

DISCOURSE EXPECTATIONS IN A NON-NATIVE LANGUAGE

Theres Grüter¹, Hannah Rohde² & Amy J. Schafer¹
¹University of Hawai'i at Mānoa, ²University of Edinburgh

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- Learning to communicate effectively in a non-native language is quite achievable.



- Becoming truly native-like is [exceedingly rare/impossible].


WHY?

- Learning to communicate effectively in a non-native language is quite achievable.




- Becoming truly native-like is [exceedingly rare/impossible].

HOW do L1 and L2 speakers differ?




“What (...) emerges is that it is not necessarily the case that L2ers’ linguistic representations are ‘defective’; but the need to integrate different kinds of linguistic properties may subject L2ers to particular processing pressures.”

(White, 2011)




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(White, 2011)



“We propose that beginning second-language learners are different from native speakers in that they cannot use information to predict the upcoming syntactic structure during on-line processing.”

(Kaan, Dallas & Wijnen, 2010)



“We propose that beginning second-language learners are different from native speakers in that they cannot use information to **predict** the upcoming syntactic structure during on-line processing.”

(Kaan, Dallas & Wijnen, 2010)

*What about prediction/expectations at a **discourse** level?*

The RAGE hypothesis

Non-native speakers have reduced ability to generate expectations.

(Grüter, Rohde & Schafer, 2014, submitted)

Event structure and coreference

Emily brought Melissa a drink. She ...

... thought Melissa was thirsty.

She = Emily ('Source-continuation')

... said 'thank you'.

She = Melissa ('Goal-continuation')

Event structure and coreference

Emily brought Melissa a drink. She ...

Emily was bringing Melissa a drink. She ...

Event structure and coreference

(Rohde, Kehler & Elman, 2006; Kehler et al., 2008)

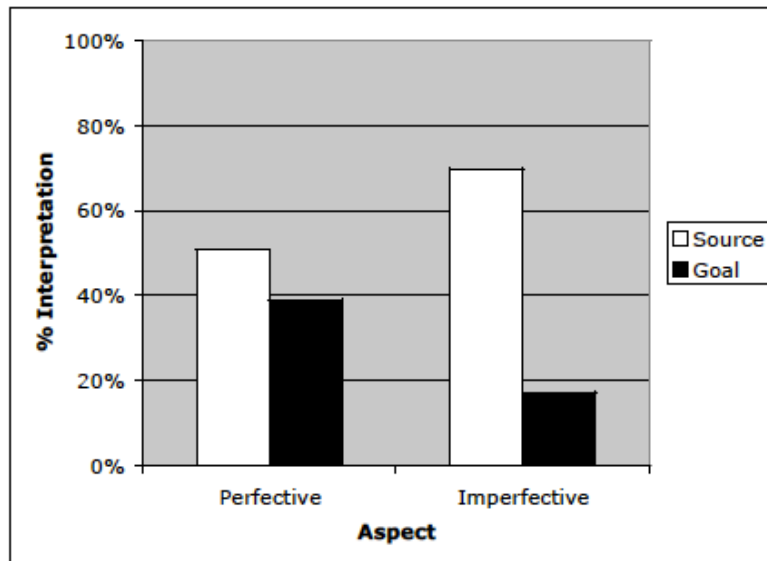


Figure 1: Effects of verbal aspect on pronoun interpretation (conservative)

effect (partially) replicated in Japanese
 (Ueno & Kehler, 2010, in press)

effect replicated in Korean
 (Kim, Grüter & Schafer, 2013, in prep.)

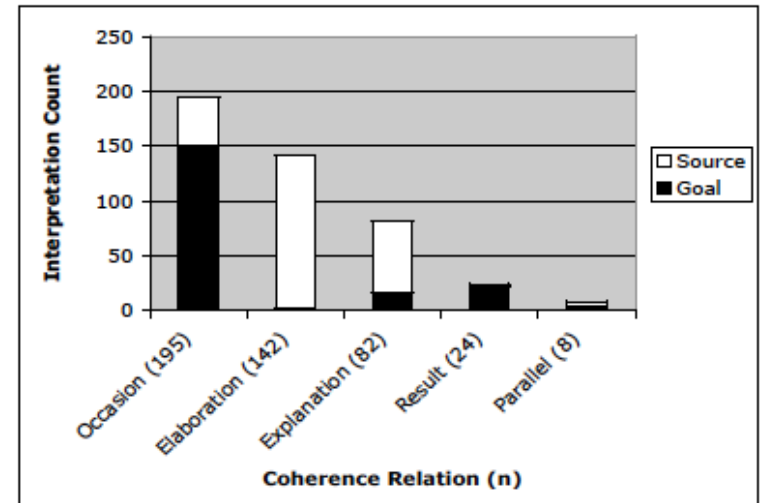


Figure 5: Pronoun interpretation across coherence relations for perfective verbs

Event structure and coreference

(Rohde, Kehler & Elman, 2006; Kehler et al., 2008)

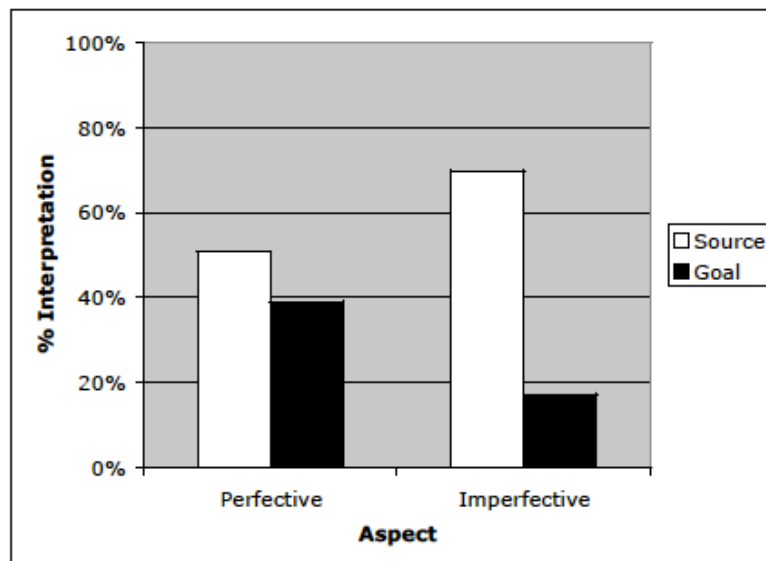


Figure 1: Effects of verbal aspect on pronoun interpretation
(conservative assessment of ambiguity)

effect (partially) replicated in **Japanese**
(Ueno & Kehler, 2010, in press)

effect replicated in **Korean**
(Kim, Grüter & Schafer, 2013, in prep.)



Experiment 1: written story continuation

Grüter, Rohde & Schafer, 2014, submitted

Participants

	Age (in years)	Cloze test¹ (proportion acceptable responses)	Versant English Test² (overall score, range 20-80)	Self-rated English proficiency (out of 10)
L1-English (n=39)	24 (18-66)	0.84 (.60-.98)	--	9.3 (7-10)
L2-English (n=48)	24 (18-51)	0.55 (.24-.80)	51 (34-80)	6.0 (2-9)
L1-Japanese (n=23)	25 (18-51)	0.54 (.36-.68)	49 (40-61)	6.2 (4-9)
L1-Korean (n=25)	23 (20-32)	0.56 (.24-.80)	53 (34-80)	5.8 (2-8)

¹Brown (1980), ²Pearson (2011; <http://www.versanttest.com>)



Do learners understand grammatical aspect in English?

- Task 2 (Truth value judgments)

Do learners use grammatical aspect to create discourse expectations?

- Task 1 (Story continuations)

Do learners understand grammatical aspect in English?

- Task 2 (Truth value judgments)

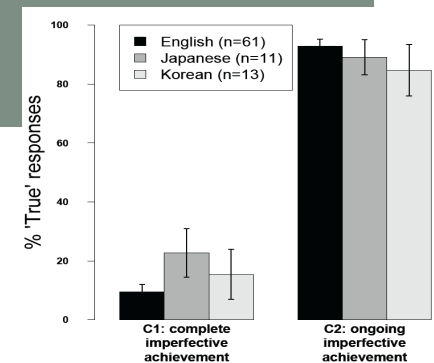
adapted from Gabriele (2005, 2009)

- Do learners know that progressive-marked (transfer-of-possession) verbs denote an incomplete event?

Brenda is feeding the bowl of soup to Anne.

TRUE when the soup is in the process of being consumed.

FALSE when the bowl is empty.





Do learners understand grammatical aspect in English?

- Task 2 (Truth value judgments)

Do learners use grammatical aspect to create discourse expectations?

- Task 1 (Story continuations)

Story continuations

2 (aspect) x 2 (prompt type) design

COMPLETED EVENT (PERFECTIVE)

Emily brought a drink to Melissa. She _____

Emily brought a drink to Melissa. _____

ONGOING EVENT (IMPERFECTIVE)

Emily was bringing a drink to Melissa. She _____

Emily was bringing a drink to Melissa. _____

Latin square design, 5 items/condition + 20 fillers
(10 verbs: *bring, feed, give, mail, pass, push, roll, serve, take, throw*)

Story continuations

- data annotated for *coreference*

Emily brought/was bringing a drink to Melissa. (She) _____

She thought Melissa was thirsty.

(SOURCE-continuation)

Melissa said "Thank you."

