Presuppositions
and
Information Structure

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An overview of literature on the interaction of presuppositions and information structure

A case study on the interaction of the existence presupposition of definite descriptions and topicality

A first idea towards a unified account for presuppositions and information structure
An Overview
of literature on the interaction of presuppositions and information structure
An Overview

Normally, factives like *discover* presuppose the truth of their complement:

(1)  *Pete discovered that Fido has fleas.*

   ▶▶ *Fido has fleas*

Simons (2001):

(2)  Suppose we are at a restaurant, and notice a couple at another table engaged in a furious argument. We are speculating as to what has upset them. I say to you:

   *Perhaps she just discovered that he’s having an affair.*

   ▶▶ ∅
An Overview

The same works for aspectual verbs, see Simons (2001) again:

(3)  *I notice that you keep chewing on your pencil.*
    *Have you recently stopped smoking?*

(4)  *I have no idea whether Jane ever smoked,*
    *but she hasn’t stopped smoking.*
An Overview


(5) Suppose our linguistics department wins a health prize if ten members of the department perform healthy acts during the school year. Suppose [...] you knew of nine healthy acts already, and only one was missing

[Somebody enters the room:]

Hey, listen, we get the prize! Sue stopped smoking.

presuppositions do not appear in certain contexts
Beaver (2005):

(6)  a. *If the T.A. discovers that your work is plagiarized,*

     *I will be forced to notify the Dean.*

  ▶▶  *your work is plagiarized*

b. *If the T.A. discovers that your work is plagiarized,*

     *I will be forced to notify the Dean*

  ▶▶  ∅

Beaver's suggestion: focus marking might be responsible for disappearing presupposition
An Overview

Geurts & van der Sandt (2004): the background of the focus gives rise to an existential presupposition

(7)   a. If $[Fred’s \, wife]_F$ stole the tarts, then Fred is innocent.

        b. Maybe $[Fred’s \, wife]_F$ stole the tarts.

        c. It’s not the case that $[Fred’s \, wife]_F$ stole the tarts.

        ▶▶ Somebody stole the tarts

Presupposition satisfaction as expected:

(8) If someone stole the tarts, then $[Fred’s \, wife]_F$ stole the tarts.
Data from Abusch (2009) making the same point:

(9)  a. *If Abner and Lana robbed the Trust Company, then* 
     \[ \text{[she]}_F \text{ opened the vault.} \]

     b. *If Abner and Lana robbed the Trust Company, then* 
     \[ \text{it was } [\text{she}]_F \text{ who opened the vault.} \]

- conditionalized presupposition:
  
  *If Abner and Lana robbed the Trust Company, then someone opened the vault.*

- the background of the focus gives rise to a presupposition
distinction between soft triggers (e.g. win) and hard triggers

(10) a. John didn’t win the Road Race.
    ▶▶ John participated

b. If John won the Road Race, he’s got more victories than anyone else in history.
    ▶▶ John participated

c. If John woke up on time today, he won the Road Race.
    ▶▶ conditionalized presupposition:
    If John woke up on time, he participated
presuppositions of **soft triggers** can be cancelled:

(11) *I have no idea whether John ended up participating in the Road Race yesterday. But if he won it, then he has more victories than anyone else in history.*


presuppositions of **hard triggers** cannot be cancelled:

(12) *#I have no idea whether Jane ever rented 'Manhattan', but perhaps she is renting it again.*

⇒ difference of cancellation behaviour between triggers
An Overview

Abusch (2009, citing data from Rooth, 1999):

(13) A: Did anyone win the football pool this week?

B: Probably not, because it’s unlikely that [Mary]$_F$ won it, and she’s the only person who ever wins.

B': Probably not, because it’s unlikely that it was [Mary]$_F$ who won it, and she’s the only person who ever wins.

$\Rightarrow$ prosodic focus marking is a soft trigger, but focus marking by it-cleft isn't.
An Overview

standard case: presupposition satisfaction from left to right:

(14) *If there is a bathroom in this building,*

\[
\text{the bathroom is downstairs.}
\]

(15) *Either there is no bathroom in this building,*

\[
\text{or the bathroom is downstairs.}
\]

but: cases of symmetric presupposition satisfaction

(16) *The bathroom is downstairs,*

\[
\text{if there is a bathroom in this building.}
\]

(17) *The bathroom is downstairs*

\[
\text{or there is no bathroom in this building.}
\]
An Overview

Lassiter (2009):
symmetric presupposition satisfaction occurs only in certain contexts

(18) Bill and Joe are on a city bus. They both know that city buses usually don’t have bathrooms.

a. The bathroom is in the back of the bus
   or there is no bathroom on this bus.

b. The bathroom is in the back of the bus,
   if there is a bathroom on this bus.
An Overview

Lassiter (2009):

(19) Bill and Joe are in an unfamiliar classroom building.

   a. The bathroom is downstairs,
      or there \([IS]_F\) no bathroom in this building.

   b. The bathroom is downstairs,
      if there \([IS]_F\) a bathroom in this building.

