-implicature with an adversative connective is unexpected given the connectives in the previous table
- (11) a. *Mother :* I hope Kevin has been polite with Granny and has managed to eat some of her terrible cookies.
  b. *Father :* He did eat some of them, **but in fact he ate all of them** and so Granny said that he was greedy.

Saving the description

- $\Rightarrow$ In this context, the implicature from *some* to *not all* is an *R-based* one.
- But nothing prevents its derivation by means of the *Q-principle*

Problem 2 : Turncoat Q-Implicatures

- (12) a. *A :* Who came to the party ?
  b. *B :* Bill and Ted
  c. $\rightsquigarrow$No one else came
- The implicature is usually treated as a Q-inference (*e.g.* [Lev00])
- Preference for adversatives aren't clear for reinforcement

(13) a. *B' :* Bill and Ted, (and/ ?but) no one else.
  b. *B'' :* Bill and Ted, (?and/but) not George.

- The same goes for cancellation

(14) a. $B^{(3)}$ *:* Bill and Ted, (and/but) also George.
  b. $B^{(4)}$ *:* Bill and Ted, (and/but) also many other people.

- The inference appears to be *turncoat*

Summary

Informativeness

- Neo-Gricean accounts (based on *informativeness*) can't explain the preference for adversatives in reinforcement cases :
  1. the preference for adversatives varies between contexts of utterance
  2. the argumentative properties of some inferences are unclear

Relevance

- Turncoat inferences underline the importance of the *Relevance* of the second discourse conjunct

Relevance Theory

Explicatures vs. Implicatures

Sperber and Wilson's *Relevance Theory* distinguishes between :

- *Explicatures :* enrichments of an utterance and part of the decoding of the linguistic meaning of an utterance (*e.g.* cases of *R-based* implicatures)
- *Implicatures :* inferences that aren't enrichments (*e.g.* some particularized implicatures)

The Scalar Case

- *'Scalar'* inferences are, most of the time, treated in terms of explicatures (cf. [NS07])
- In contexts such that the truth of a stronger proposition is relevant, an utterance including a weak term *implicates* the negation of a stronger one

Adversatives as Procedural Information

- [Bla00] : *but* encodes a procedural meaning :

  > *the inferential route signalled by "but" [...] leads the hearer to a contradiction between a proposition communicated by the segment it introduces [...] and a proposition made mutually manifest by the interpretation of the preceding utterance*

- $\Rightarrow$ *but* shouldn't be licensed when 'scalar' inferences are implicated or explicated (*e.g.* when the first conjunct contains *some* and conveys *not all*)

Examples (taken from [NS07])

- Let $p =$ *Not all the guests have arrived*
- (15) Henry needs to greet the guests as they arrive and put the fish in the oven as soon as all the guests have arrived
  a. *Jane to Henry :* Some of the guests have arrived
  b. $\gg p$, $\not\rightsquigarrow p$
  c. Some of the guests have arrived, (but) not all of them
- (16) a. *Henry to Jane :* Have all the guests arrived ?
  b. *Jane to Henry :* Some of them have
  c. $\gg p$, $\rightsquigarrow p$
  d. Some of them have, #(but) not all
- (17) Henry needs to fetch desert from the shop as soon as the first guests arrive
  a. *Jane to Henry :* Some of the guests have arrived
  b. $\not\gg p$, $\not\rightsquigarrow p$
  c. Some of the guests have arrived, ?(but not all)

Summary 2

- Neo-Gricean accounts can't be the basis to explain the preference for adversatives
- Relevance Theory makes a fine distinction between the nature of inference (explicatures and implicatures) and takes the context of utterance into account, yet its predictions appear inconclusive regarding the preference at hand
- Rather than explaining the preference and semantics of adversatives by looking at implicatures, let's look at the argumentative properties of the conjuncts

The Argumentative Perspective

Working Hypothesis II

- The preference for an adversative isn't linked to the presence of an implicature, but to properties of the discourse segments
- *Argumentativity* is irreducible to inferential mechanisms
- Similar implicatures may have different argumentative properties

Argumentativity and Inferences

- Argumentativity may still guide the inferential mechanism

Adversatives

Argumentativity and Relevance

- [Mer99] : Ducrot's argumentativity is linked to relevance (as defined by Carnap)
  - p argues for q iff. p is positively relevant to q : $r_q(p) > 0$
  - p is *positively relevant* to q if asserting p raises the probability of q

Implicatures and Argumentativity

Derivation of Implicatures

- *Relevance/Argumentativity* can be used to account for implicatures ([Duc80],[Mer99],[vR04])
- Implicatures thus derived come about from the negation of more relevant propositions
- $\Rightarrow$ these implicatures are *adversary* :
  - if q is an implicature derived from p in this manner
  - q is the negation of some proposition p' such that $0 < r_H(p) < r_H(p')$
  - therefore $r_H(q) = r_H(\neg p') < 0$
  - q argues against H, opposite p
- The use of adversatives is accounted for : the argumentative properties of the propositions are compatible with their semantics

Testing Argumentativity

Limits

- An *entirely* argumentative approach isn't realistic (cf. [vR04])
  - Some situations are intuitively cooperative
  - The derivation of scalar implicatures is more natural by other means

Use of adversatives

- In many cases : *Scalar Implicature* $\Rightarrow$ *Adversative Reinforcement*
- Adversatives mark the argumentative orientations of discourse segments
- If the derivation of implicatures by argumentativity is sound, adversatives should indicate the presence of an implicature
- *Adversative* $\Rightarrow$ *Implicature* ?

