

האוניברסיטה העברית בירושלים  
THE HEBREW UNIVERSITY OF JERUSALEM



# LINGUISTIC PERSPECTIVES *IN CAUSATION*

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# Logophoric elements in causal clauses

## ■ Logophoric pronouns

(1) **Kofi** be [ **yè** / **e** -dzo ].

Kofi say LOG/PRON-leave

*Kofi said [that **he** / **he** left].*

[Ewe]

(2) **Kofi** dzo [ **ela**      bena Ama kpɔ **yè** ].

Kofi left because COMP Ama saw LOG

*Kofi left [because Ama saw **him**].*

[Culy 1994: 1072]

## ■ Exempt anaphors

(3) **Takasi** wa Taroo ni [Yosiko ga **zibun** o nikundeiru koto] o hanasita.

Takasi TOP Taroo DAT Yosiko SUBJ SELF OBJ be-hating COMP OBJ told

*Takasi told Taroo [that Yosiko hated **him**].*

[Japanese]

(4) **Takasi** wa [Yosiko ga mizu o **zibun** no ue ni kobosita **node**] nurete-simatta

Takasi TOP Yosiko SUBJ water OBJ self GEN on LOC spilled because wet-got

*Takasi got wet [because Yosiko spilled water on **him**].*

[Sells 1987: 466]

Cf. Clements 1975, Thráinsson 1976, Culy 1994, Sundaresan 2012, Charnavel 2014, a.o.

logophoric pronouns are used  
“to refer to the person **whose words, thoughts, knowledge or emotions  
are being reported** in a stretch of discourse”

in Ewe all the constructions that allow logophoric marking  
contain the complementizer/verb *be*

“a **question that remains unanswered**  
is why the causal clauses [in Ewe] should use  
the logophoric subordinator as opposed to any other”

*Culy (1994: 1072)*

# Hypothesis

Causal clauses can express different perspectives.

**Causal relation** endorsed by the attitude holder of A:

j believes A  
the cause of A **according to j** is B

**A**

*because*

**B**



**attitude holder of A**  $\subset$  **causal judge j**

# Hypothesis

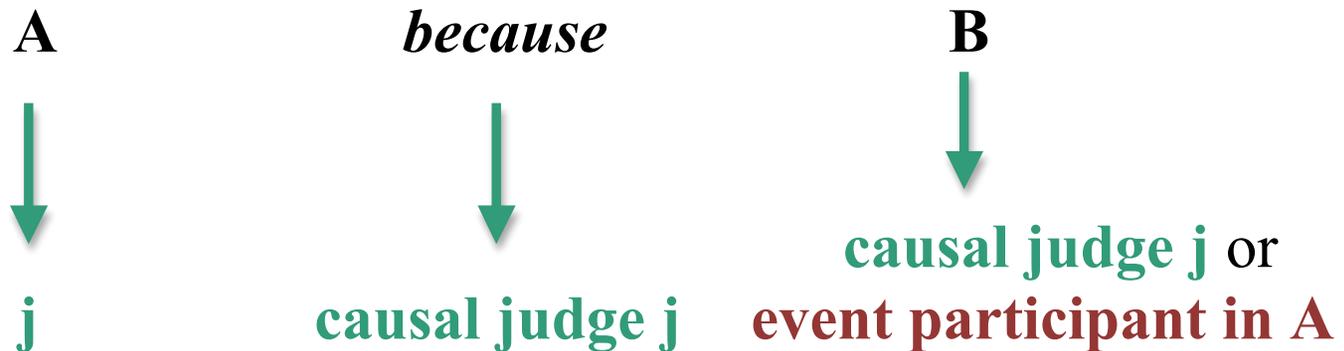
Whose attitude's is B's?

B usually expresses the causal judge j's perspective.

But in some cases (if A = volitional event, experience),

causal judge j does not necessarily believe B

causal judge j can present **B from the perspective of an event participant in A**





# Preview of analysis

- **causal judge  $j \supset$  local attitude holder AH**  
 i.e. = speaker/lowest attitude holder  
 or speaker/lowest attitude holder + event participant in A  
 → *because* relativized to a judge  $j \approx$  **silent subject of *because***
  
- **perspective center of B = causal judge** or an **event participant P**  
 whose mental reason for the action is presented by the causal judge  
 → perspective center of B = **syntactically represented logophoric operator at the periphery of B** licensing logophoric elements in B

Case #1: AH [A P ... ] [  $j_{AH}$  *because* [B OP<sub>AH</sub> ... log<sub>AH</sub> ]

Case #2: AH [A P ... ] [  $j_{AH+P}$  *because* [B OP<sub>P</sub> ... log<sub>P</sub> ]

Case #3: AH [A P ... ] [  $j_{AH+P}$  *because* [B OP<sub>AH+P</sub> ... log<sub>AH+P</sub> ]

# Outline

Case study: English causal clauses introduced by *because* (and *since*)

## ■ Empirical observations:

perspectival effects in *because*-clauses modifying **matrix clauses**

## ■ Analysis

## ■ Further corroborating empirical observations:

perspectival effects in *because/since*-clauses modifying clauses **embedded in attitude contexts**

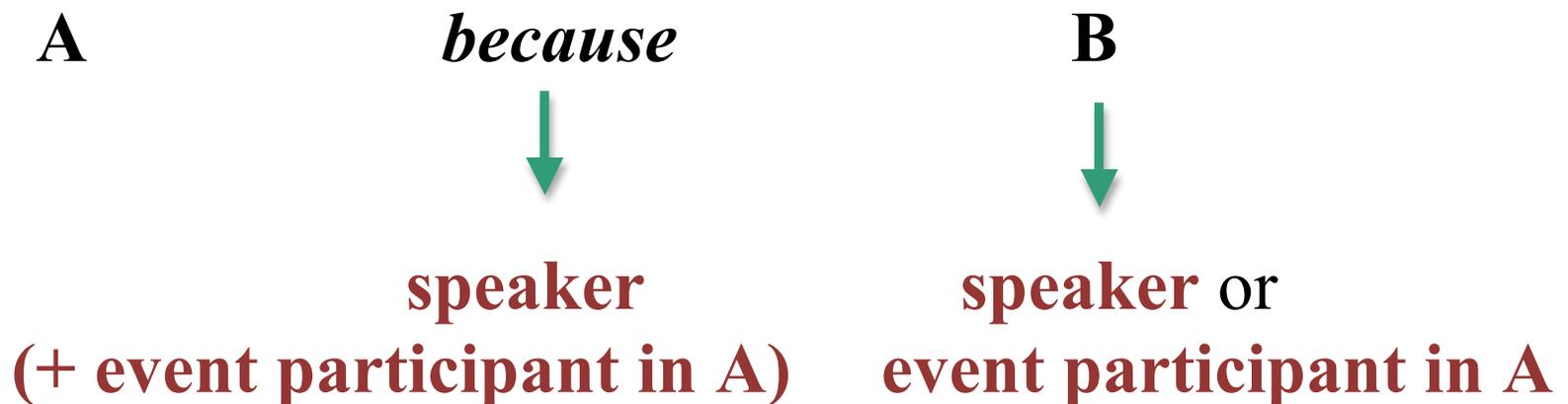
# PERSPECTIVAL EFFECTS IN *BECAUSE*-CLAUSES

modifying **matrix** clauses

## EMPIRICAL OBSERVATIONS

causal judge  $j \supset$  speaker

perspective center of B = speaker or event participant in A



# Speaker as causal judge

Causal relation is a **mental construct**: established by a causal judge

Cause  $\approx$  sufficient condition

See Lewis 1973, a.o., for discussion about the notion of cause  
(counterfactuality vs. regularity connection)