(20) John's dog must be smelly,
      or maby he doesn't \([HAVE]_F\) a dog (and that's his smell).

\(\Rightarrow\) symmetric presupposition satisfaction calls for specific
focus marking that indicates mid-utterance correction
An Overview

Beaver (1994):

(21) Whereas British tend to use their cars at weekends,

... all Italians use their cars to go to WORK.

However, most Italians don't OWN cars, and so go to work by public transport.

▸▸ intermediate accommodation:

all italians who own cars use their cars to go to work

all [italians ⬤] [use their cars to go to work ⬤]
An Overview

Beaver (1994):

(22) Whatever other options are available, it is by public transport that most British go to work. In contrast, ... all Italians use their CARS to go to work.

However, most Italians don't OWN cars, and so go to work by public transport.

»» no intermediate but only local accommodation

all italians have cars and use their cars to go to work

availability of intermediate accommodation hinges on topic status of trigger
An Overview

Strawson (1964):
difference in acceptability (assuming that there is a unique salient exhibition and no king of France).

(23) a. #The King of France visited the exhibition.
   ❯ foul failure presupposition: there is a King of France

   b. The exhibition was visited by the King of France.

no truth-value judgement and 'squeamishness' in case of (23a), but (23b) is judged as plainly false.

➡ Strawson: only definites that are topical presuppose
Yeom (1998), Cresti (1995): presuppositional explanation for the observed exceptional wide scope of topical indefinites:

(24) If \([a \text{ relative of mine}]_T\) dies I will inherit a fortune.

paraphrase:

*There is a (certain) relative of mine and if he dies I will inherit a fortune.*

- A specific indefinite presupposes the existence of its referent and someone’s (most of the time the speaker’s) cognitive contact with it
An Overview

- Presuppositions do not appear in certain contexts.
- Focus marking might be responsible for disappearing presupposition.
- The background of the focus gives rise to a presupposition.
- Difference of cancellation behaviour between triggers.
- Prosodic focus marking is a soft trigger, but focus marking by *it*-cleft isn't.
- Symmetric presupposition satisfaction calls for specific focus marking that indicates mid-utterance correction.
- Availability of intermediate accommodation hinges on topic status of trigger.
- Only definites that are topical presuppose.
- A specific indefinite presupposes the existence of its referent and someone's (most of the time the speaker's) cognitive contact with it.
Discussion

• only few attempts towards explanation of the phenomena (e.g. Abrusán 2011, 2013, ms.)

• no systematic investigation of the deeper connection between presuppositions and information structure

• sentences with presupposition triggers have been investigated out of context:

  Analysing presuppositional phenomena without considering topic-focus effects is a risky business, and in order to do justice to these effects we need to modify the prevalent methodology somewhat and start looking more at texts and less at single sentence examples. I have

  (Beaver 1994)
Discussion

- conceptual confusion: focus as presupposition trigger vs. focus as an external discourse phenomenon responsible for cancellation
- information structural concepts not always analysed carefully enough
A case study:
Topics and Definite Descriptions

Why Strawson was correct anyway
The Plot:

Strawson (1964): a non-referring definite description causes squeamishness if it is topical

Lasersohn (1993) & von Fintel (2004): Strawson is wrong; there are sentences with non-referring definite topics that will be judged plainly false

Ebert & Ebert (2010): Lasersohn & von Fintel are wrong and Strawson is right anyway.
Topics and Definite Descriptions

Lasersohn (1993):

(25) ‘a speaker who points at an obviously empty chair’

$F$The King of France is sitting in that chair.

Lasersohn: false despite topicality of The King of France.

Ebert & Ebert (2010):

(25) is not about the King of France

(26) #Der König von Frankreich, der sitzt auf diesem Stuhl.

the king of France RP sit on this chair

'The King of France is sitting in that chair'.
More likely: (25) is about the chair

Even more likely: (25) is a topic-less, thetic statement

Thetic statements: out-of-the-blue utterances, answers to background questions like

(27) What's up? What's happening?