(GOAL-continuation)

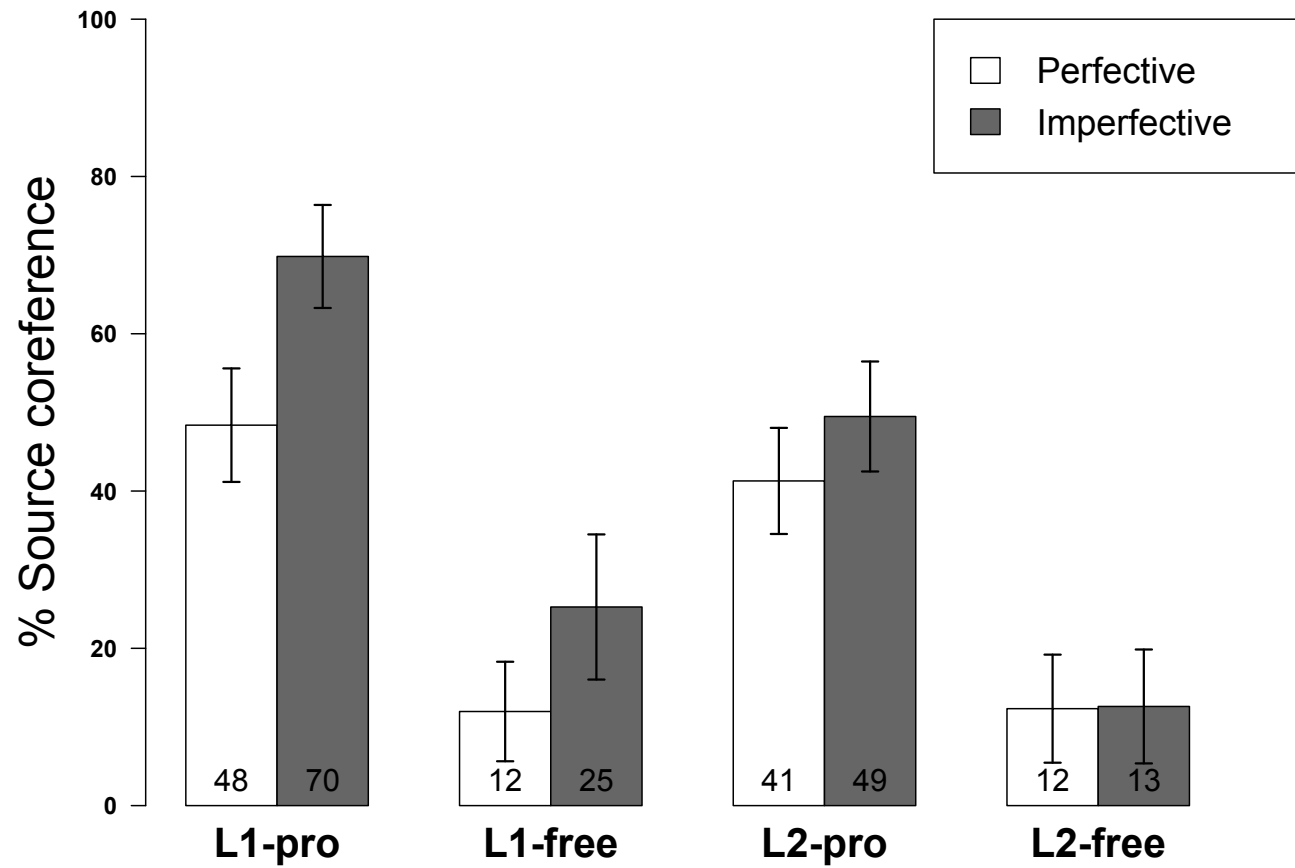
She did not want it.

(ambiguous: 4/4% of L1/L2 data)

It was Coke.

(other: 12/13% of L1/L2 data)

Results: Coreference



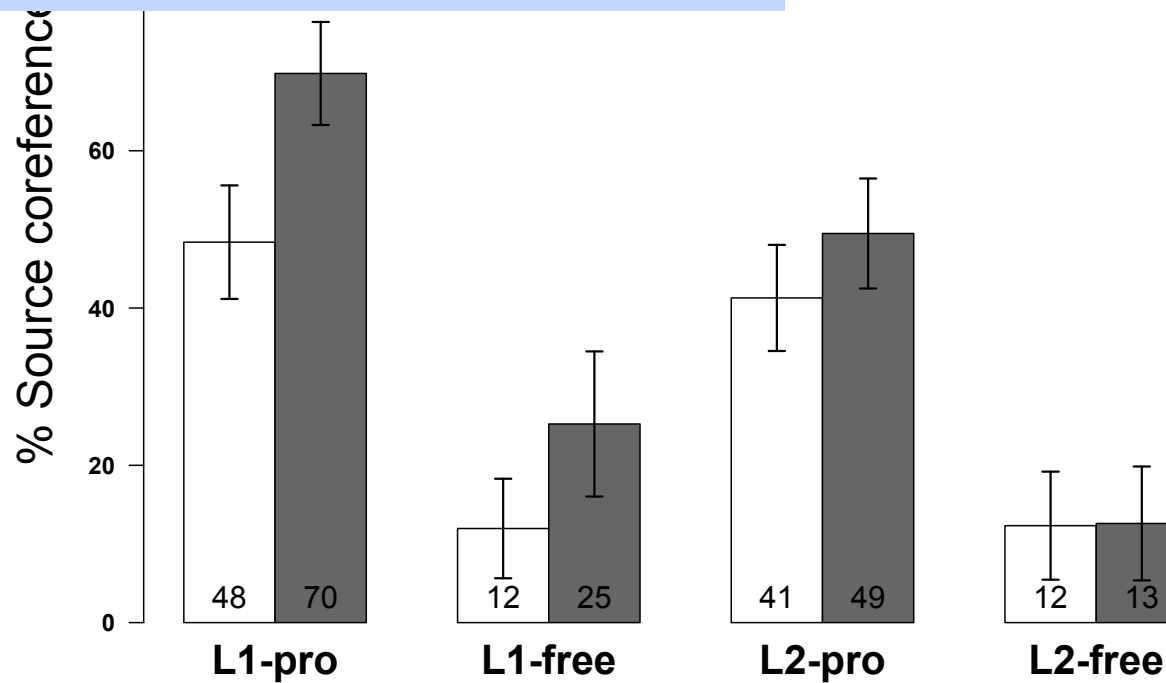
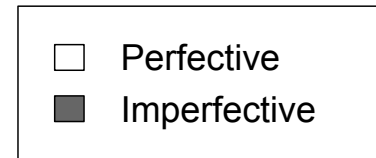
SvsG ~ Aspect * Prompt * Group + (1 + Aspect + Prompt | Subject) + (1 + Aspect + Prompt | Item)

Main effects:

- Aspect ($b=.73, p<.001$)
- Prompt ($b=2.52, p<.001$)
- Group ($b=.70, p<.01$)

Interactions:

- Aspect \times Group ($b=.89, p<.05$)



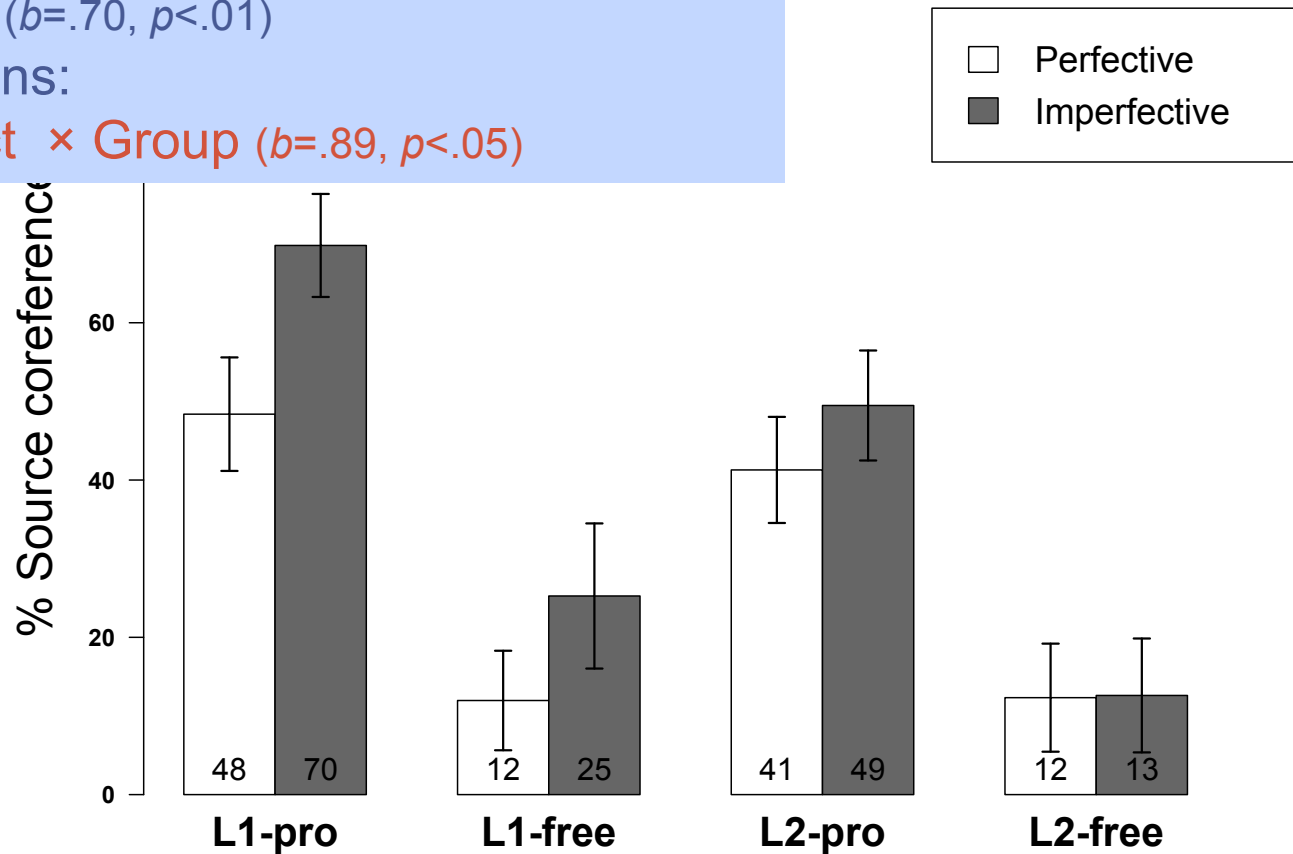
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Interactions:

- Aspect \times Group ($b=.89, p<.05$)



→ both L1 & L2 speakers use prompt type

→ reduced effect of aspect in L2

Story continuations

- data annotated for *coherence*

Emily brought/was bringing a drink to Melissa. (She) _____

She thought Melissa was thirsty.

(EXPLANATION)

She gave her Coke.

(ELABORATION)

Emily dropped it on the ground.

(VIOLATED EXPECTATION)

Melissa drank it.