## ■ Speaker = causal judge

(5) **The tree** fell *because* it was struck by lightning.

*inanimate*

(6) **Liz** left *because* she was tired.

*animate*

## Speaker as perspective center of B

Perspectival elements in B can be **speaker-oriented**.

**A**

*because*

**B**



**speaker**

**speaker**

# Speaker as perspective center of B

- **Epithet** (antilogophoric, cf. Ruwet 1990, Dubinsky & Hamilton 1998)

(7) **Liz** left *because* **the poor woman** was exhausted.

- **Evaluative adverb**

(8) Liz left *because* **strangely**, she passed out.

- **Epistemic modal**

(9) Liz left *because* she **must** have been tired.

- **First-person exempt anaphor**

(10) Liz left *because* there was an embarrassing picture of **myself** going around.

# Event participant in A as perspective center of B

Perspectival elements in B  
can also be **anchored to an event participant in A.**

**A**

*because*

**B**



**event participant in A  
= attitude holder of B**

# Event participant in A as attitude holder of B

## ■ Strong arguments

- 1- Exempt anaphors read *de se*
- 2- Epistemic modals
- 3- Evaluative expressions

These expressions **must** be relativized to an attitude holder

→ **event participant in A = attitude holder of B**

## ■ Corroborating arguments

- 4- Deictic motion verbs
- 5- Predicates of taste

These expressions **can** be relativized to an attitude holder

# Event participant in A as attitude holder of B

## Argument 1

### ■ Third-person exempt anaphors are licensed in B

- (11) a. **Liz** left *because* there was an embarrassing picture of **herself** going around.  
b. **Sally** wanted to win the science fair *because* it would show that girls like **herself** could be scientists.

### ■ Exempt anaphors are perspectival

Cf. Clements 1975, Sells 1987, Kuno 1987, Pollard & Sag 1992, Charnavel & Zlogar 2016, a.o.

- (12) a. According to **John**, the article was written by Ann and **himself**.  
b. \*Speaking of **John**, the article was written by Ann and **himself**.
- (13) a. **The novelist** hinted that her next book would be about authors like **herself**.  
b. \***Pottery recovered from the sunken ship** suggested that Mediterranean merchants were trading goods like **itself** much earlier than previously thought.

# Event participant in A as attitude holder of B

## Argument 1

### ■ Third-person exempt anaphors in B must be read *de se*

(14) **Context:** *the picture is a nude picture of Liz showing her back, so that she mistakes it for a picture of her friend. Liz decides to leave the party because she thinks that the picture is embarrassing for her friend.*

**Liz** left *because* there was an embarrassing picture of **her(#self)** going around.

# Event participant in A as attitude holder of B

## Argument 2

### ■ Epistemic modals

- (15) a. **Liz** left the party *because* things **might** have spiraled out of control.  
b. Airplanes frighten **John** *because* they **might** crash. (Stephenson 2007)

### ■ Epistemic modals must be anchored to the lowest attitude holder

Cf. Hacquart 2010, a.o.

- (16) It **might** be raining.                      anchor = attitude holder = **speaker**  
(17) **Sam** thinks that it **might** be raining.                      anchor = attitude holder = **Sam**

# Event participant in A as attitude holder of B

## Argument 3

### ■ Evaluative expressions in B

- Evaluative **adjectives** (attributive, predicative)

(11a) **Liz** left *because* there was an **embarrassing** picture of herself going around.

(18) **Sue** voted for Trump *because* he is going to be a **great** President.

- Evaluative **adverbs**

(19) **Liz** left *because* **unfortunately** her car got towed.

### ■ Evaluative expressions must be anchored to attitude holders

(20) a. An **embarrassing** picture of Liz was being mocked.    anchor = **speaker**

b. **Liz** thought that an **embarrassing** picture of her(self) was being mocked.  
anchor = **Liz** (*de dicto*) or **speaker** (*de re*)

# Event participant in A as attitude holder of B

## Argument 4

### ■ Deictic motion verbs in B

(21) **Liz** left *because* her enemy was about to **come** to her.

*only Liz must be at the goal of motion*

### ■ The deictic center of *come* can be an attitude holder

cf. Oshima 2007, a.o.

(22) Liz **came** to Jerusalem.

*speaker (or addressee) is (mentally) located in Jerusalem*

(23) Liz said that Paul **came** to Jerusalem.

*speaker (or addressee) or Liz is (mentally) located in Jerusalem*

The deictic center of *come* can be a perspective center different from an attitude holder:

(24) As Paul was living alone, his son **came** to visit him every day.

# Event participant in A as attitude holder of B

## Argument 5

### ■ Predicates of taste

(25) **Liz** left the party *because* the food was not **tasty**. *not tasty to Liz*

### ■ Predicates of taste can be anchored to attitude holders

(26) The food is not **tasty**. *not tasty to speaker*

(27) **Liz** thinks that the food is not **tasty**. *not tasty to Liz*

The judge of predicates of taste can be different from an attitude holder:

(28) **The cat** food might be **tasty**. *tasty to the cat*

**A**

*because*

**B**



**speaker**

**speaker**

**?**

**event participant in A**

**A**

*because*

**B**



Case #1

**speaker**

**speaker**

Case #2

**speaker +  
event participant in A**

**event participant in A**

(29) #**Liz** left *because* there was an embarrassing picture of **herself** going around. **But she thinks** she left *because* she was bored.

(30) #**Liz** left *because* there was an embarrassing picture of **herself** going around. **But I think** she left *because* she was bored.

# Event participant in A as perspective center of B

**A**

*because*

**B**



Case #2

**speaker +  
event participant in A**

**event participant in A**

→ speaker takes event participant's perspective to present cause

**B = mental reason** of event participant in A for A

# Event participant in A as perspective center of B

(11a) **Liz** left *because* there was an embarrassing picture of **herself** going around.