Experimental Horizons

Predictions

- Argumentative opposition ⇒ Implicature Derivation
- (18) a. It's possible but it's not sure
  b. It's possible and it's not sure
- If (18a) is *always* preferred to (18b), even in contexts without implicatures, an argumentative derivation isn't satisfactory
- (19) a. *A :* Is there even a remote possibility that John will come ?
  b. *B :* Yes, it's possible, ?(but) it's not sure
- Contexts such as in (19) may allow adversatives at the cost of a greater processing time : the argumentative relation needs to be worked out
- If so, how come they're preferred (if they truly are) ?

Summary 3

- Argumentativity can not be reduced to inferential mechanisms : Hypothesis I Rejected
- Accounts relying on argumentativity to derive implicatures offer a straightforward compatibility between implicatures and adversatives, but may yield too strong predictions

Cautious Hypothesis

- Argumentativity and inference are orthogonal, but often correlated
- Argumentation can drive inference, but needs to be harnessed

What's missing

We don't have an explanation for the actual *preference* for adversative

Maximize Redundancy

The Principle

[Sau08] :

- *Prefer, among a set of alternatives, an utterance that presupposes as many elements of the common ground as possible*
- (20) a. #A father of the victim came to the scene of murder
  b. The father of the victim came to the scene of murder

The case at hand

- *Given two argumentatively opposed propositions p and q, prefer "p but q" over "p and q"*
- *And* would imply that a contrast doesn't hold between *p* and *q*
- Is the non-felicitousness of the core-cases of the same order as that of utterances such as (20a) ?
- Do the predictions made by the Maximization principle apply here ?

Discourse Relations

Idiosyncrasy

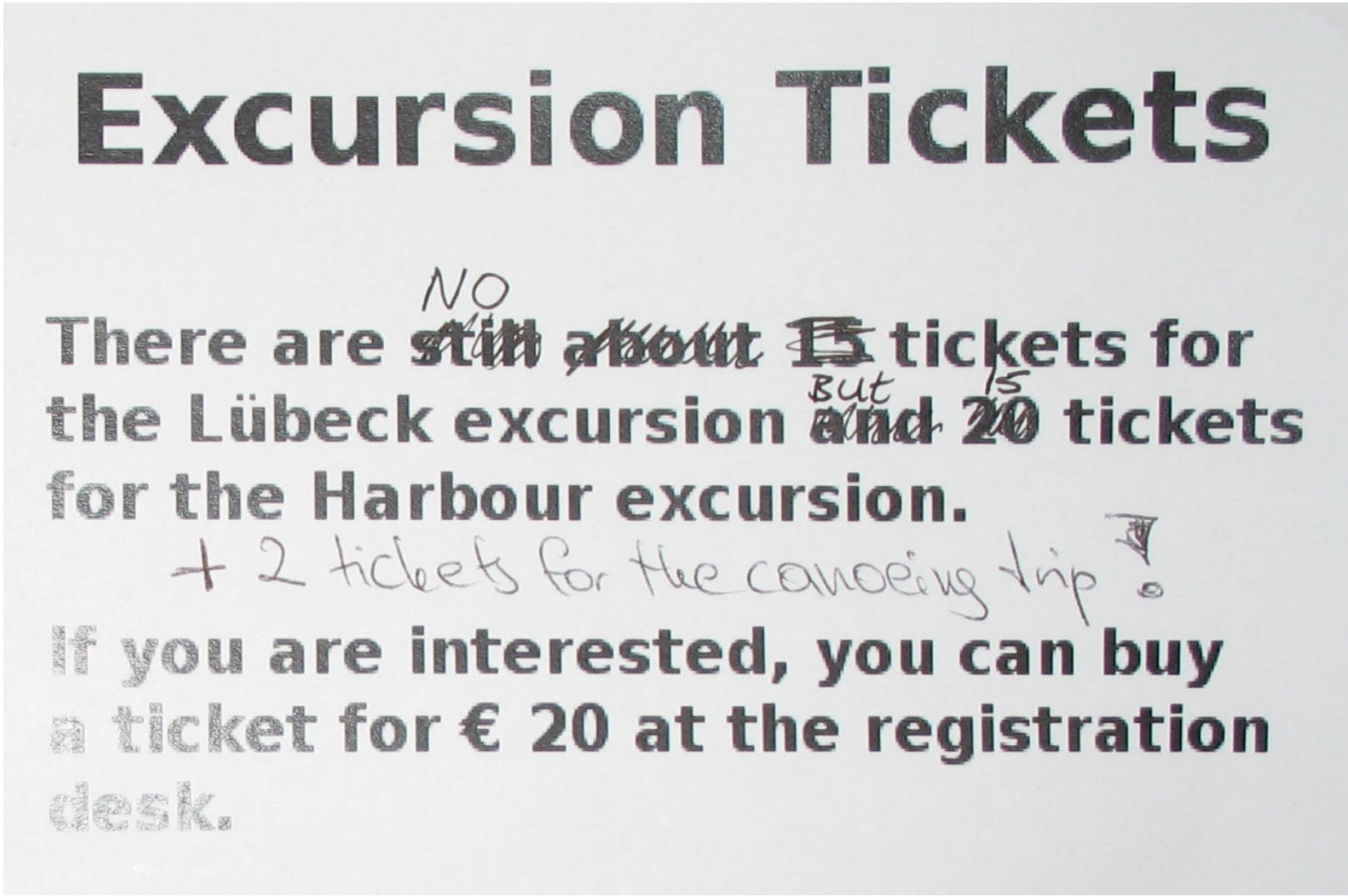
- [AL03] : in *SDRT* the discourse relation *Contrast* requires a specific clue
- Between two connected discourse segments such that the second denies a default consequence of the first, the relation of *Contrast* holds and needs to be marked :