(OCCASION)

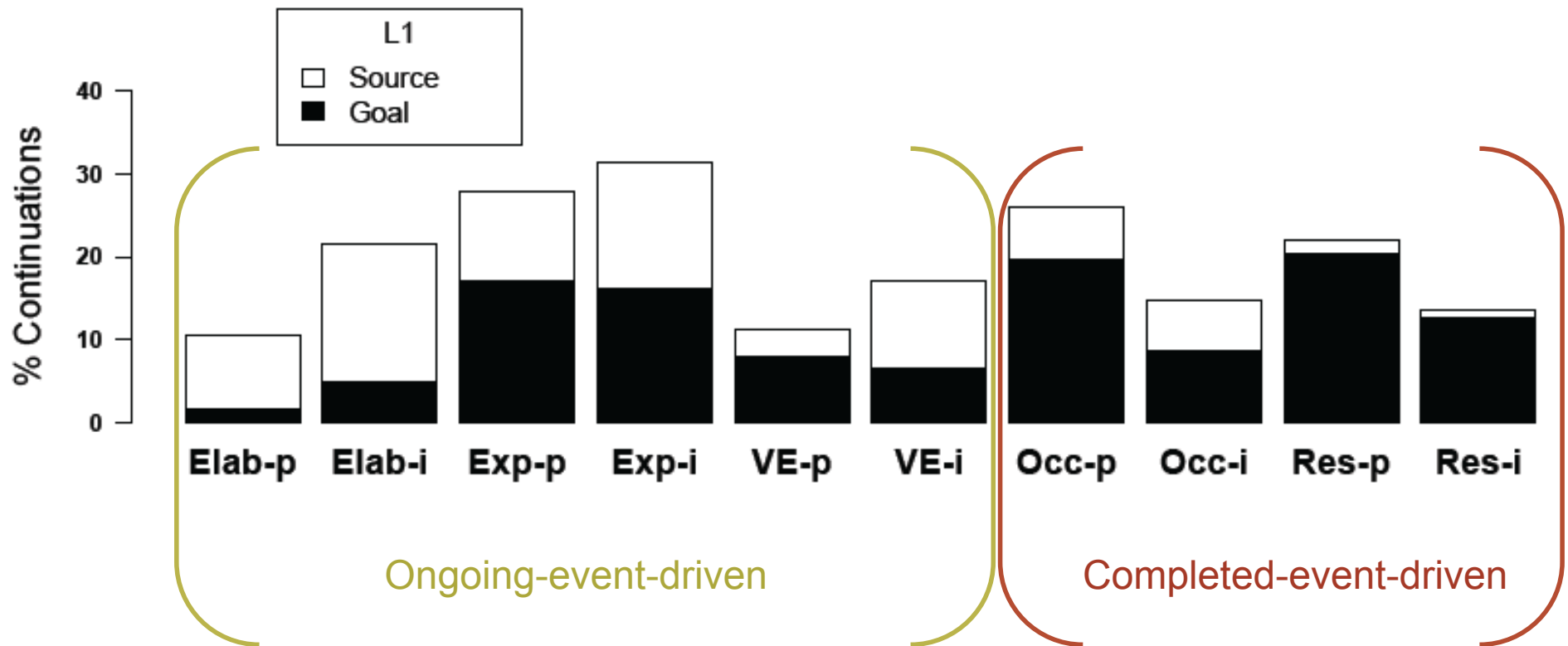
Melissa said "Thank you."

(RESULT)

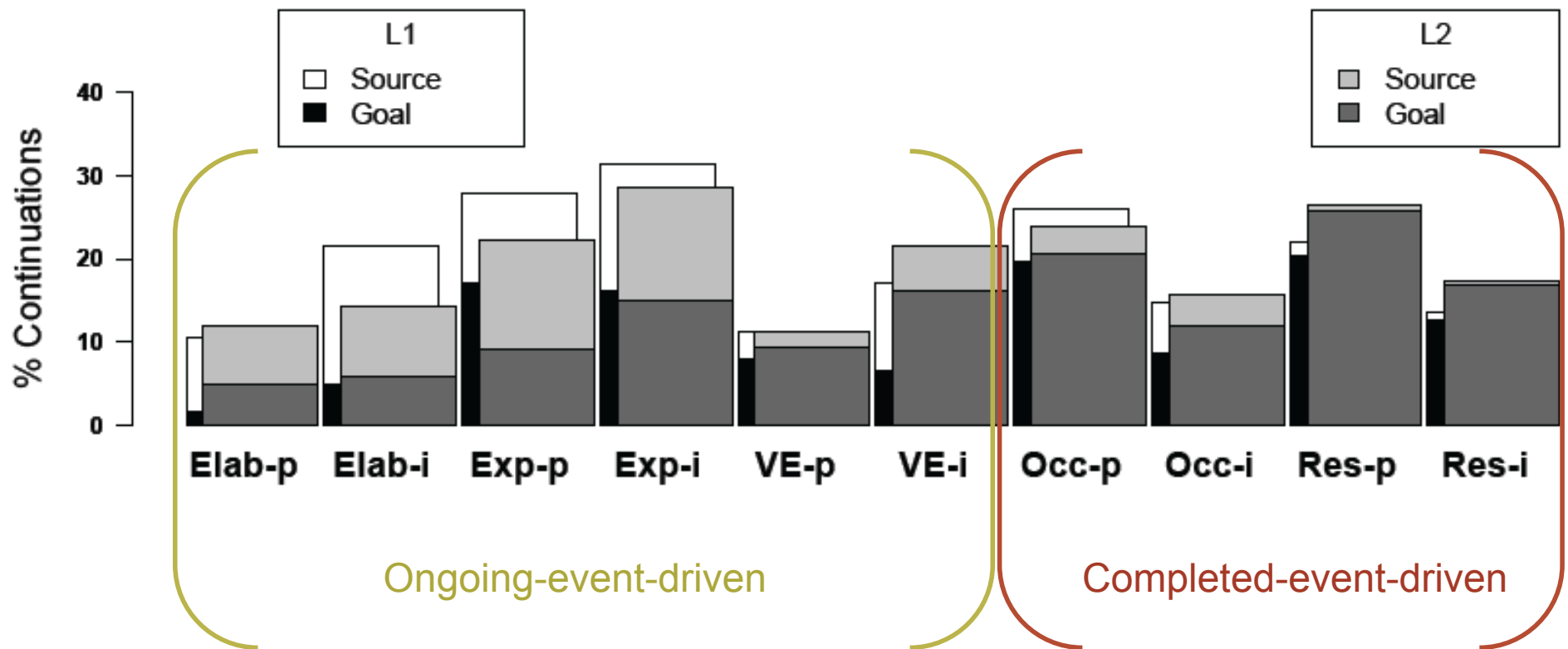


Results: Coherence

Results: Coherence



Results: Coherence





Experiment 2: aural story continuation

Schafer, Rohde & Grüter, 2015-CUNY poster

Schafer, Takeda, Camp, Rohde & Grüter, 2015-ICPhS proc.



She ...

wanted to make her happy.

Exp2

2 (**aspect**) x 2 (**focus**) design

COMPLETED EVENT (PERFECTIVE)



EMILY brought Melissa a fancy drink. She _____



Emily brought **MELISSA** a fancy drink. She _____

ONGOING EVENT (IMPERFECTIVE)



EMILY was bringing Melissa a fancy drink. She _____



Emily was bringing **MELISSA** a fancy drink. She _____

Latin square design, 5 items/condition + 20 fillers
(10 verbs: *bring, e-mail, feed, give, hand, pass, present, roll, serve, throw*)

Participants

	Age (in years)	Versant English Test¹ (overall score, range 20-80)	Self-rated English proficiency (out of 10)
L1-English (n=48)	22 (18-39)	--	9.6 (8-10)
L2-English (n=26)	24 (20-44)	51 (36-80)	6.0 (3-8)
L1-Japanese (n=12)	25 (20-44)	43 (36-57)	5.6 (4-8)
L1-Korean (n=14)	22 (20-26)	57 (37-80)	6.3 (3-8)

¹Pearson (2011; <http://www.versanttest.com>)

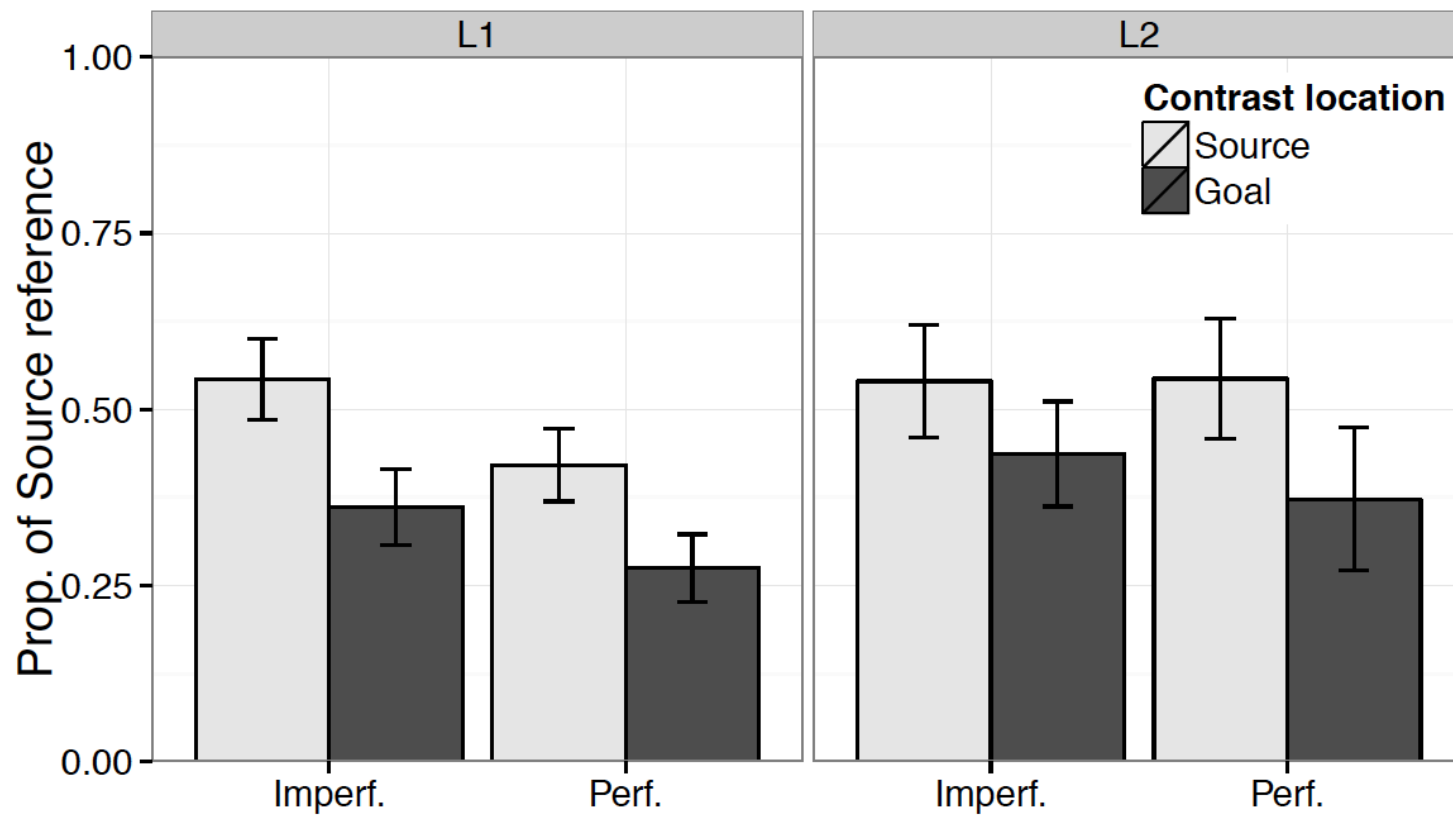
Story continuations

- annotated for coreference

- Source-continuations: 37/41% of L1/L2 data
- Goal-continuations: 56/47%
- ambiguous: 7/8%
- no continuation: 0/4%
- (- other: 0%)