A = volitional event

Liz = volitional agent

B = Liz's reason for A

→ the speaker presents B from Liz's perspective  
since the cause is her (mental) reason

**cause**: what is thought by an **external observer** to cause an event

**reason**: what is thought by the **internal event participant** to  
cause the event (intentionally)

# Event participant in A as perspective center of B

## ■ Event participant = mental

### ○ Volitional

- (11) a. **Liz** left *because* there was an embarrassing picture of **herself** going around.  
b. **Sally** wanted to win the science fair *because* it would show that girls like **herself** could be scientists.

### ○ Experiencer

- (15b) Airplanes frighten **John** *because* they might crash. (Stephenson 2007)

vs. inanimate:

- (5) **The tree** fell *because* it was struck by lightning.

# Event participant in A as perspective center of B

## ■ Cause = reason of event participant

(11a) **Liz** left *because* there was an embarrassing picture of **herself** going around.

→ B = what Liz thought caused her departure (**her own internal reason**)

vs.

(31) In my opinion, Liz left *because* she was bored.

→ B = what the speaker thinks caused Liz's departure (**speaker's cause of A**)

(32) Liz left, {*since/because*} her coat is not on the rack.

→ B = what the speaker thinks is evidence for Liz's departure (**speaker's evidence for A**)

(33) Liz left, *since* you must know everything.

→ B = what the speaker thinks causes her assertion (**speaker's reason for speech act A**)

**A**

*because*

**B**



Case #1

**speaker**

**speaker**

Case #2

**speaker +  
event participant in A**

**event participant in A  
AND speaker?**

**A**

*because*

**B**



Case #2

**speaker +  
event participant in A**

**event participant in A  
AND speaker?**

**Answer: yes and no**

**NO: only one perspective center in B**

(34) \***Liz** left the party *because* there was an embarrassing picture of **herself** and **myself** going around.

**YES: plural perspective center in B**

(35) **Liz** left the party *because* there was an embarrassing picture of **ourselves** going around.

# PERSPECTIVAL EFFECTS IN *BECAUSE*-CLAUSES

modifying **matrix** clauses

## SUMMARY OF EMPIRICAL OBSERVATIONS

<b>A</b>	<i>because</i>	<b>B</b>
		
Case #1	<b>speaker</b>	<b>speaker</b>
Case #2	<b>speaker + event participant in A</b>	<b>event participant in A</b>
Case #3	<b>speaker + event participant in A</b>	<b>speaker + event participant in A</b>

**PERSPECTIVAL EFFECTS IN *BECAUSE*-CLAUSES**  
modifying **matrix** clauses

**ANALYSIS**

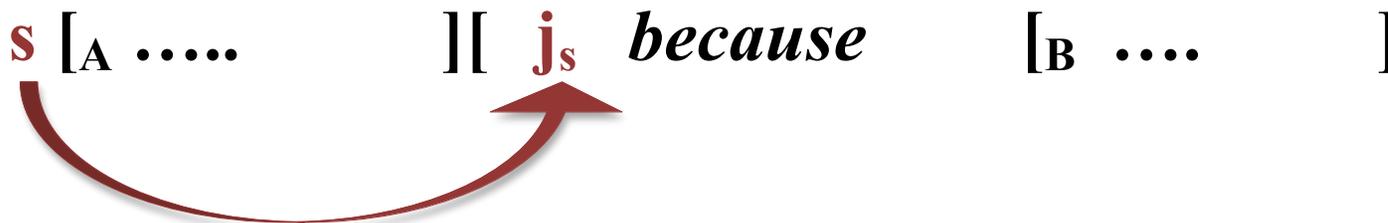
## Analysis: judge of causal relation

*Because* is relativized to a judge *j* including the local attitude holder (i.e. the speaker in matrix clauses)

$\llbracket \textit{because} (j) \rrbracket^w = \lambda B. \lambda A. \forall w' \text{ compatible with } j\text{'s mental state in } w, B \text{ is the cause of } A \text{ in } w'$

***j* is a silent variable locally bound**

by the speaker in matrix clauses (the speaker is represented in the left periphery of root clauses; see Speas & Tenny 2003, Haegeman & Hill 2013, Zu 2015, a.o.)



cf. modals (Stephenson 2007, Hacquart 2010, a.o.)

# Analysis: judge of causal relation

## ■ Arguments for binding by local attitude holder:

- **binding**: sloppy reading

(36) - Liz left the party *because* she was tired. (*according to me*)  
- Lucy did too. (*according to me/\*you*)

- **local binding**: behavior in embedded attitude contexts  
(see later)

→ j includes only the lowest attitude holder.

# Analysis: perspective center of B

	<b>A</b>	<i>because</i>	<b>B</b>
		↓	↓
Case #1		speaker	speaker
Case #2		speaker + event participant in A	event participant in A
Case #3		speaker + event participant in A	speaker + event participant in A

→ syntactically represented logophoric operator **OP**  
at the periphery of B and controlled by j



Cf. Koopman & Sportiche 1989, Kratzer 2006, Anand 2006, a.o.

**A**

*because*

**B**



Case #1

speaker

speaker

Case #2

speaker +  
event participant in A

event participant in A

Case #3

speaker +  
event participant in A

speaker +  
event participant in A

Case #1

**s**[<sub>A</sub> P ... ] [ **j**<sub>S</sub> *because* [<sub>B</sub> OP<sub>S</sub> ... ]



Case #2

**s**[<sub>A</sub> P ... ] [ **j**<sub>S+P</sub> *because* [<sub>B</sub> OP<sub>P</sub> ... ]



Case #3

**s**[<sub>A</sub> P ... ] [ **j**<sub>S+P</sub> *because* [<sub>B</sub> OP<sub>S+P</sub> ... ]



→ OP (partially) controlled by j

## Analysis: perspective center of B

- Motivations for assuming j and OP:
  - causal judge and perspective center of B can be different

Case #2      **s**<sub>[A</sub>    **P**    ... ] | **j**<sub>s+p</sub>    *because*    [B OP<sub>P</sub>    ... ]

(37) #**Liz** left *because* there was an embarrassing picture of **herself** (\*and **myself**) going around. **But I/she think(s)** she left *because* she was bored.

- only one perspective center in B

Cf. Huang & Liu 2001 for exempt *ziji*

(34) \***Liz** left the party *because* there was an embarrassing picture of **herself** and **myself** going around.

(35) **Liz** left the party *because* there was an embarrassing picture of **ourselves** going around.