Most faithful German translation of (25):

(28) Da sitzt der König von Frankreich auf dem Stuhl. There sit the king of France on the chair

Da (there) sentences typical instances of thetic statements.
Same argumentation for countering other examples of Lasersohn (1993):

(29) Uttered in a situation where no noise has come from the direction of the door:

\( ^F \text{The King of France is knocking on the door.} \)

(30) Uttered in a situation where an obviously untouched sandwich is on the table:

\( ^F \text{The King of France ate that sandwich.} \)

(29) and (30) either about the door/the sandwich or thetic
von Fintel (2004):

(31)  a. \textit{Let me tell you about my friend, the King of France.}
    b. \textit{I had breakfast with the King of France/him this morning.}

von Fintel: b. is false despite topicality of the definite

Ebert & Ebert (2010):
yes, but the crucial sentence is a., not b.

a. introduces the definite into the discourse. Once we go along with a. we accept the existence of the King of France and b. can be judged false.
Topics and Definite Descriptions

Same argumentation for countering other examples of von Fintel (2004):

(32) a. Have you heard anything about the king of France recently? I think he may be getting old and decrepit.
   b. Well. Bill Clinton had breakfast with him last week and he looked just fine I hear.

(33) a. I had breakfast with the king of France this morning.
   b. He and I both had scrambled eggs.
Explanation: (Ebert & Ebert 2010, based on Endriss 2009):

Topic establishment constitutes a separate referential act (cf. Searle 1969) that establishes reference to (a suitable representative of) the topical entity:

(34) Any news about Peter?

\[ [Peter]_T \text{ won the lottery.} \]

\[ \text{Top}_X (\text{Peter} ) \& \text{ASSERT} ( X \text{ won the lottery} ) \]

This approach of Endriss (2009) can explain the exceptional wide scope behaviour of topics.
Topics and Definite Descriptions

Non-referring definite case:

(35) \([\text{The king of France}]_T \text{ is bald.}\)

\(\text{Top}_X(\text{King of France}) \land \text{ASSERT}(X \text{ is bald})\)

Non-referring definite topic \(\Rightarrow\) Top act fails
\(\Rightarrow\) no truth-value judgement

same result for Strawsonian and Russelian treatment of definite:

\(\text{Top}_X(\lambda P.\exists x[\text{king\_of\_france}(x) \land P(x)]) \land \text{ASSERT}(\lambda w.\text{bald}_w(X))\)

\(\text{Top}_X(\iota x.\text{king\_of\_france}(x)) \land \text{ASSERT}(\lambda w.\text{bald}_w(X))\)
Definites without presuppositions, maybe?

(36) A: What about this year’s Field Medal? Who was it awarded to?
B: It was awarded to [the mathematician who proved the Goldbach Conjecture]_F.
A: Hey, wait a minute—I had no idea that someone proved the Conjecture.

from (von Fintel 2004, p. 277f)

this year's Field Medal topical, definite description focal

▷ existence presupposition
Definites without presuppositions, maybe?

(37) If this year’s Fields Medal is awarded to the mathematician who proved Goldbach’s Conjecture, my friend James (who hopes on it himself) will be quite disappointed.

- existence presupposition (projects from if-clause)

➡️ Conclusion:
- definites come with presupposition in general; non-referring topical definites inevitably cause squeamishness (via Topic Act failure)
A first idea: Incremental Updates

initial thoughts towards an analysis
Incremental Updates

- a first attempt towards a more uniform explanation
- give presupposition and information structure a common basis to operate on & avoid conceptual confusion
- fuse ideas of the calculus of mental acts from Kracht (2010, 2011) with insights into embodied cognition/mental simulation (Barsalou 1999, Bergen 2012)
- here: impressionistic exposition of main ideas with a layman's view on mental simulation
- formally spelled out for a different system in a similar spirit in Ebert (2011)
Incremental Updates

- processing perspective of a hearer H
- understanding proceeds incrementally meaning here: in steps; *not* necessarily from left to right (cf. Schlenker 2008 for a left-to-right approach toward presuppositions)
- involves *consideration* of propositions/facts and *judgements* about them (cf. Kracht 2010, 2011)
- consideration of a proposition/fact: attend to proposition, perform mental simulation
after consideration, one of three basic judgements:

- acceptance ✔
- rejection ❌
- assumption ❓

feedback of H

- communicates result of judgement to speaker
- secondary effect: indicates successful processing
Incremental Updates

Simple acceptance:

(38) (What's up?)

S: John snores.

Effect of assertion:
S asks of H to accept (the content of) John snores

H's understanding process:

• consider: John snores
• accept  

John snores
Incremental Updates

Conjunction:

(39)  (What's up?)

S: John snores and Mary dances.