- annotated for coherence

Results: Coreference



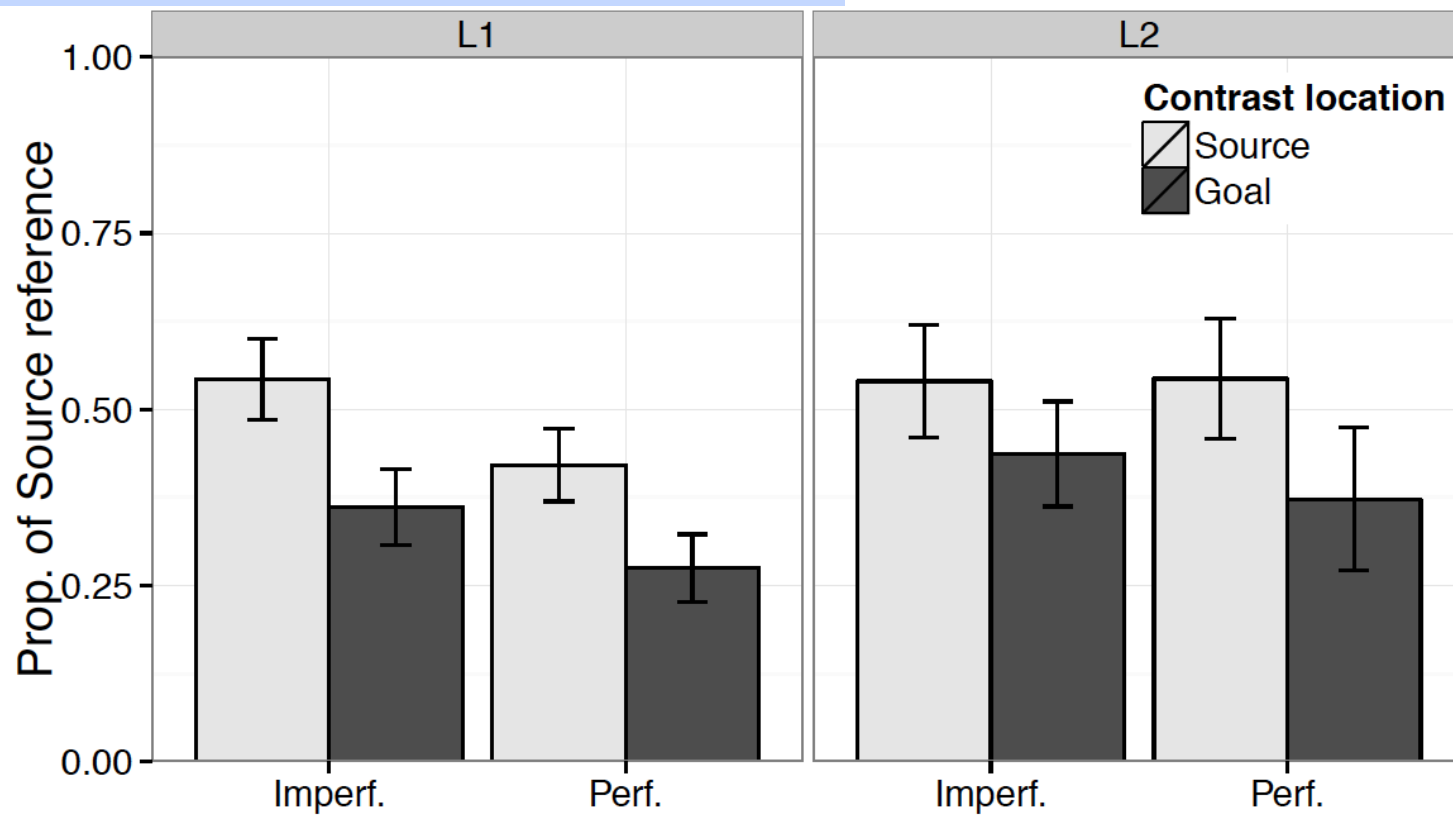
SvsG ~ Aspect * Focus * Group + (1 + Aspect + Focus | Subject) + (1 + Aspect + Focus | Item)

Main effects:

- Aspect ($b=.38, p=.02$)
- Focus ($b=.89, p<.001$)

Interactions:

- Aspect \times Group ($b=.44, p=.11$)



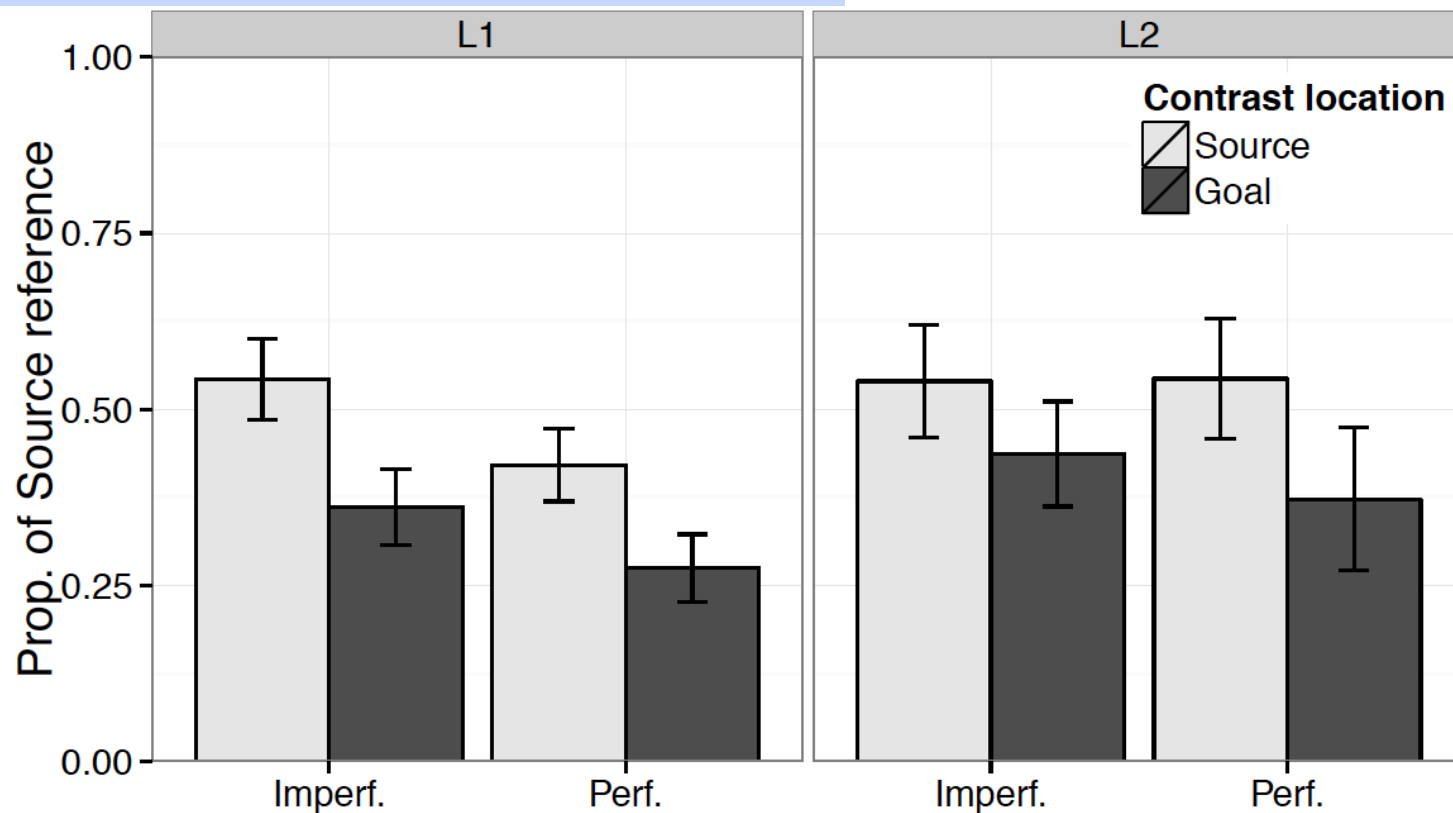
SvsG ~ Aspect * Focus * Group + (1 + Aspect + Focus | Subject) + (1 + Aspect + Focus | Item)

Main effects:

- Aspect ($b=.38, p=.02$)
- Focus ($b=.89, p<.001$)

Interactions:

- Aspect \times Group ($b=.44, p=.11$)



- both L1 & L2 speakers use focus
- reduced effect of aspect in L2



Experiment 3: visual world eye-tracking

- 
- capture referential biases *before* anaphor is encountered

(cf. Pyykkönen & Järvikivi, 2010, for implicit causality)

- adapt design used in ERP study by Ferretti et al. (2009) to show influence of verbal aspect on processing of pronouns

Ferretti, Rohde, Kehler & Crutchley (2009)

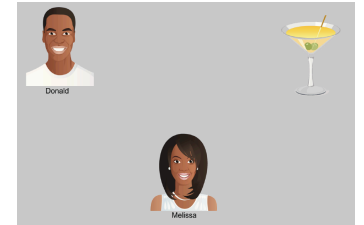
Sue handed/was handing a timecard to Fred.