## Analysis: perspective center of B

OP locally and exhaustively binds logophoric elements in B  
→ explains licensing of exempt anaphors: in fact not exempt

cf. Charnavel 2014

Case #1 **s**<sub>A</sub> **P** ... ] [ **j**<sub>S</sub> *because* [ <sub>B</sub> **OP**<sub>S</sub> ... *myself*<sub>S</sub> ]



Case #2 **s**<sub>A</sub> **P** ... ] [ **j**<sub>S+P</sub> *because* [ <sub>B</sub> **OP**<sub>P</sub> ... *herself*<sub>P</sub> ]



Case #3 **s**<sub>A</sub> **P** ... ] [ **j**<sub>S+P</sub> *because* [ <sub>B</sub> **OP**<sub>S+P</sub> ... *ourselves*<sub>S+P</sub> ]



# Analysis: event participant as perspective center of B

Case #1  $s[A \quad P \quad \dots ] [ j_s \textit{ because } [B \textit{ OP}_s \dots \textit{ myself}_s ]$



Case #2  $s[A \quad P \quad \dots ] [ j_{s+p} \textit{ because } [B \textit{ OP}_p \dots \textit{ herself}_p ]$



Case #3  $s[A \quad P \quad \dots ] [ j_{s+p} \textit{ because } [B \textit{ OP}_{s+p} \dots \textit{ ourselves}_{s+p} ]$



Cases #2-3: binding of causal judge  $j$  by event participant  $P$  in  $A$

# Analysis: event participant as perspective center of B

## perspective of event participant p in B

→ binding of p into B is (at least sometimes) possible  
i.e. *because*-clauses are low: modify VP

### ■ Pronominal binding

(38) **No girl** left *because* there was a picture of **herself** going around.

(39) **No girl** left *because* there was a picture of **ourselves** going around.

### ■ Condition C

(40) \***She** left *because* there was an **embarrassing** picture of **Liz** going around.

### ■ Sloppy reading in VP-ellipsis

(41) **Liz** left *because* there was an **embarrassing** picture of **herself** going around, and Lucy did too.

cf. Rutherford 1970, Groupe Lambda-1 1975, Sæbø 1991, Iatridou 1991, Johnston 1994, a.o.

# Analysis: event participant as perspective center of B

no binding of p into B → no perspective of event participant p in B

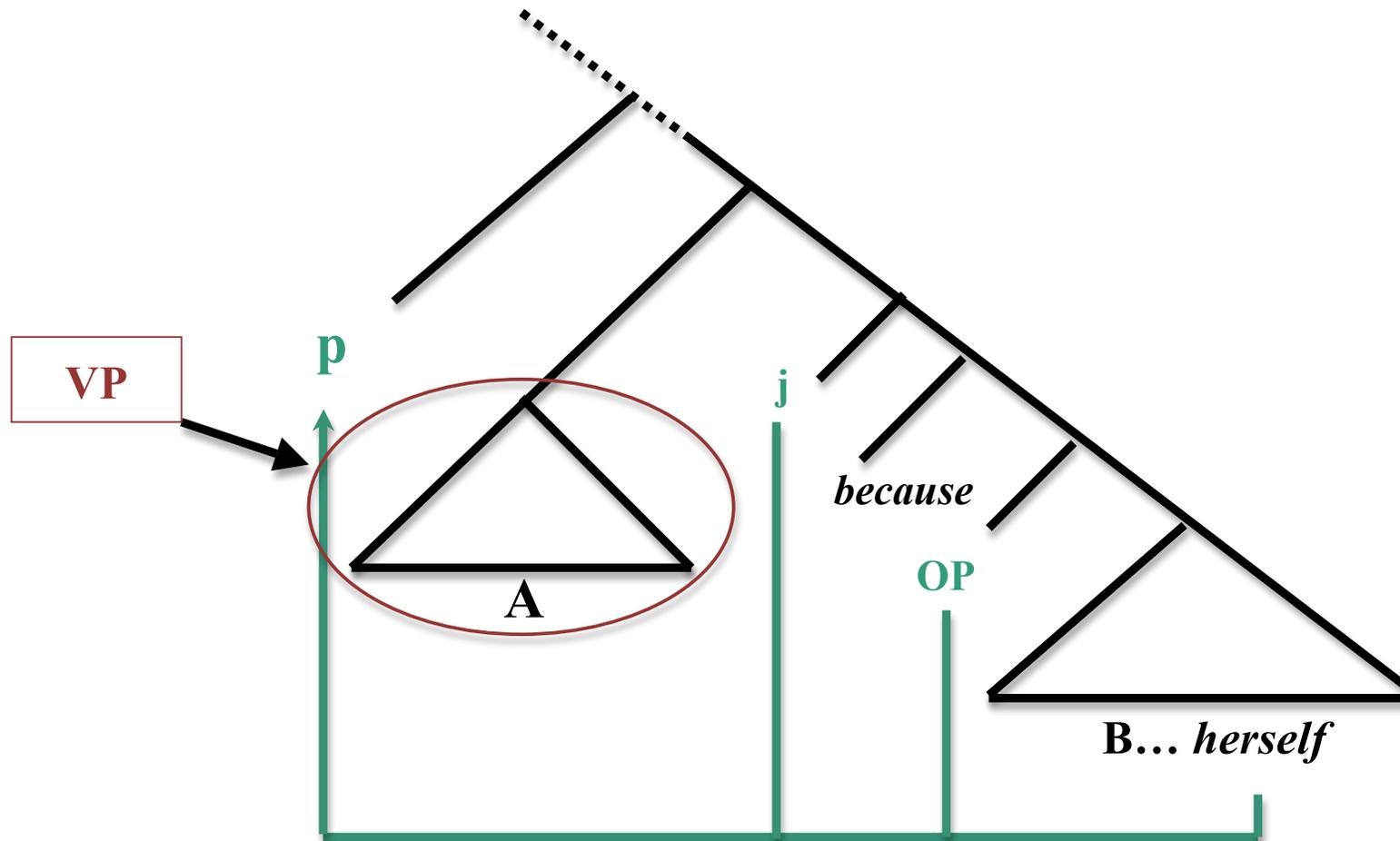
- (42) a. \*This documentary does **not** interest **Trump**, *because* it gives a bad image of **himself**.  
b. This documentary does **not** interest **Trump**, *because* it gives a bad image of **him**.  
c. This documentary does **not** interest **Trump** *because* it gives a good image of **himself**,  
**but because...**

- (43) a. \*Paul thinks [that **Liz** left] *because* Bill made comments about **herself**.  
b. Paul thinks [that **Liz** left] *because* Bill made comments about **her**.  
c. Paul thinks [that **Liz** left *because* Bill made comments about **herself**].  
d. Paul thinks [that **Liz** left *because* Bill made comments about **her**].