H's understanding process:

to accept conjunction: accept both conjuncts

• consider: John snores  
  ✔

• accept

• consider: Mary dances  
  ✔

• accept
Incremental Updates

Negation:

(40) *It's not true that John snores.*

H's understanding process:

- to accept a negation: reject its content
  - consider: John snores
  - reject

This is how negated information actually seems to be processed by humans (cf. e.g. Kaup et. al. 2006, 2007 for experimental evidence in the mental simulation view).
Conditional: suppositional process

(41) If John snores, then Mary will be angry.

H's understanding process:

to accept a conditional: assume antecedent and accept conclusion

• consider: John snores

• assume

• consider: Mary will be angry

• accept

(• discharge assumption)
Incremental Updates

Mental simulation view (e.g. Bergen & Wheeler 2010; Bergen 2012):

What is processed?

Lexical material determines substance of considerations and judgements

How is it processed?

Grammatical structure, connectives such as *and*, *not*, *if-then*, presuppositions and information structure determine further aspects (schedule processing, Kracht 2010, 2011; here: determine order of processing)
Incremental Updates and PS

Presupposition:

prerequisite consideration without judgement

(42) Jolanda stopped biting her nails.

In order to consider Jolanda stopped biting her nails, consider Jolanda bit her nails first.

- consider: Jolanda bit her nails
- consider: Jolanda stopped that
- accept

Jolanda bit her nails

Jolanda stopped that
Incremental Updates and PS

presupposition accommodation, satisfaction and failure:

Jolanda bit her nails
Jolanda stopped that

H' epistemic state:

H's feedback

∅ → Accommodation → Acceptance → "yes"

Jolanda bit her nails → Satisfaction → Acceptance → "yes"

Jolanda bit her nails, Jolanda did not stop → Satisfaction → Rejection → "no"

Jolanda didn't bite her nails → presupposition failure → (no judgement)

"Hey, wait a minute!"
Incremental Updates and PS

Presuppositions projection: over negation

(43) *Jolanda did not stop biting her nails.*

• consider: Jolanda bit her nails
• consider: Jolanda stopped that
• reject

Jolanda bit her nails  Jolanda stopped that
Incremental Updates and PS

Projection: from antecedent of conditional

(44) If Jolanda stopped biting her nails, her mother will be happy.

• consider: Jolanda bit her nails
• consider: Jolanda stopped that
• assume
• consider: her mother will be happy
• accept

Jolanda bit her nails  Jolanda stopped that  her mother will be happy
Incremental Updates and PS

Projection: conditionalization of presupposition

(45) *If Jolanda is nervous, her mother will discover that she bites her nails.*

- consider: Jolanda is nervous
- assume
- consider: Jolanda bites her nails
- consider: her mother discovers that
- accept
Projection due to independence of consideration and judgement (attested experimentally for negation)

This approach: nearly the same predictions as Heim's (1983) satisfaction approach

<table>
<thead>
<tr>
<th></th>
<th>(Heim, 1983)</th>
<th>this approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is not the case that $\partial \phi'/\phi$</td>
<td>$\phi'$</td>
<td>$\phi'$</td>
</tr>
<tr>
<td>$\partial \phi'/\phi$ and $\partial \psi'/\psi$</td>
<td>$\phi', \phi \rightarrow \psi'$</td>
<td>$\phi', \psi'$</td>
</tr>
<tr>
<td>If $\partial \phi'/\phi$ then $\partial \psi'/\psi$</td>
<td>$\phi', \phi \rightarrow \psi'$</td>
<td>$\phi', \phi \rightarrow \psi'$</td>
</tr>
</tbody>
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Incremental Updates and PS

Not a big surprise, since Heim's (1983) approach is in fact inherently procedural, e.g. Heim's negation rule

\[(46) \quad c - (c + \phi)\]

does it's job only if read as processing instruction, which is very similar to the one illustrated here

However, different view of presuppositions: here accommodation is a default, not different from acceptance of at-issue information; satisfaction is non-hurtful redundancy
Incremental Updates and Focus

Focus: marks material for judgement

(47) What's up?

\[John \text{ married } Jolanda\]_F

- consider: \(x = \text{john}; \text{marry}(x,y); y = jolanda\)
- accept

(48) Who did John marry?

