

Subject preference and ergativity

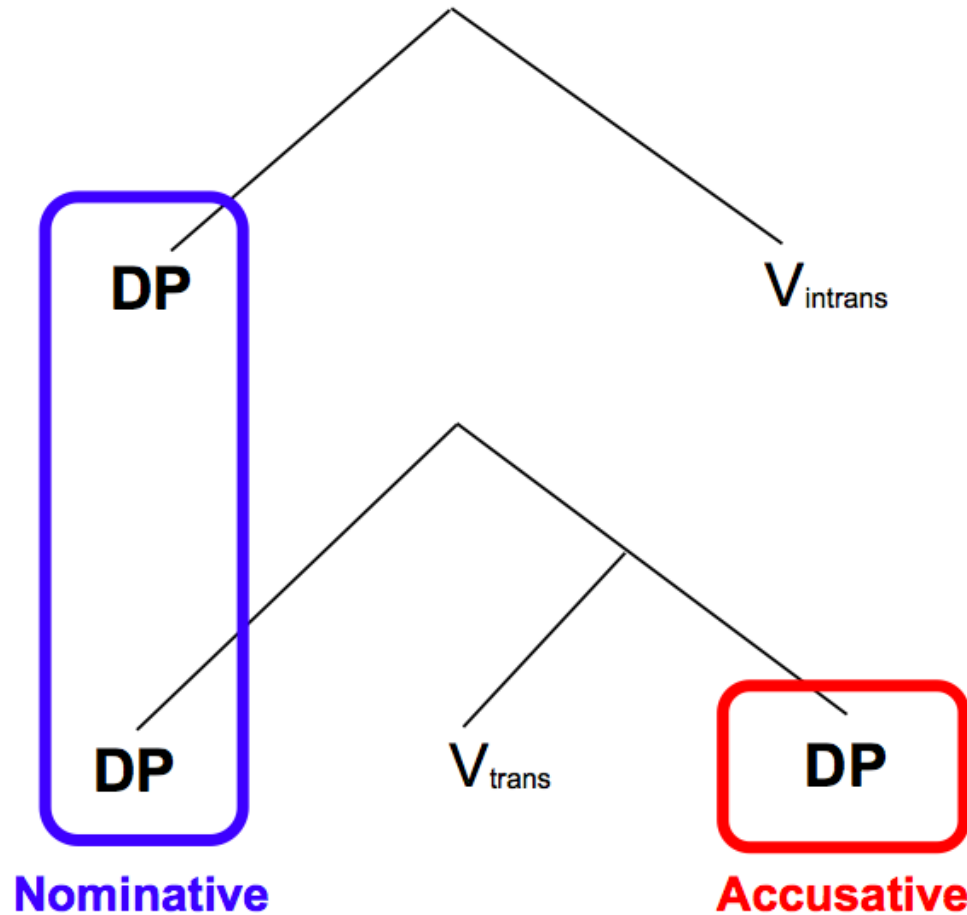
Maria Polinsky, Carlos Gómez Gallo,
Peter Graff, & Ekaterina Kravtchenko