# Analysis: event participant as perspective center of B

Case #2  $s[A \quad P \quad \dots ] [ j_{S+P} \textit{ because } [B \textit{ OP}_P \quad \dots \textit{ herself}_P ]$

Case #3  $s[A \quad P \quad \dots ] [ j_{S+P} \textit{ because } [B \textit{ OP}_{S+P} \quad \dots \textit{ ourselves}_{S+P} ]$



# Analysis: event participant as perspective center of B

binding of p into B  $\nrightarrow$  perspective of event participant p in B

(44) **No tree** fell *because it* was struck by lightning.

(45) Liz did **not** leave because **the poor woman** had **anything** to do (but because...)

(46) **Chaque invité** est parti parce que Paul s'**en** est moqué. [French]  
*Each guest* left because Paul made fun of **him**<sub>ANTILOGOPHORIC</sub>

$\rightarrow$  j not necessarily bound by closest binder:

Case #1 **s**[<sub>A</sub> **P** ... ] [ **j**<sub>s</sub> *because* [<sub>B</sub> OP<sub>s</sub> ... ]



# Analysis: event participant as perspective center of B

no binding of p into B  $\rightarrow$  no perspective of event participant p in B

*since-clauses*

# *Since*-clauses

## ■ Evidential

(32) Liz left, *since* her coat is not on the rack.

## ■ Speech act

(33) Liz left, *since* you must know everything.

vs.

## ■ Eventive

(6) Liz left *because* she was tired.

# Analysis: event participant as perspective center of B

no binding of p into B → no perspective of event participant p in B  
*since*-clauses

## ■ No binding into B

### ○ No pronominal binding

(47) \***Every girl** left *since her* coat is not on the rack.

### ○ No sloppy reading in VP-ellipsis

(48) #**Liz** left *since her* coat is not on the rack, and Lucy did too.

### ○ No condition C effects

(49) **She** left, *since* you must know everything about **Liz**.

(50) ?**She** left, *since Liz*'s coat is not on the rack.

→ *since*-clauses attach **very high** (modify **Evidential** or **Speech Act Phrases**)  
cf. Cinque 1999, Speas & Tenny 2003

# Analysis: event participant as perspective center of B

no binding of p into B → no perspective of event participant p in B  
*since*-clauses

## ■ No perspective of event participant in B

(51) \*Liz left *since* there is an **embarrassing** picture of **herself** going around.

(52) Liz left *since* there is an **embarrassing** picture of **myself** going around.

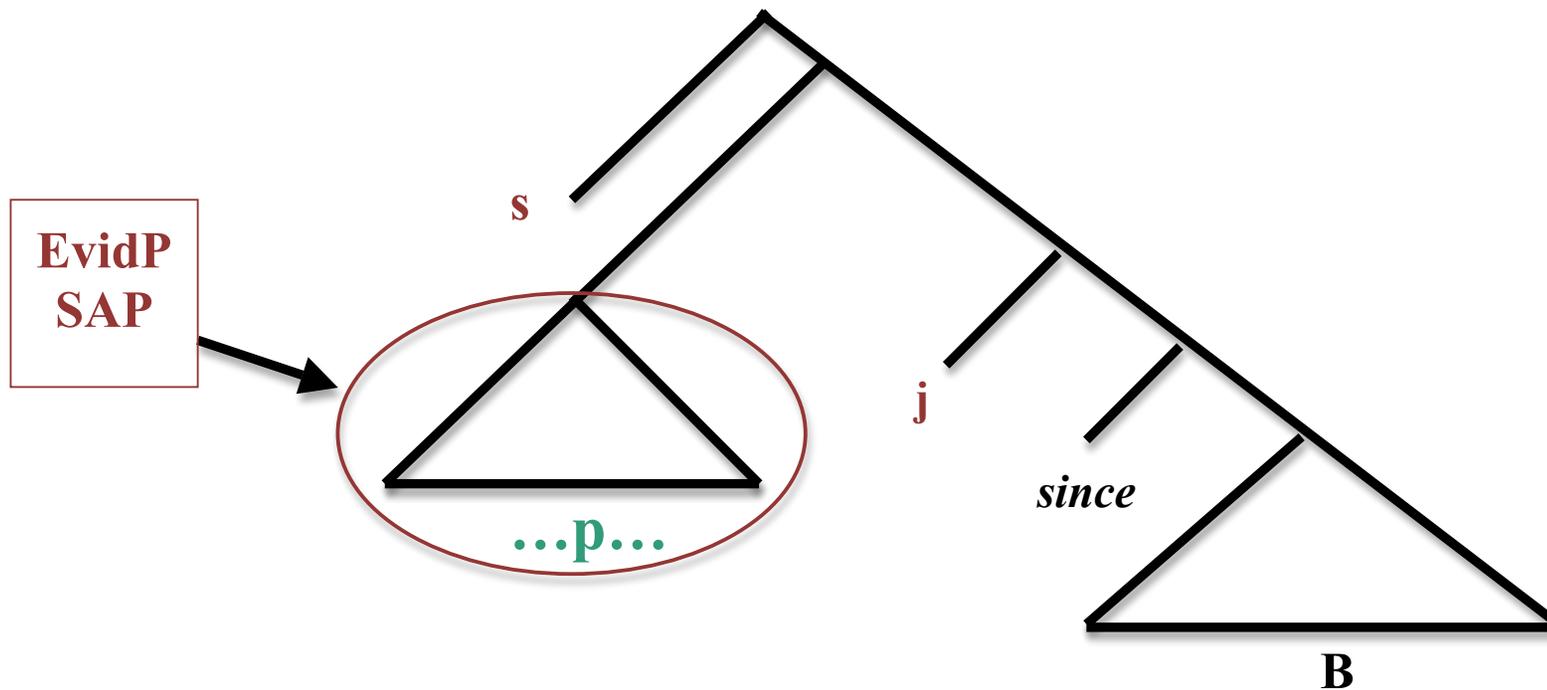
(53) Liz must have left *since* **unfortunately**, her coat is not here.

(54) Liz must be at work *since* her husband **came** to her office earlier.