She/He asked about the upcoming meeting.

→ strongest evidence of surprisal at pronoun following perfective + Source-match

Exp3: trial structure

preview [2000ms]



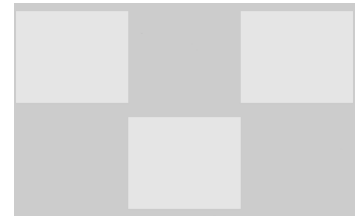
context Donald brought Melissa a fancy drink.

silence [2500ms]

continuation He obviously liked hosting parties.

pause [250ms]
[1500ms]

question Who liked hosting parties?



{mouseclick on box corresponding to answer}



Donald



Melissa

Participants

- L1-English (n=42/ongoing)
- L2-English ... *to come*



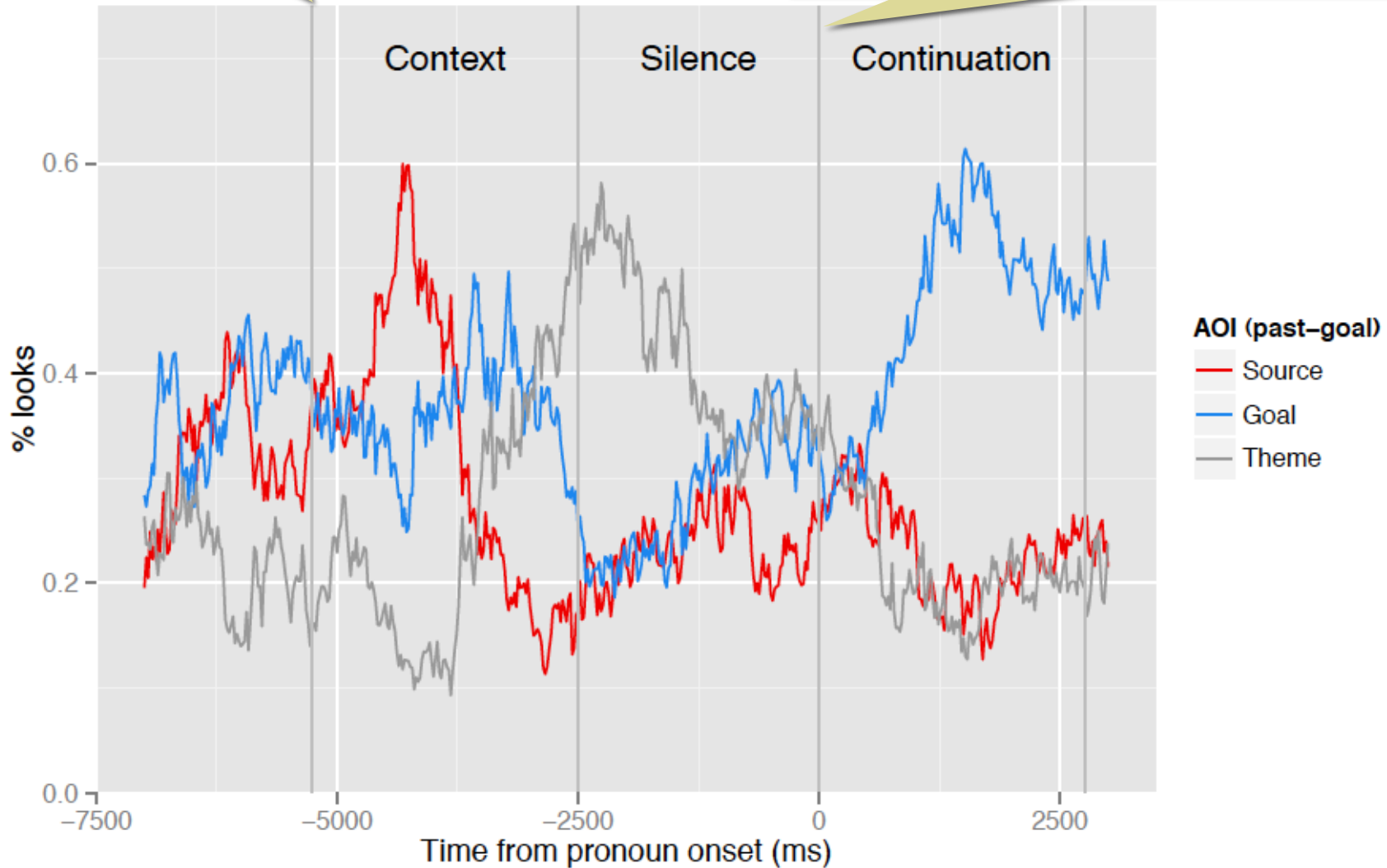
Donald



Melissa

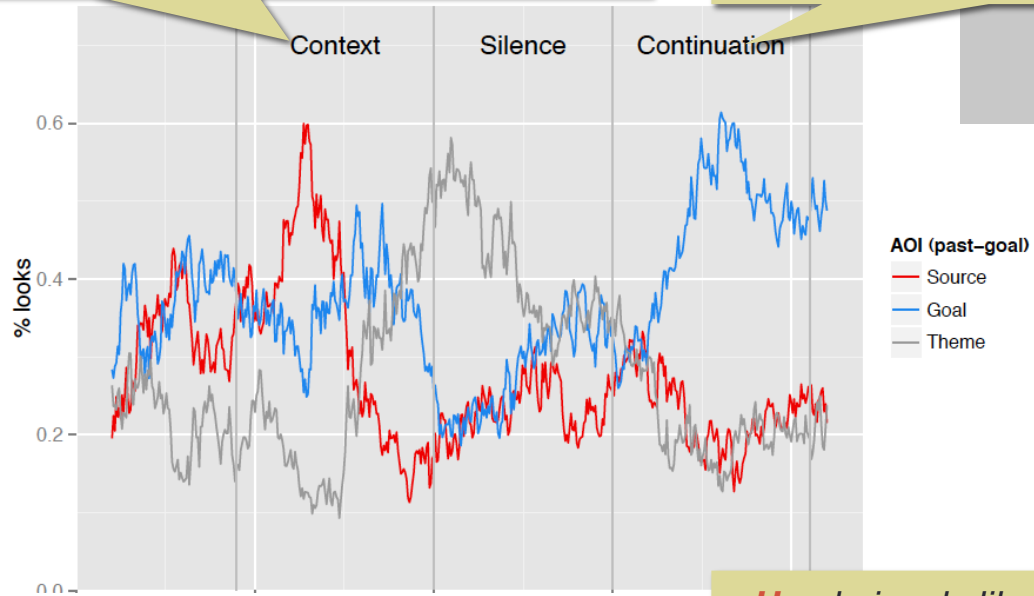
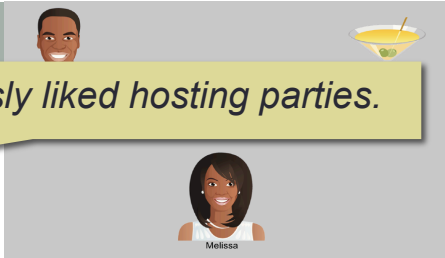
Donald brought Melissa a fancy drink.

She obviously liked hosting parties.

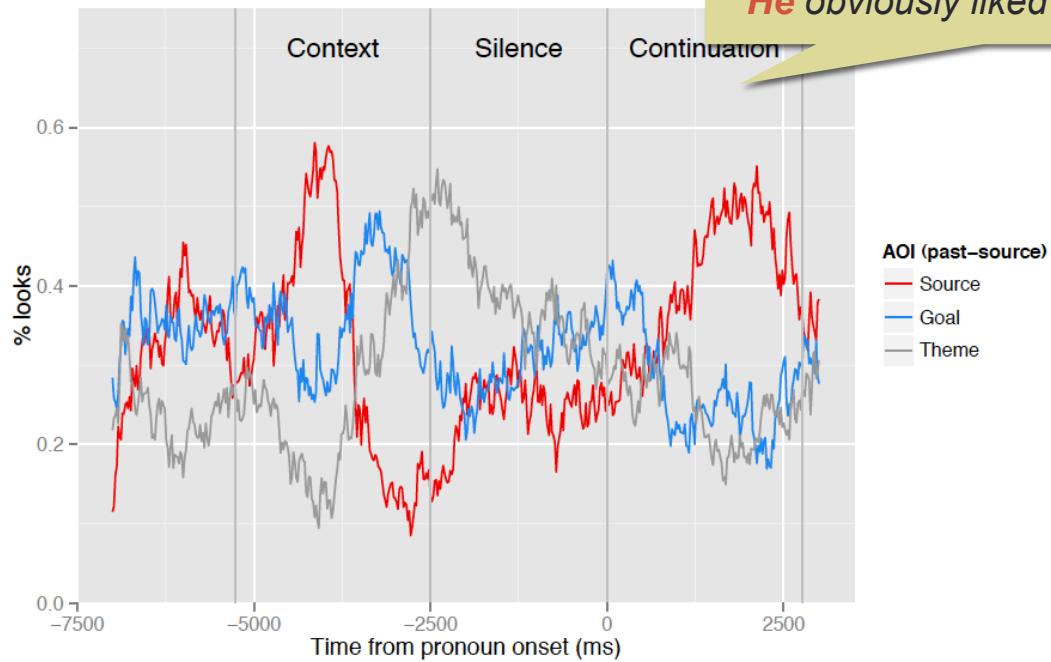


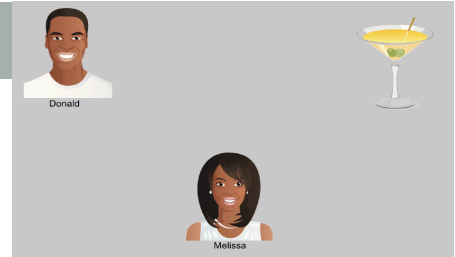
Donald brought Melissa a fancy drink.

She obviously liked hosting parties.