Lingua 122 (2012) 267–277

Presented by Laine Stranahan (Harvard), LING 117r 10/31/2012

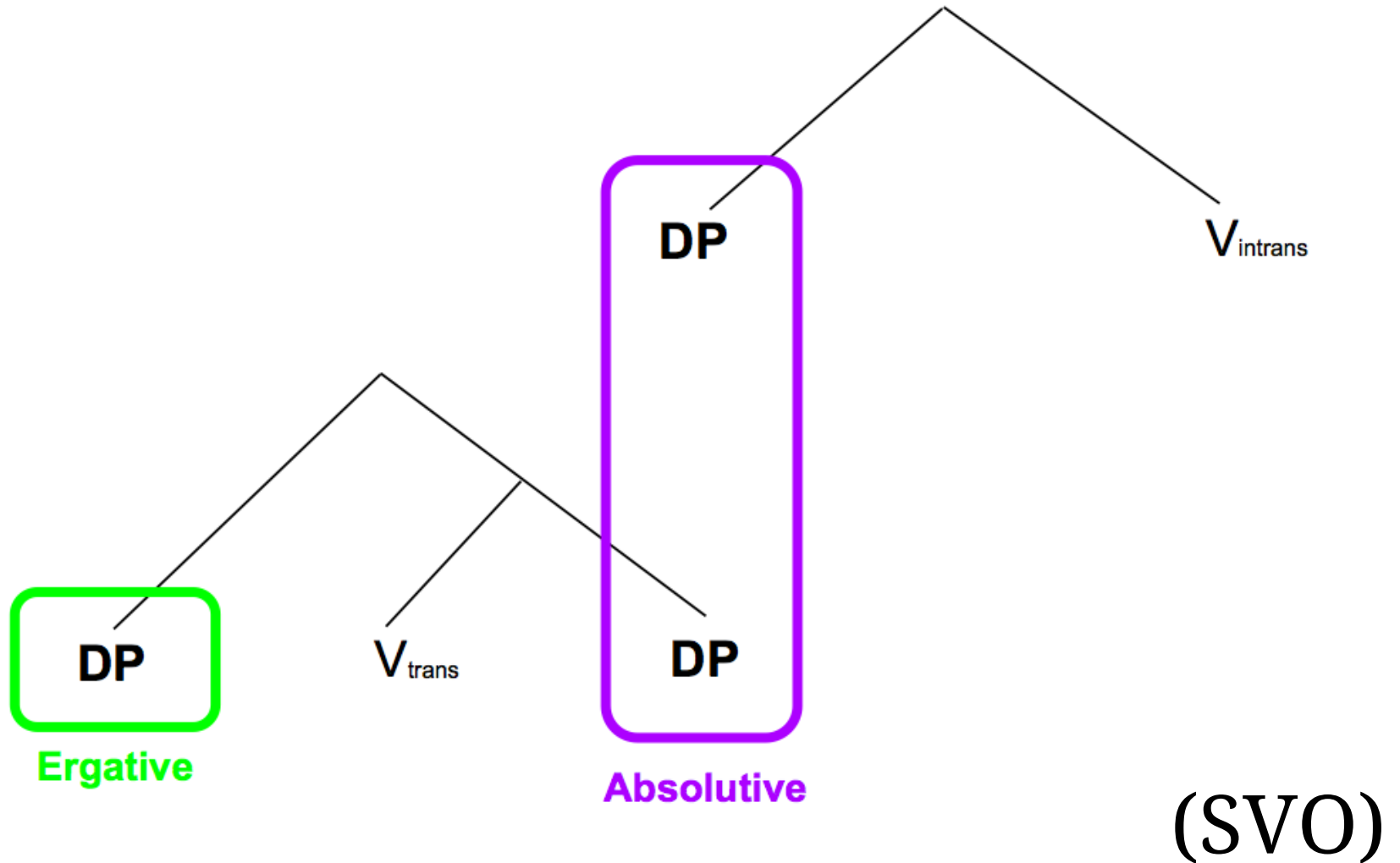
1. **Background**
 - a. Ergativity
 - b. Morphological cueing
 - c. Subject preference & the Accessibility Hierarchy
 - d. Syntactic ergativity
2. **Import of ergative languages**
3. **Avar**
4. **Experiment**
 - a. Method
 - b. Materials
 - c. Results
 - i. Predictions
 - ii. vs. Results
5. **Interpretation**
6. **Theoretical Implications**