\(John \text{ married } [Jolanda]_F\)

- consider: \(x = \text{john}; \text{marry}(x,y)\)
- consider: \(y = jolanda\)
- accept
Incremental Updates and Focus

(49) S: Who did John marry?
  H: John married \([\text{Jolanda}]_F\)

S: \textit{No!}

\textit{It's not true that John married} \([\text{Jolanda}]_F\).

\[x = \text{john}; \text{marry}(x,y)\]
\[y = \text{jolanda}\]

rejection of \(y = \text{jolanda}\)

\[\text{background to focus appears presupposed (cf. Geurts \& van der Sandt 2004)}\]
Incremental Updates and Focus

Example from Beaver (2005):

(50) *If Jolanda [discovers]_F that Bruno cheated in the exam, he will fail.*

\[
\text{x = jolanda;} \quad \text{y = bruno;} \quad \text{p = cheat(b)}
\]

\[
\text{discover(x, p)} \quad \text{fail(y)}
\]

▶ presupposition as expected due to factivity of discover

(alternatively: due to focus processing alone)
Presupposition and focus work in opposite directions:

On the assumption that the presupposition itself is focused, the effect of focus wins

(51) \textit{If Jolanda [discovers that Bruno cheated in the exam]}_F, he will fail.

\begin{itemize}
  \item \textbf{x = jolanda}
  \item \textbf{y = bruno; p = cheat(b); discover(x, p)}
  \item \textbf{fail(y)}
\end{itemize}

\begin{itemize}
  \item no factivity presupposition
\end{itemize}
Incremental Updates and Focus

Earlier examples illustrate the same point:

(52) Suppose our linguistics department wins a health prize if ten members of the department perform healthy acts during the school year. Suppose [...] you knew of nine healthy acts already, and only one was missing

[Somebody enters the room:

Hey, listen, we get the prize! [Sue stopped smoking]_F.

\[
x = \text{sue}; p = \text{smoke}(x), \text{stop}(x, p)
\]
Incremental Updates and Topic

Topicality: marks material for initial consideration
(note: similar effect as presuppositions)

feeds on Endriss' (2009): topic establishes a separate
speech act performed prior to subsequent assertion etc.

(53) What about John?

\[ [John]_T \text{ married Jolanda.} \]
Incremental Updates and Topic

Direct implementation of the categorical/thetic judgement distinction of Brentano and Marty (see Kuroda, 1972, p.154):

Marty. This theory assumes, unlike either traditional or modern logic, that there are two different fundamental types of judgments, the categorical and the thetic. Of these, only the former conforms to the traditional paradigm of subject-predicate, while the latter represents simply the recognition or rejection of material of a judgment. Moreover, the categorical judgment is assumed to consist of two separate acts, one, the act of recognition of that which is to be made the subject, and the other, the act of affirming or denying what is expressed by the predicate about the subject. With this analysis in mind, the thetic and the categorical judgments are also called the simple and the double judgments (Einfache Urteil and Doppelurteil).

What about John?
[\textit{John}]_T married Jolanda.
\[x = \text{john}, \ y = \text{jolanda}, \ \text{marry}(x,y)\]

What's up?
[\textit{John married Jolanda}]_F.
\[x = \text{john}, \ y = \text{jolanda}, \ \text{marry}(x,y)\]
Incremental Updates and Topic

This explains the observed exceptional wide scope behaviour (as in presuppositional approaches to topicality Yeom 1998, Cresti 1995)

(54) If [a relative of mine]\textsubscript{T} dies I will inherit a fortune.
Incremental Updates and Topic

Strawson again, for a knowledgable H:

(55) a. \([The\ King\ of\ France]_T\ visited\ the\ exhibition.\)

\[
\begin{align*}
\text{k-o-f(x)} & \quad \text{"Hey, wait a minute!"} \\
\text{exhibition(y)} &
\end{align*}
\]

(56) b. \([The\ exhibition]_T\ was\ visited\ by\ the\ King\ of\ France.\)

\[
\begin{align*}
\text{exhibition(y)} & \quad \text{k-o-f(x)} & \quad \text{"Hey, wait a minute!"} \\
\text{exhibition(y)} & \quad \text{k-o-f(x); visit(x,y)} & \quad \text{"No!"}
\end{align*}
\]
Discussion

a lot of questions:

• when and how does focus marking exactly affect the presupposition?

• how does disjunction work?

• how can modals, quantification, attitude operators, etc. be introduced into this system?

• is there more experimental evidence?
Discussion

• here, presuppositions are not directly about the common ground, but about the hearer's information state

• but this can't be much different in Heim's (and Schlenker's) system anyway

• in fact, Clark & Schaefer (1989) emphasize that common ground update is a collaborative process: first private update of hearer's information state, then update of the common ground after feedback.
Thank you
References

- Beaver, David (2005). Have you noticed that your belly button lint colour is related to the colour of your clothing? In Rainer Buerle, Uwe Reyle, and Thomas Ede Zimmerman, editors, Presuppositions and Discourse. Essays offered to Hans Kamp, CRISPI. Elsevier.
References


References


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