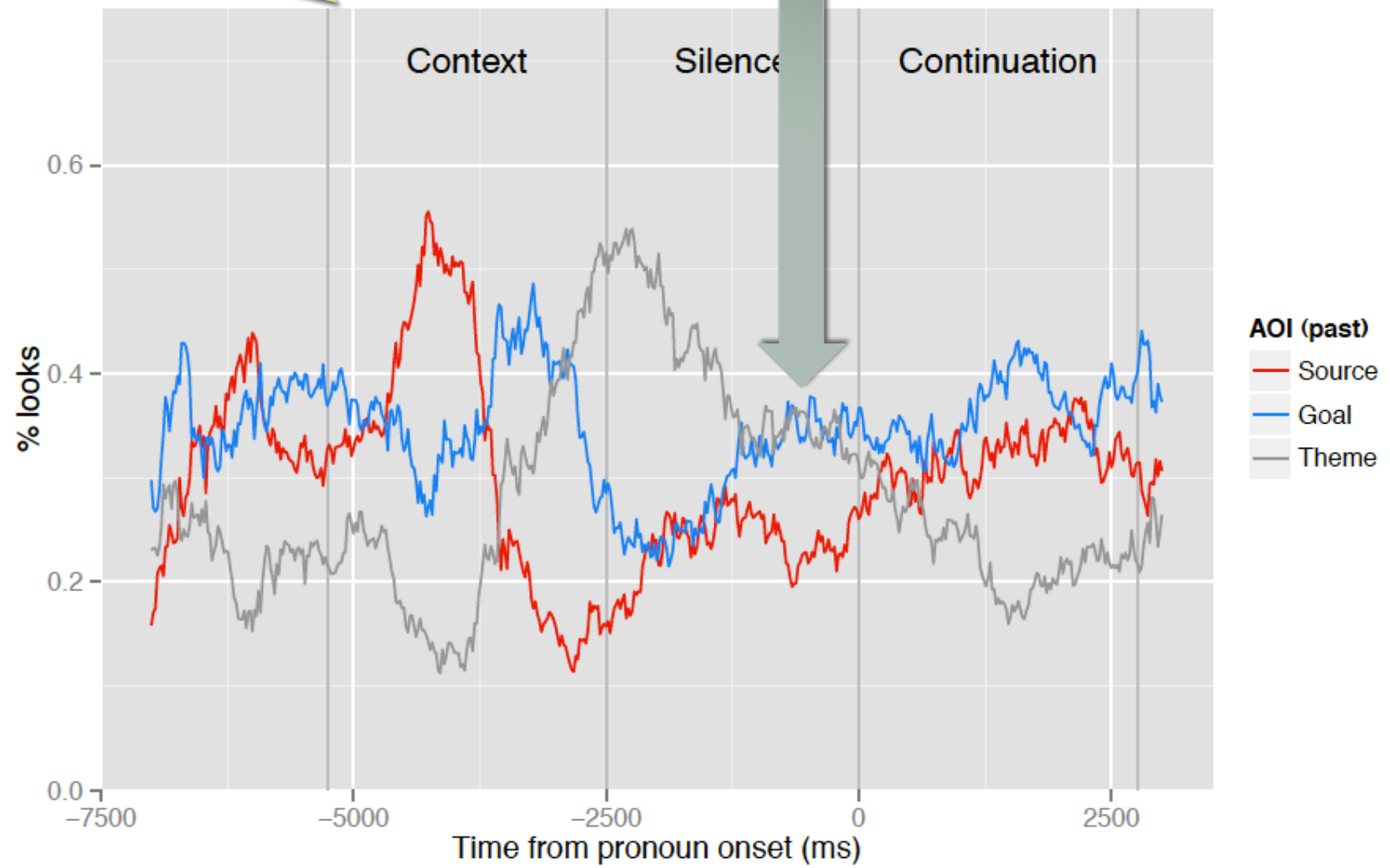
He obviously liked hosting parties.

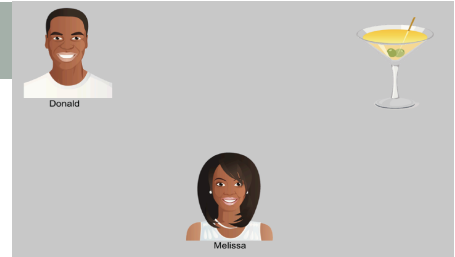




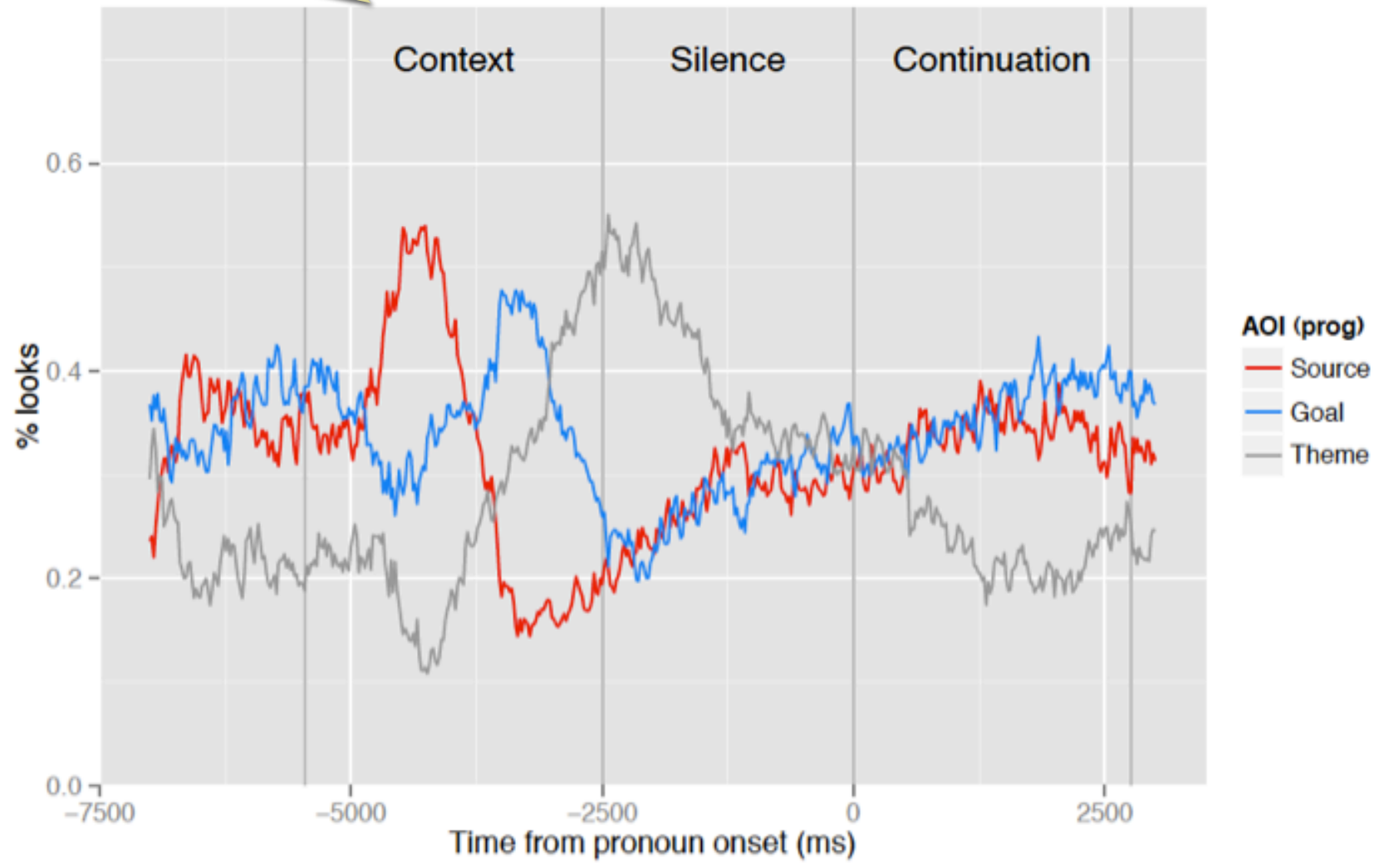
goal bias

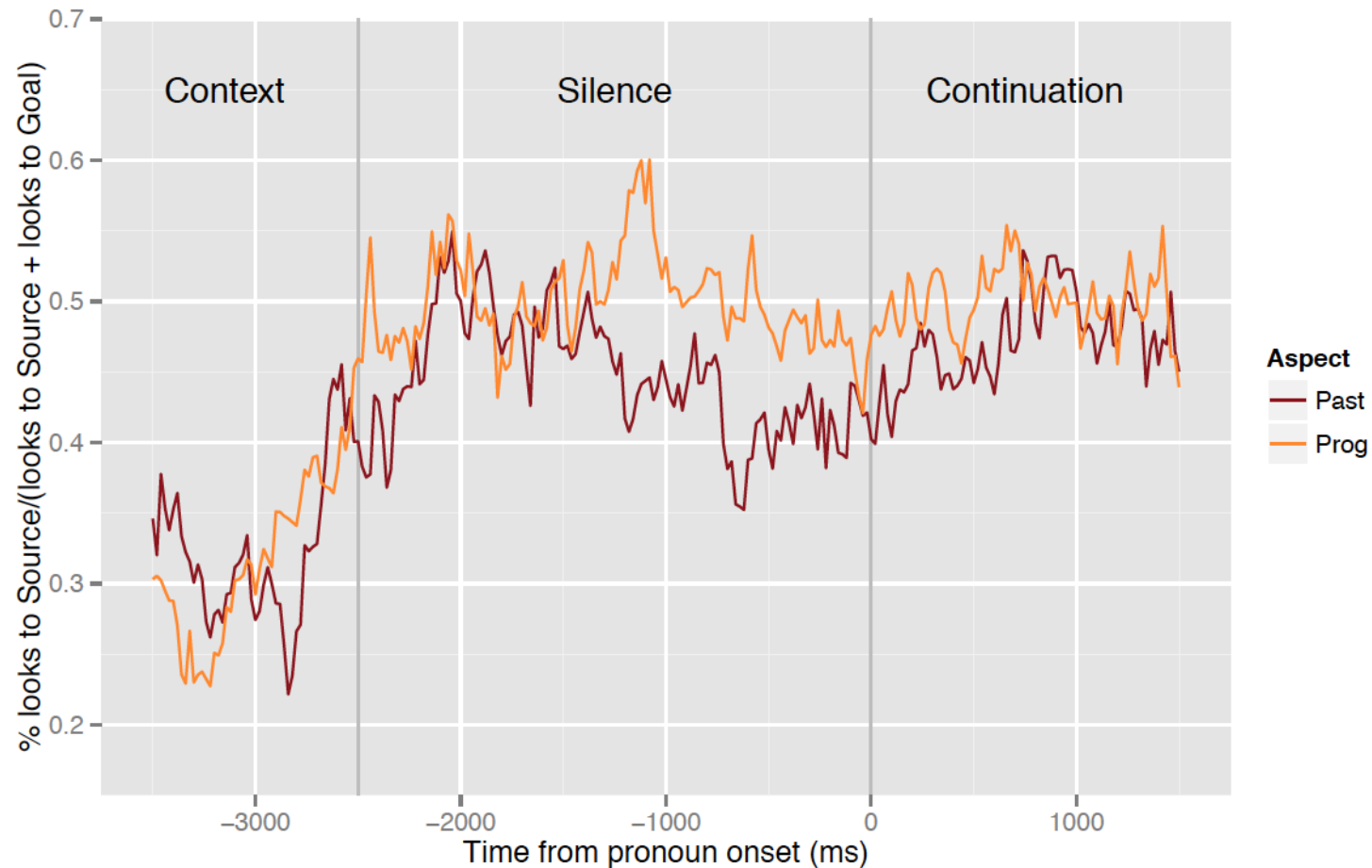
Donald **brought** Melissa a fancy drink.