Nominative-Accusative Alignment

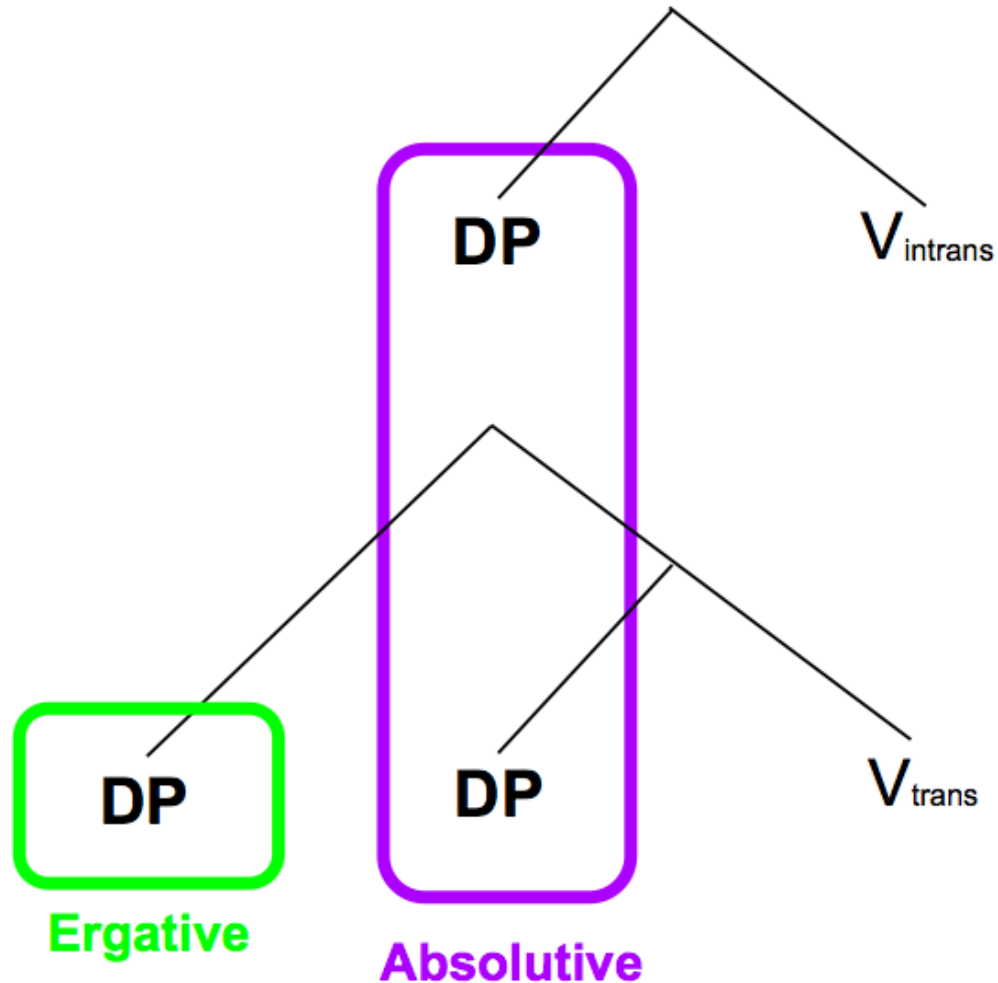


(SVO)

Ergative-Absolutive Alignment

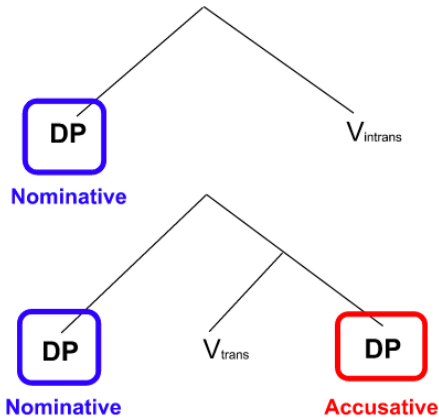


Ergative-Absolutive Alignment

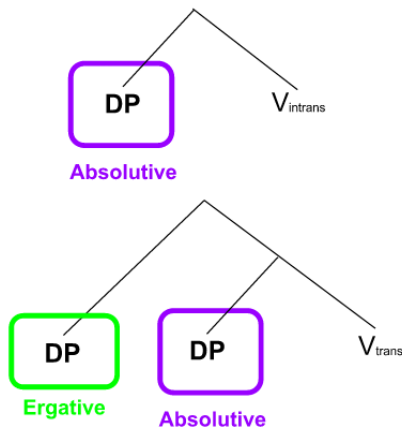


(SOV)

Dependent and Independent Cases




Accusative → Nominative
DEPENDENT INDEPENDENT




Ergative → Absolutive
DEPENDENT INDEPENDENT

..... **ACC** ?

..... **ACC** (**NOM**)


..... **ACC** (**NOM**)

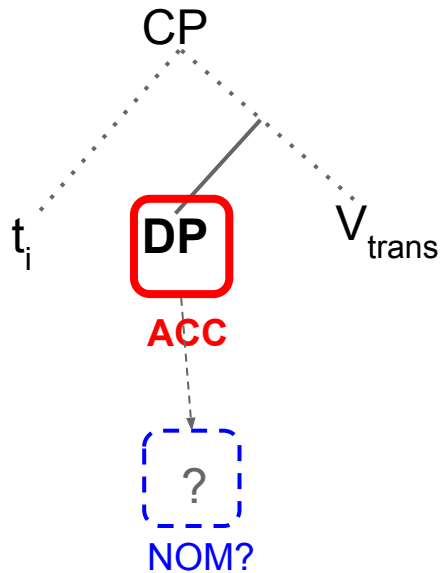


..... **ERG** ?