# Analysis: event participant as perspective center of B

no binding of p into B → no perspective of event participant p in B

*since*-clauses



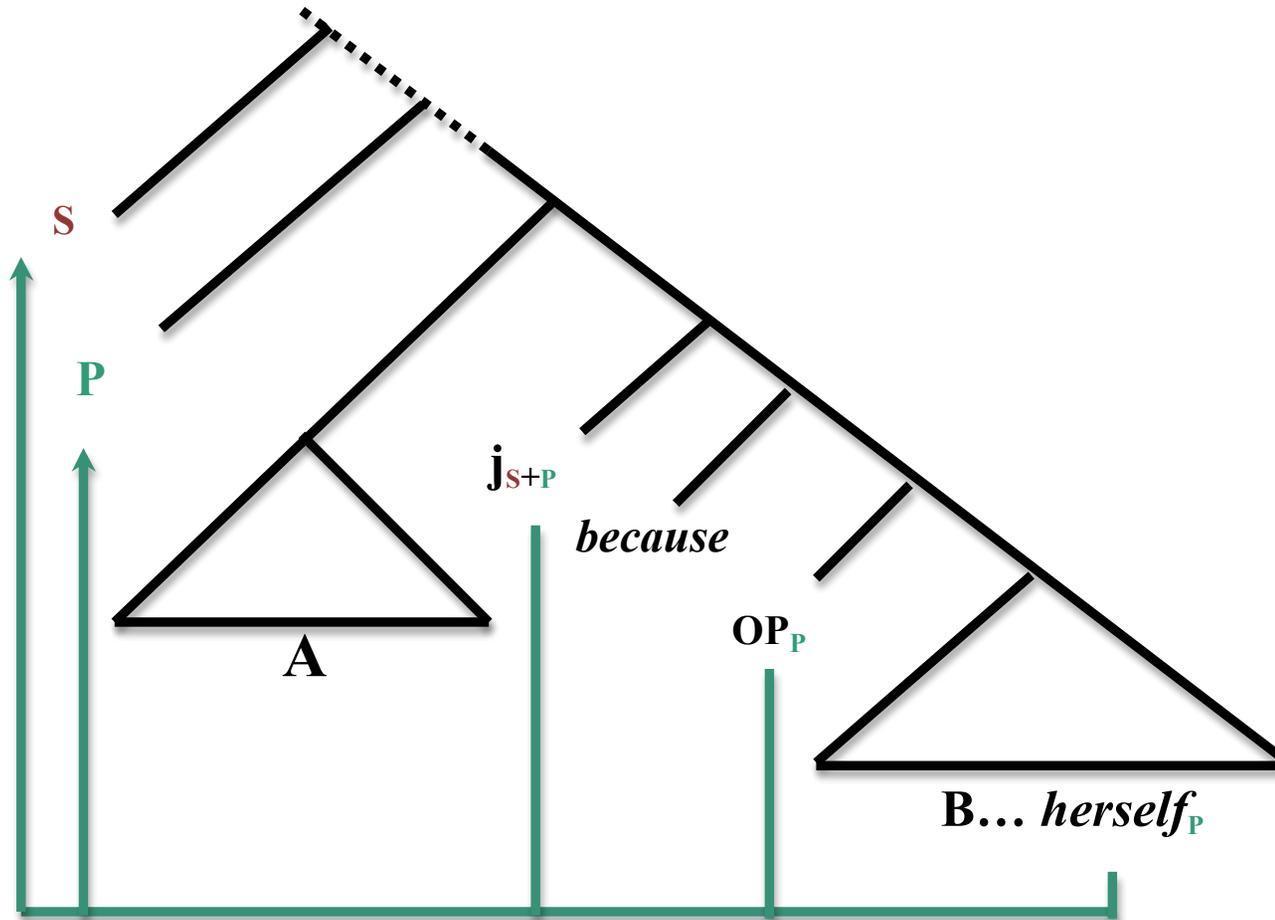
Cf. Case #1  $s[A \quad P \quad \dots ] [ j_s \quad \textit{since} \quad [B \quad OP_s \quad \dots ]$

# PERSPECTIVAL EFFECTS IN *BECAUSE*-CLAUSES

modifying **matrix** clauses

## SUMMARY OF ANALYSIS

Case #2  $s[A \quad P \quad \dots ] [ j_{s+p} \textit{ because } [B \textit{ OP}_P \dots \textit{ herself}_P ]$

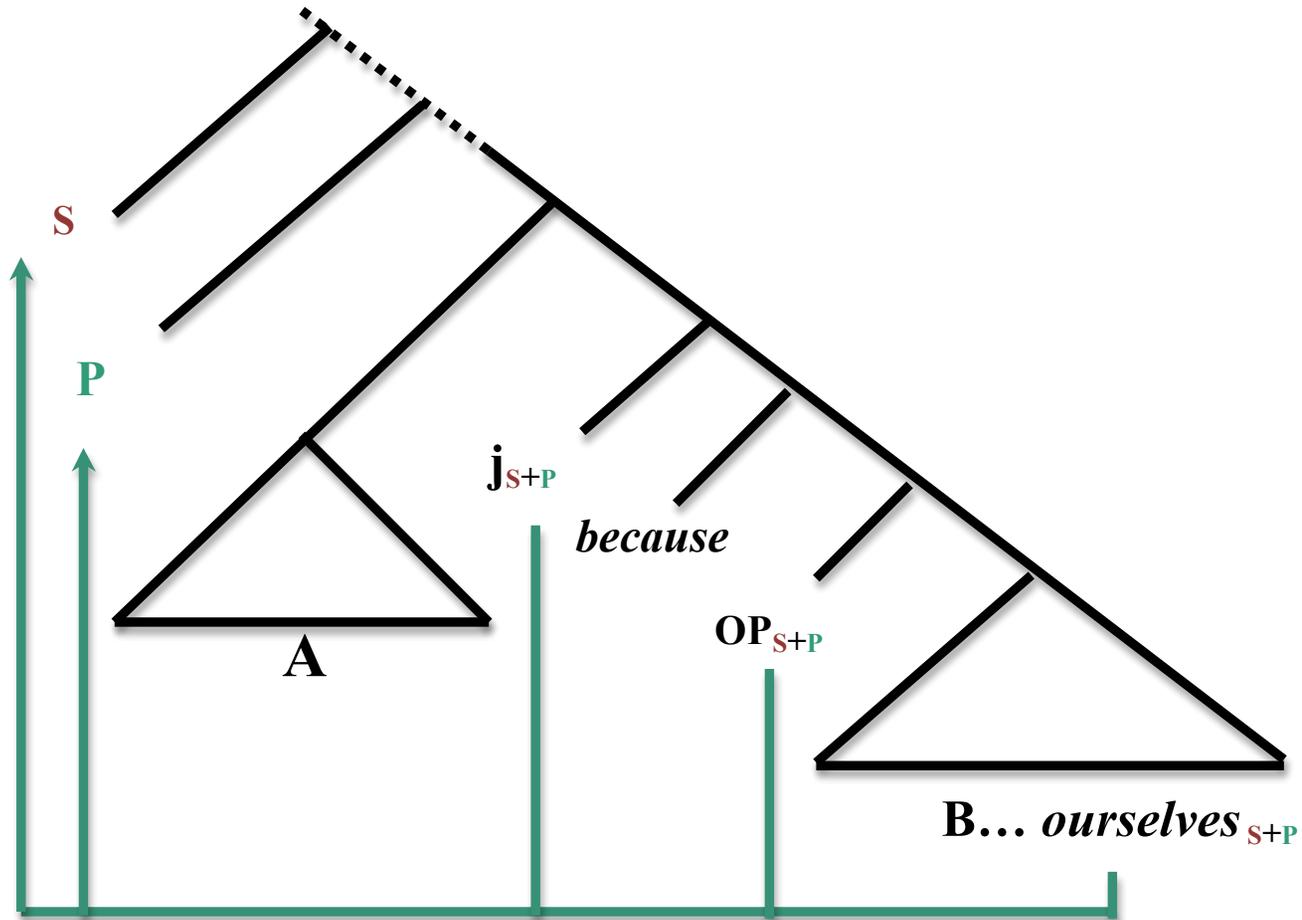


# PERSPECTIVAL EFFECTS IN *BECAUSE*-CLAUSES

modifying **matrix** clauses

## SUMMARY OF ANALYSIS

Case #3 **S**[**A** **P** ... ] [**j**<sub>S+P</sub> *because* [**B** **OP**<sub>S+P</sub> ... *ourselves*<sub>S+P</sub>]