Donald was bringing Melissa a fancy drink.





→ more looks to Source after Progressive than Past, **before** anaphor is encountered (for L1 speakers)

Exp3: (preliminary) findings

- The effect of aspect/event structure on coreference has an anticipatory component.
- Support for interpretation of Story Continuation results as due to discourse expectations.

The RAGE hypothesis

Non-native speakers have **reduced ability** to **generate expectations**.

	L1	L2
Exp1 (written story cont.)	aspect ✓ prompt ✓	aspect ✗ prompt ✓
Exp2 (aural story cont.)	aspect ✓ focus ✓	aspect ✗ focus ✓
Exp3 (visual world)	aspect ✓ (gender ✓)	



Peace Corps

thank you



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- Our fabulous RAs: Amber Camp, Bonnie Fox, Ivana Matson, Aya Takeda, Eric Stepan, Alexis Toliva





Truth value judgment task (Exp1)

adapted from Gabriele's (2005, 2009, etc) story compatibility task

- Do learners know that (transfer-of-possession) verbs with imperfective marking
 - i) denote an incomplete event,
 - ii) cannot have a resultative reading?



Brenda is at the hospital visiting Anne. This is the bowl of soup that Brenda will feed to Anne. At 11:00, Brenda is ready with the soup and a spoon. At 11:05, Brenda puts the first spoonful of soup into Anne's mouth.

At 11:05, Pikachu says:

Brenda is feeding the bowl of soup to Anne



-
- TRUE
 - FALSE

 - I am not sure

sample item: imperfective-ongoing



Brenda is at the hospital visiting Anne. This is the bowl of soup that Brenda will feed to Anne. At 11:00, Brenda is ready with the soup and a spoon. At 12:00, the bowl is empty and Anne wipes her mouth.

At 12:00, Pikachu says:

Brenda is feeding the bowl of soup to Anne



-
- TRUE
 - FALSE

 - I am not sure

sample item: imperfective-completed

Truth value judgment task (Exp1)

Conditions:

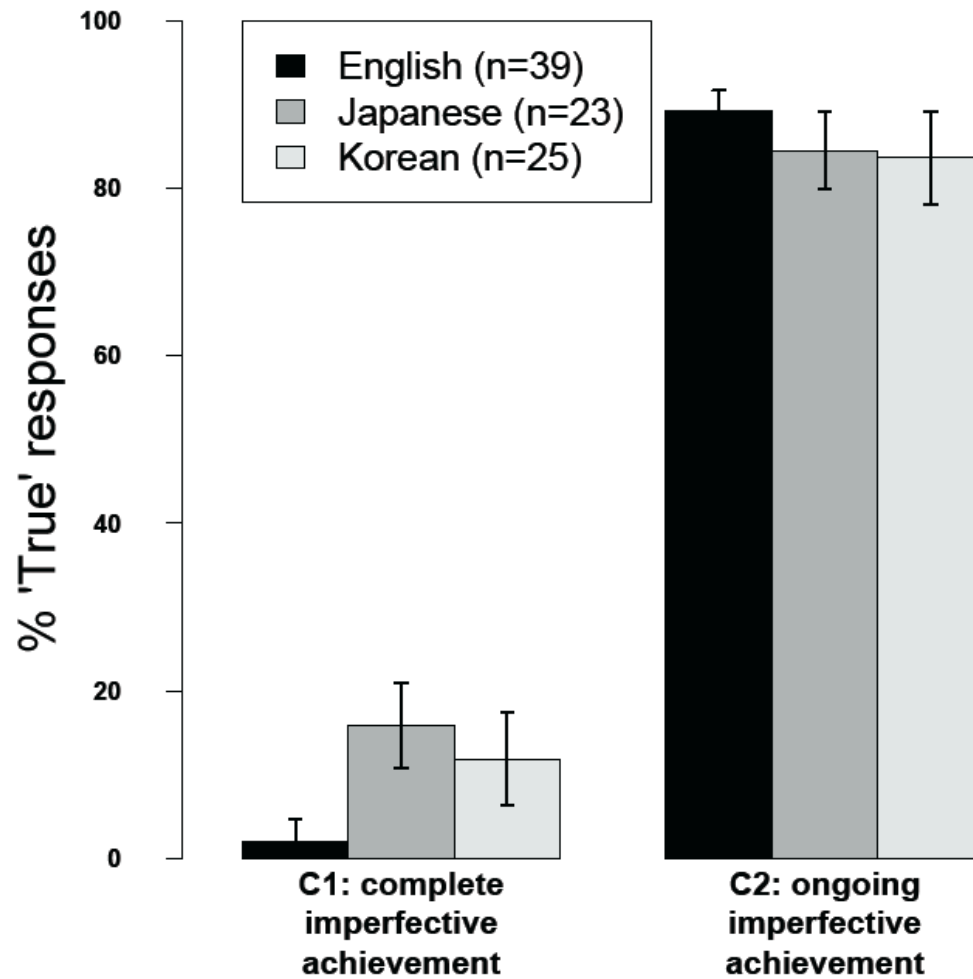
	aspect	verb	event	truth value	k
1	imperfective	transfer-of-possession	completed	false	5
2	imperfective	transfer-of-possession	ongoing	true	5
3	perfective	other achievement	completed	true	4
4	perfective	other achievement	ongoing	false	4
5	imperfective	accomplishment	completed	false	4

Truth value judgment task (Exp1)

Conditions:

	aspect	verb	event	truth value	k
1	imperfective	transfer-of-possession	completed	false	5
2	imperfective	transfer-of-possession	ongoing	true	5
3	perfective	other achievement	completed	true	4
4	perfective	other achievement	ongoing	false	4
5	imperfective	accomplishment	completed	false	4

Truth value judgment task (Exp1)



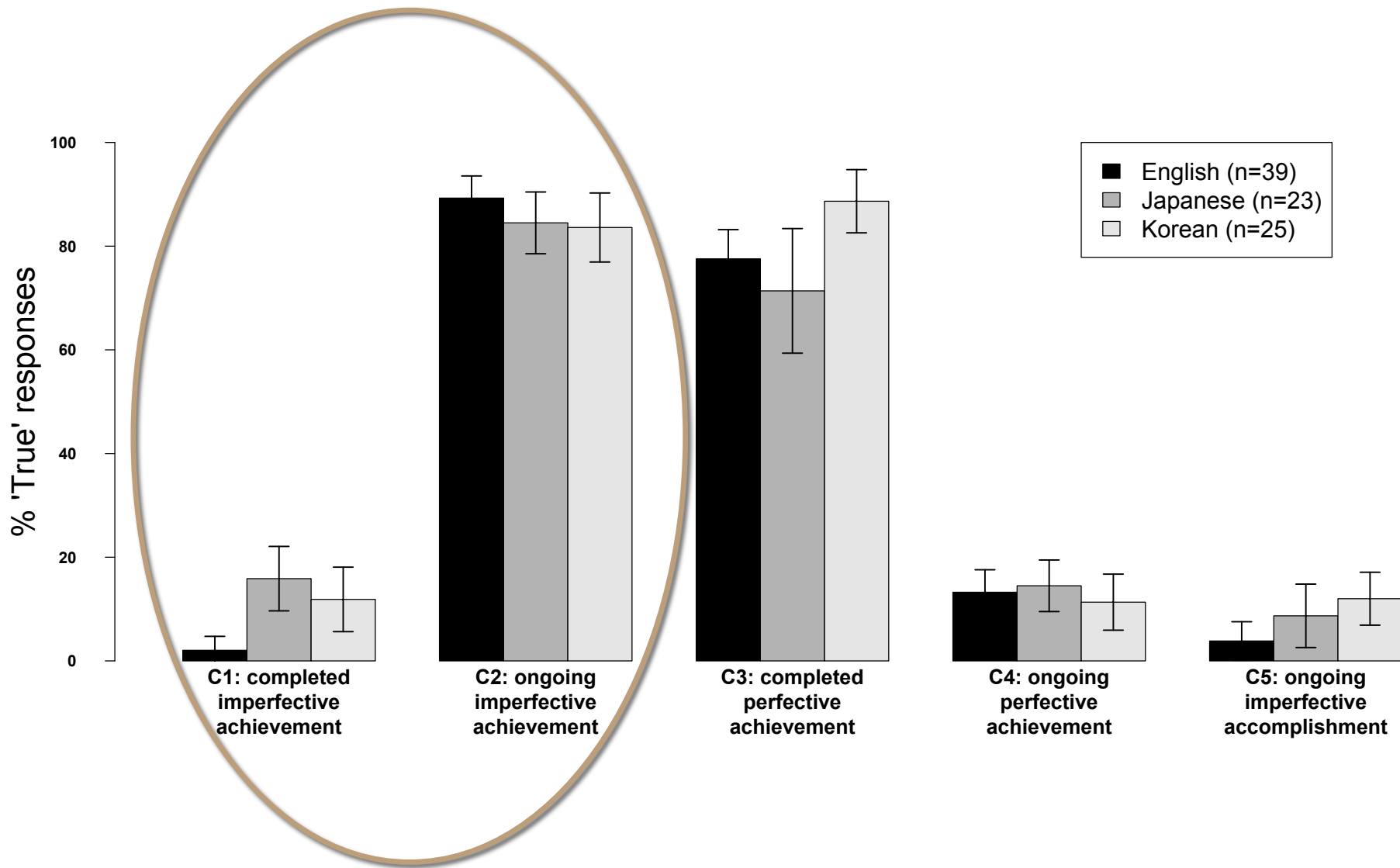


Fig. 1. Mean percentage of 'true' judgments by condition and group.