..... **ACC** **(NOM)**

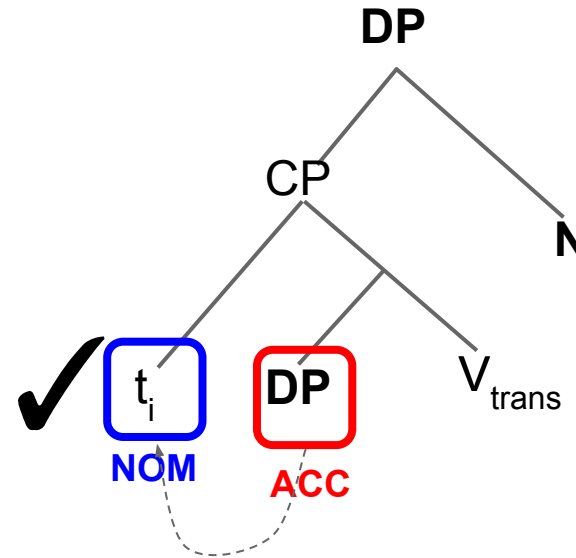
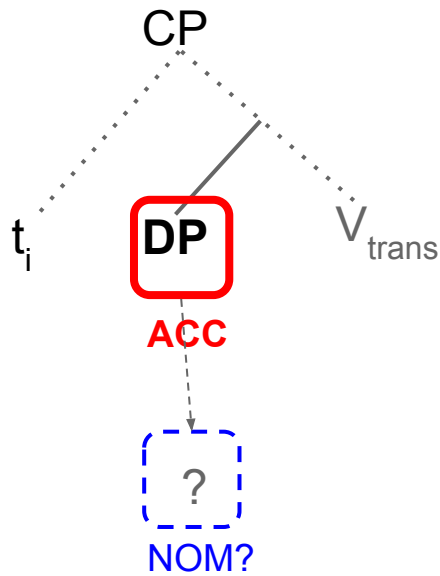
..... **ERG** **(ABS)**

Morphological Cueing



e.g., Japanese, Korean

Morphological Cueing

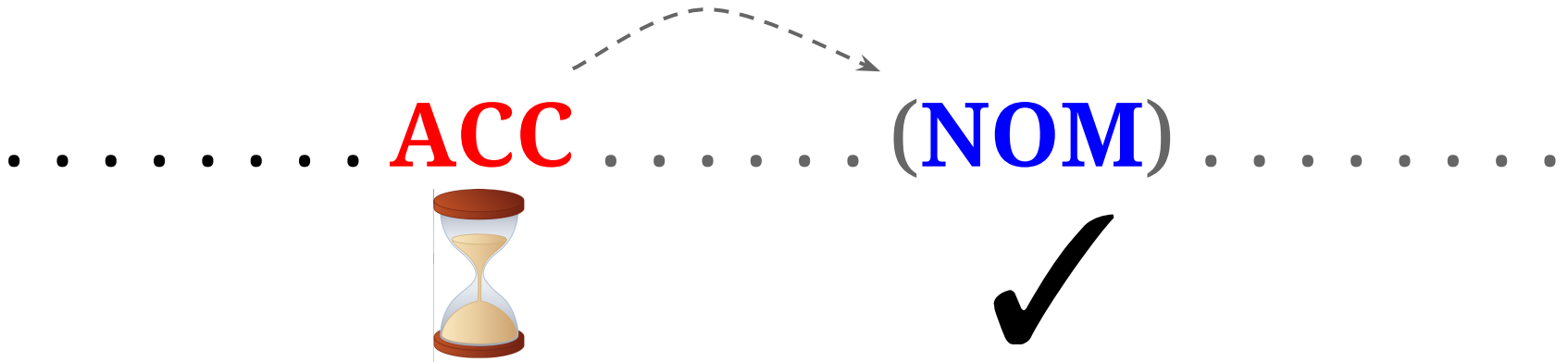


e.g., Japanese, Korean

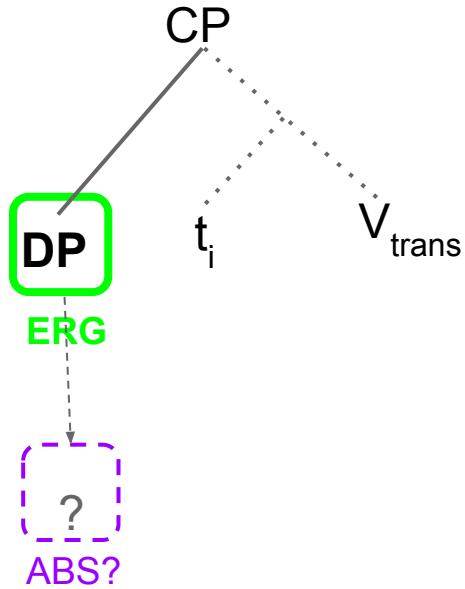
Prediction:

..... **ACC** ?