# In matrix clauses

**A**

*because*



**Case #1**

**speaker**

**Case #2**

**speaker +  
event participant in A**

**Case #3**

**speaker +  
event participant in A**

**B**



**speaker**

**event participant in A**

**speaker +  
event participant in A**

# More generally

**A**

*because*

**B**



**Case #1**

**attitude holder of A**

**attitude holder of A**

**Case #2**

**attitude holder of A +  
event participant in A**

**event participant in A**

**Case #3**

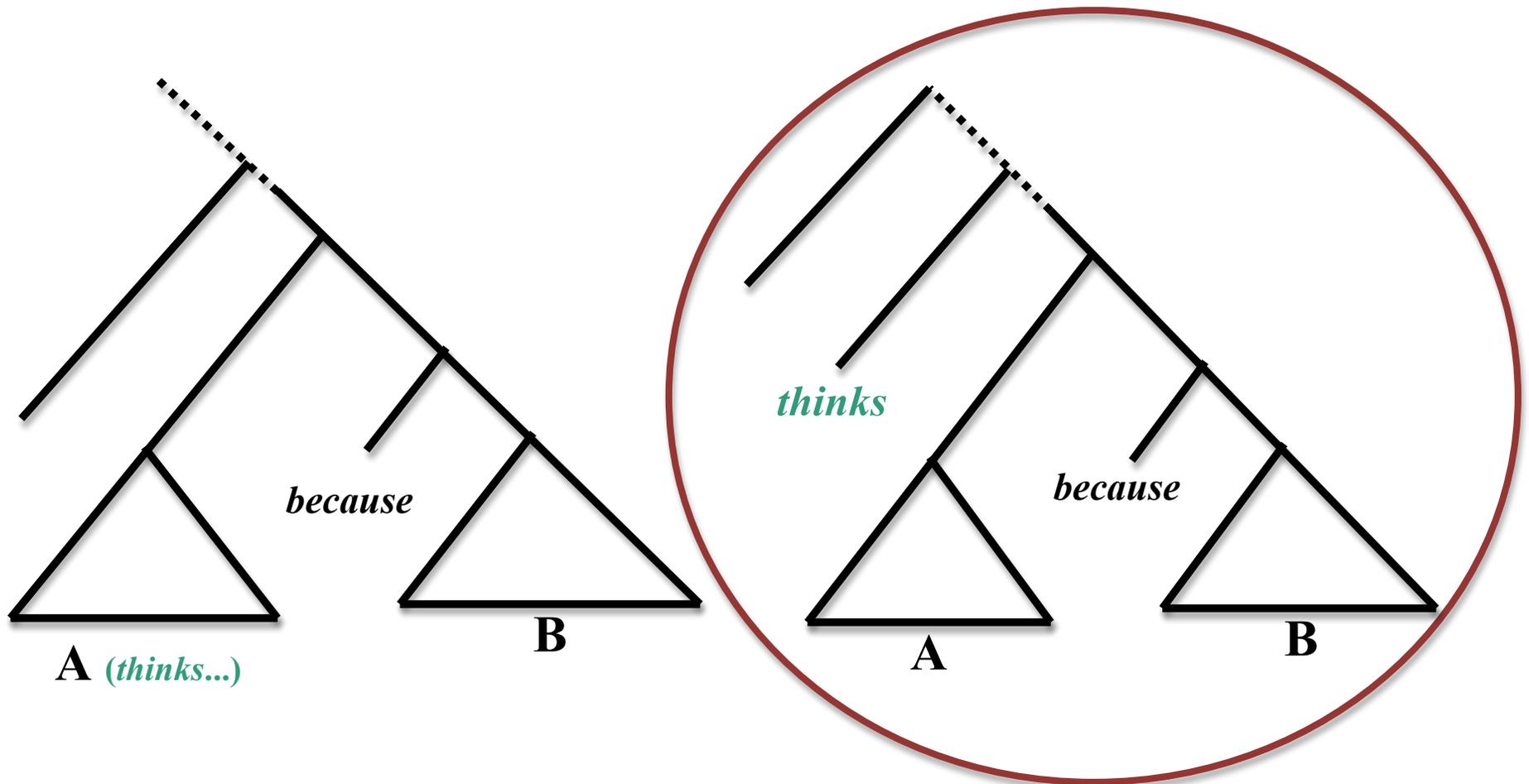
**attitude holder of A +  
event participant in A**

**attitude holder of A +  
event participant in A**

# PERSPECTIVAL EFFECTS IN *BECAUSE*-CLAUSES

## modifying embedded clauses

(55) Paul thinks that Liz left *because* she was tired.



# Lowest attitude holder as judge of causal relation

## ■ Causal judge $\neq$ highest attitude holder

(56) #**Paul thinks** that **every plant** died *because* he forgot to water **it**.  
**But he thinks** that the reason why they died is that they needed more light.

→ causal judge  $\neq$  speaker

(57) #**Mary believes** that **Paul thinks** that **every plant** died *because* he forgot to water **it**. **But he thinks** that the reason why they died is that they needed more light.