  (21) John hates sports but he likes hockey.

- The *denial of default consequence* isn't obvious in the cases at hand, even less in (22) :

  (22) John will take a bit of cake, but not much.

A strong urge for *but*



Conclusion

- The preference for adversatives can't be explained in purely inferential terms, *argumentativity* appears as a key concept in discourse
- An account based on the argumentative properties of propositions offers a straightforward explanation, although deriving inferences in this manner might overgenerate
- A definite explanation for the actual preference is still lacking, although it seems that a general principle of *mark-if-present* is in order

Future work

The level of operation of adversatives should be further investigated : even though *but* isn't sensitive to all conversational material, it can take some inferences into account (*e.g.* *R*-implicatures), even more so in dialogue

Selected References I

- Jean-Claude Anscombre and Oswald Ducrot, *Deux mais en français*, Lingua **43** (1977), 23–40.
- Nicholas Asher and Alex Lascarides, *Logics of conversation*, Cambridge : Cambridge University Press, 2003.
- Beate Benndorf and Jean-Pierre Koenig, *Meaning and context : German aber and sondern*, Discourse and cognition : bridging the gap (Jean-Pierre Koenig, ed.), CSLI Publications, Stanford, 1998, pp. 365–386.
- Diane Blakemore, *Indicators and procedures : nevertheless and but*, Journal of Linguistics **36** (2000), 463–486.
- Robyn Carston, *Informativeness, relevance and scalar implicature*, Relevance theory : Applications and Implications (Robyn Carston and S. Uchida, eds.), John Benjamins, Amsterdam, 1998, pp. 179–236.

Selected References II


Oswald Ducrot, *Les échelles argumentatives*, Les Éditions de Minuit, 1980.


Larry Horn, *Toward a new taxonomy for pragmatic inference : Q-based and R-based implicature*, Meaning, Form and Use in context (GURT' 84) (1984), 11–42.


_____, *A natural history of negation*, The University of Chicago Press, 1989.


_____, *Given as new : when redundant information isn't*, Journal of Pragmatics **15** (1991), no. 4, 313–336.


Stephen C. Levinson, *Presumptive meanings : The theory of generalized conversational implicature*, MIT Press, Cambridge, MA, USA, 2000.

Selected References III


Arthur Merin, *Information, relevance and social decision-making*, Logic, Language, and computation (L.S. Moss, J. Ginzburg, and M. de Rijke, eds.), vol. 2, CSLI Publications, Stanford :CA, 1999, pp. 179–221.


Ira Noveck and Dan Sperber, *The why and how of experimental pragmatics : The case of 'scalar inferences'*, Advances in Pragmatics (Noel Burton-Roberts, ed.), Palgrave Macmillan, Basingstoke, 2007.


Uli Sauerland, *Implicated presuppositions*, Sentence and Context (A. Steube, ed.), Language, Context & Cognition, Mouton de Gruyter, Berlin, Germany, 2008, To appear.


Robert van Rooij, *Cooperative versus argumentative communication*, Philosophia Scientia **2** (2004), 195–209.

But. . .

The preference for adversatives can't be accounted for by the *explicature/implicature* distinction :

- Some implicatures are *allied* (*i.e.* cancelled with an adversative), just like explicatures :

(23) a. *A :* I'm out of gas.
b. *B :* There's a garage round the corner, #(but) it's closed

Inference and Argumentativity (again)

Anscombre and Ducrot

- *Argumentativity* is distinct from Inference
- (24) a. Mary almost fell, but she caught herself
  b. $\longrightarrow$ Mary didn't fell
  c. ?$\rightsquigarrow$Mary fell
- Not consistent with an implicature as part of the *conveyed* meaning of an utterance (the same goes for the core-data)

Argumentative Scales

Example

(25) a. *Recruiter :* Do you speak Portuguese ?
b. *Applicant Jane :* My husband does, #(but) I don't
c. H_{Jane} = "Hire me"