Truth value judgment task, modified (Exp2)

- use **past** progressive instead of present progressive



Brenda is at the hospital visiting Anne. This is the bowl of soup that Brenda will feed to Anne. At 11:00, Brenda is ready with the soup and a spoon. At 11:05, Brenda puts the first spoonful of soup into Anne's mouth.

In the afternoon, Pikachu says:

At 11:05, Brenda was feeding the bowl of soup to Anne



-
- TRUE
 - FALSE

 - I am not sure

sample item: imperfective-ongoing



Brenda is at the hospital visiting Anne. This is the bowl of soup that Brenda will feed to Anne. At 11:00, Brenda is ready with the soup and a spoon. At 12:00, the bowl is empty and Anne wipes her mouth.

In the afternoon, Pikachu says:

At 12:00, Brenda was feeding the bowl of soup to Anne



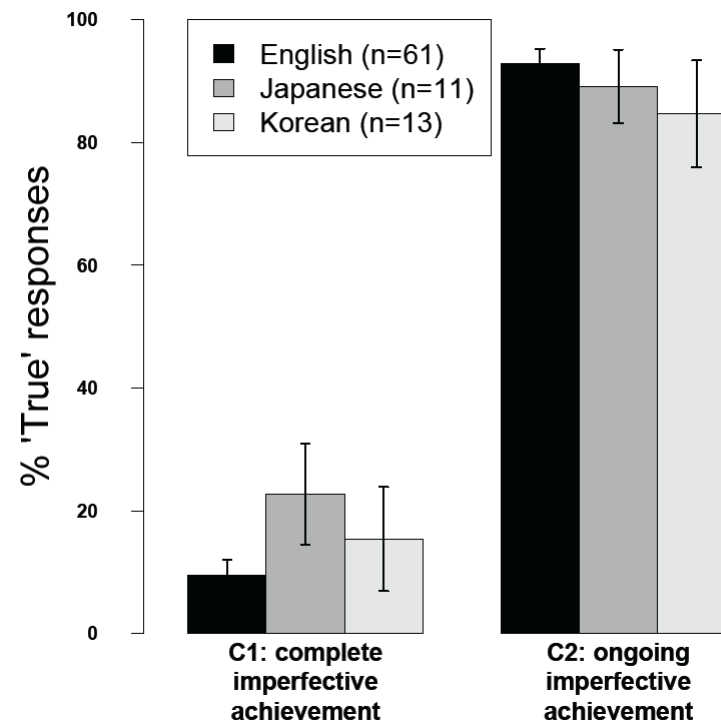
-
- TRUE
 - FALSE

 - I am not sure

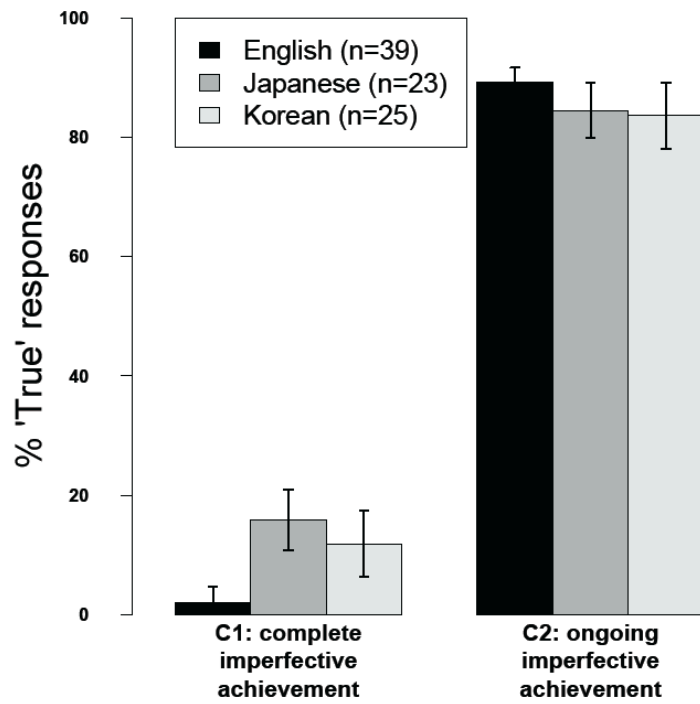
sample item: imperfective-completed

Truth value judgment task, modified (Exp2)

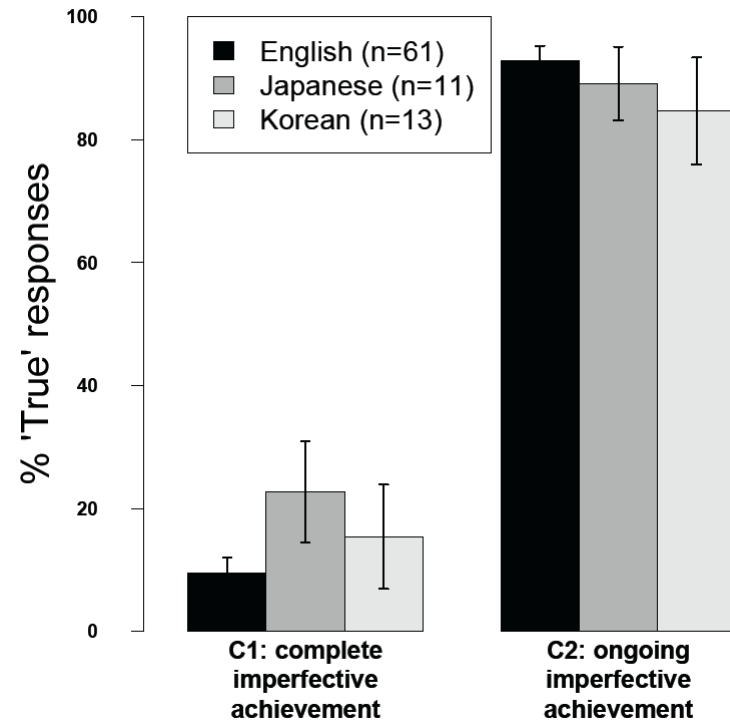
- use **past** progressive instead of present progressive



Exp1



Exp2



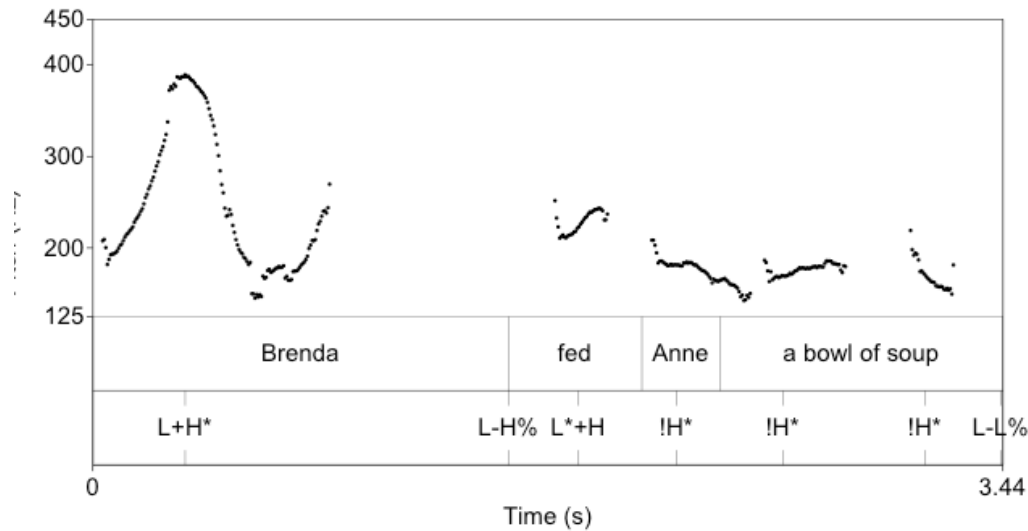


Figure 1: Example item with contrastive intonation on the **SOURCE**

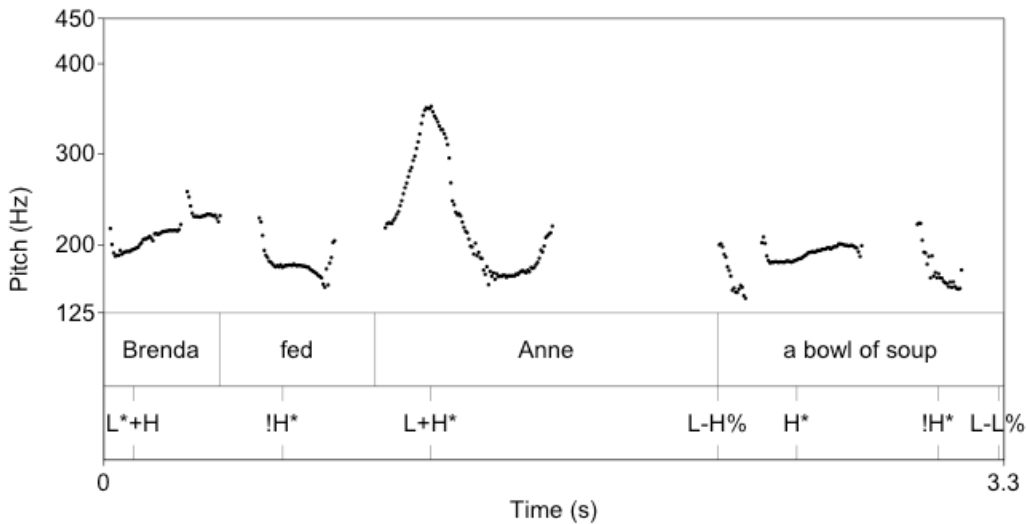


Figure 2: Example item with contrastive intonation on the **GOAL**

For more detail, see:
 Schafer, Rohde & Grüter,
 2015-CUNY poster
 Schafer, Takeda, Camp,
 Rohde & Grüter, 2015-
 ICPHS proc.