→ causal judge  $\neq$  Mary

# Lowest attitude holder as judge of causal relation

$S/H_1$  [  $H_2$  *thinks* [A P ... ] [  $j_{H_2}$  *because* [B ... ]



\* $S/H_1$  [  $H_2$  *thinks* [A P ... ] [  $j_{S/H_1}$  *because* [B ... ]



# Lowest attitude holder as judge of causal relation

$S/H_1$  [  $H_2$  *thinks* [A P ... ] [  $j_{H_2}$  *because* [B ... ]

\* $S/H_1$  [  $H_2$  *thinks* [A P ... ] [  $j_{S/H_1}$  *because* [B ... ]

*Because* is relativized to a judge  $j$  including the local attitude holder

$\llbracket \textit{because} (j) \rrbracket^w = \lambda B. \lambda A. \forall w' \text{ compatible with } j\text{'s mental state in } w, B \text{ is the cause of } A \text{ in } w'$

$j$  is a silent variable bound by the local attitude holder

# Lowest attitude holder as perspective center of B

$S/H_1$  [  $H_2$  *thinks* [A P ... ] [  $j_{H_2}$  *because* [B  $OP_{H_2}$  ... ]

\* $S/H_1$  [  $H_2$  *thinks* [A P ... ] [  $j_{S/H_1}$  *because* [B  $OP_{S/H_1}$  ... ]

# Lowest attitude holder as perspective center of B

## ■ Perspective center of B = lowest attitude holder

(58) **Paul** hopes that his book did *not* sell well *because* there was an **embarrassing** picture of **himself** going around, but *because* it was good.

(59) Paul thinks that **every plant** is dying *because* **it must** need more water.

## ■ Perspective center of B ≠ highest attitude holder

(60) \***Paul** thinks that **every plant** died *because* **the idiot** forgot to water **it**.

(61) ??Paul hopes that his book did *not* sell well *because* there was an embarrassing picture of **myself** in it, but *because* it was good.

(62) #Paul thinks that **every plant** is dying *because* **it must** need more water. But he does not believe that the plants need more water.

(63) ??**Madonna** hopes that Paul thinks that his book did *not* sell well *because* there was an embarrassing picture of **herself** in it, but *because* it was good.

(64) #Mary said that Paul thinks that **every plant** is dying *because* **it must** need more water. But he believes that the plants do not need more water.

# Event participant as perspective center of B

## ■ Perspective center of B = event participant

(65) Paul thinks that **Liz** did not leave *because* there was an **embarrassing** picture of **herself** going around, but because she was tired.

(66) Paul thinks that Liz is not leaving *because* her husband **must** have arrived home, but because she is bored.

## ■ Only one perspective center of B

(67) \***Paul** thinks that **Liz** did not leave *because* there was an embarrassing picture of **herself** and **himself** going around, but because she was tired.

(68) **Paul** thinks that **Liz** did not leave *because* there was an embarrassing picture of **themselves** going around, but because she was tired.

Case #1 **S** [A P ... ] [ **j<sub>S</sub>** *because* [B OP<sub>S</sub> ... *myself<sub>S</sub>* ]

Case #2 **S** [A **P** ... ] [ **j<sub>S+P</sub>** *because* [B OP<sub>P</sub> ... *herself<sub>P</sub>* ]

Case #3 **S** [A **P** ... ] [ **j<sub>S+P</sub>** *because* [B OP<sub>S+P</sub> ... *ourselves<sub>S+P</sub>* ]

Case #4 **S/H<sub>1</sub>** [ **H<sub>2</sub>** *thinks* [A P ... ] [ **j<sub>H2</sub>** *because* [B OP<sub>H2</sub> ... *herself<sub>H2</sub>* ]

Case #5 **S/H<sub>1</sub>** [ **H<sub>2</sub>** *thinks* [A **P** ... ] [ **j<sub>H2+P</sub>** *because* [B OP<sub>P</sub> ... *herself<sub>P</sub>* ]

Case #6 **S/H<sub>1</sub>** [ **H<sub>2</sub>** *thinks* [A **P** ... ] [ **j<sub>H2+P</sub>** *because* [B OP<sub>H2+P</sub> ... *ourselves<sub>H2+P</sub>* ]

# *Since*-clauses in attitude contexts

## ■ Evidential *since*-clauses are embeddable

Cf. embeddability of EvidP (Speas 2004, Zu 2015, a.o.)

(69) Liz must have malaria, *since* she has a fever.

(70) Paul refuses to believe that *since* she has a fever, Liz must have malaria.

Only under predicates of acceptance (cf. epistemic modals, Anand & Hacquart 2013):

(71) Paul {thinks/\*wants/\*demands} that *since* her coat is not on the rack, Liz {left/\*leave}.

## ■ Speech act *since*-clauses are not embeddable

Cf. unembeddability of speech acts (discussion in Krifka 2014, a.o.)

(33) Liz left, *since* you must know everything.

(72) #Paul says that *since* his annoying interlocutor must know everything, Liz left.

# Lowest attitude holder as judge of causal relation

## ■ Causal judge ≠ speaker

(73) *Context: I know that my neighbors turn the radio on when they leave to turn away potential thieves, but Paul does not.*

**#Paul believes** that *since* their radio is on, my neighbors must have left.

*Note: since-clauses are not-at-issue and factive in the sense that B must be believed by both the speaker and the attitude holder*

Cf. Charneval 2017

(74) **#Paul thinks** that *since* there is a picture of him missing, Liz must have left with some of his belongings. **But he does not think** she took any picture.

## ■ Causal judge ≠ highest attitude holder

(75) **#Mary believes** that **Paul thinks** that *since* their radio is on, my neighbors must have left, and according to her, **Paul simply believes** that my neighbors turn the radio off when they leave.

# Lowest attitude holder as perspective center of B

## ■ Perspective center of B = lowest attitude holder

(76) **Paul** thinks that *since* there is a picture of **himself** missing, Liz must have left with some of his belongings.

(77) **Paul** thinks that *since* her **horrible** coat is not on the rack, Liz must have left.

## ■ Perspective center of B $\neq$ highest attitude holder

(78) \***Paul** thinks that *since* there is a picture of **the idiot** missing, Liz must have left with some of his belongings.

(79) ??Paul thinks that *since* there is a picture of **myself** missing, Liz must have left with some of our belongings.

(80) ??**Mary** is afraid that Paul thinks that *since* there is a picture of **herself** missing, Liz must have left with some of their belongings.

## More generally

**A**

*because*

**B**



Case #1

attitude holder of A

attitude holder of A

Case #2

attitude holder of A +  
event participant in A

event participant in A

Case #3

attitude holder of A +  
event participant in A

attitude holder of A +  
event participant in A

**A**

*since*

**B**



Case #1

attitude holder of A

attitude holder of A

## Conclusion

■ Causal relation = mental construct

→ *because/since* relativized to a **judge j** that must include **the local attitude holder AH2**

[ AH1 [AH2 [A ... P ... [ **j<sub>AH2(+P)</sub>** *because* [B ... ]

■ Perspective center in B = AH2 or mental event participant in A if B is her internal reason for A

→ **logophoric OP at the periphery of B** (partially) controlled by j

[ AH1 [AH2 [A ... P ... [ **j<sub>AH2(+P)</sub>** *because* [B **OP<sub>AH2(+P)/P</sub>** ... ]

→ multiple, but constrained perspectival effects in causal clauses

What about other adjunct clauses?

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