Prediction:

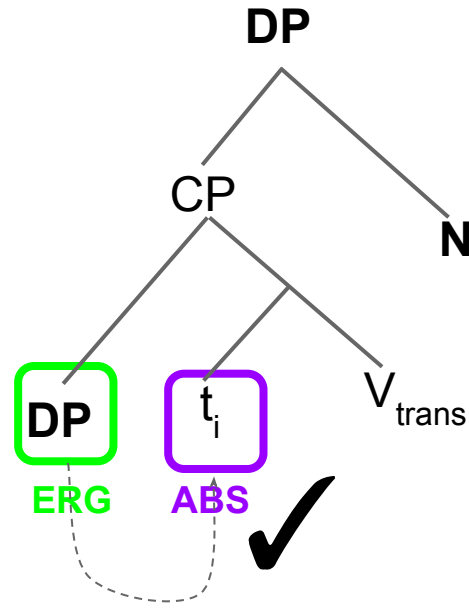
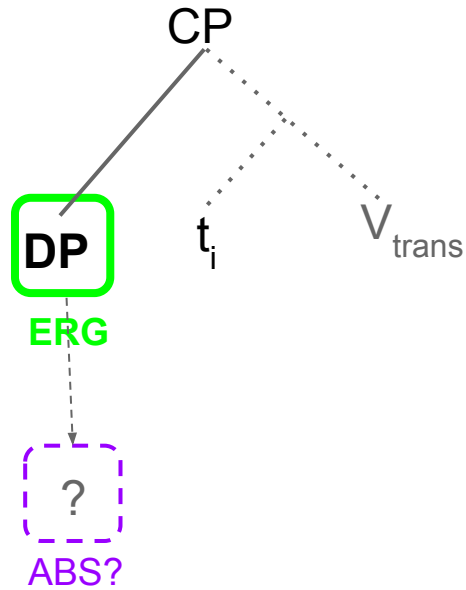


Morphological Cueing



e.g., Basque, Avar

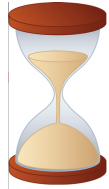
Morphological Cueing



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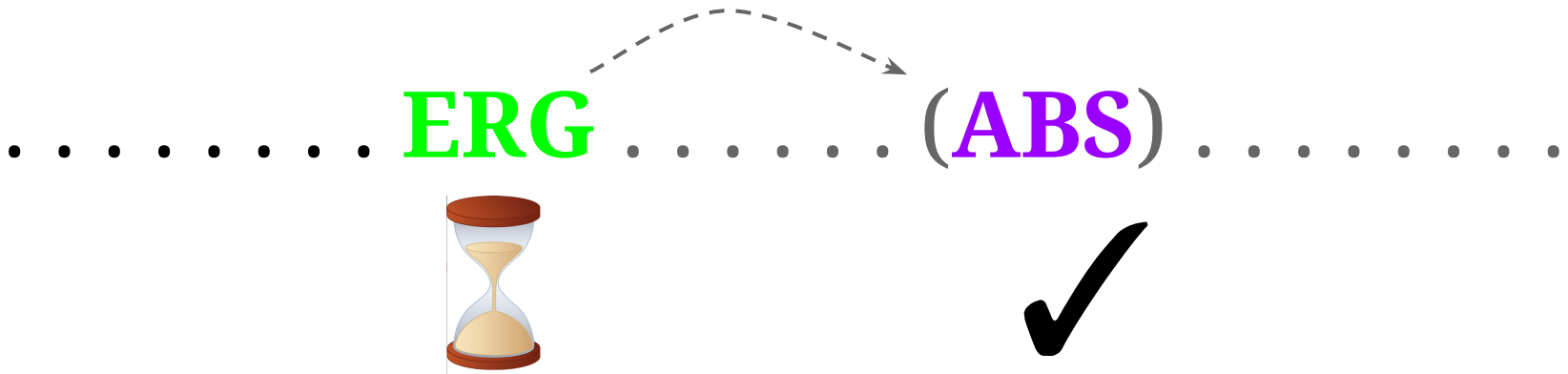
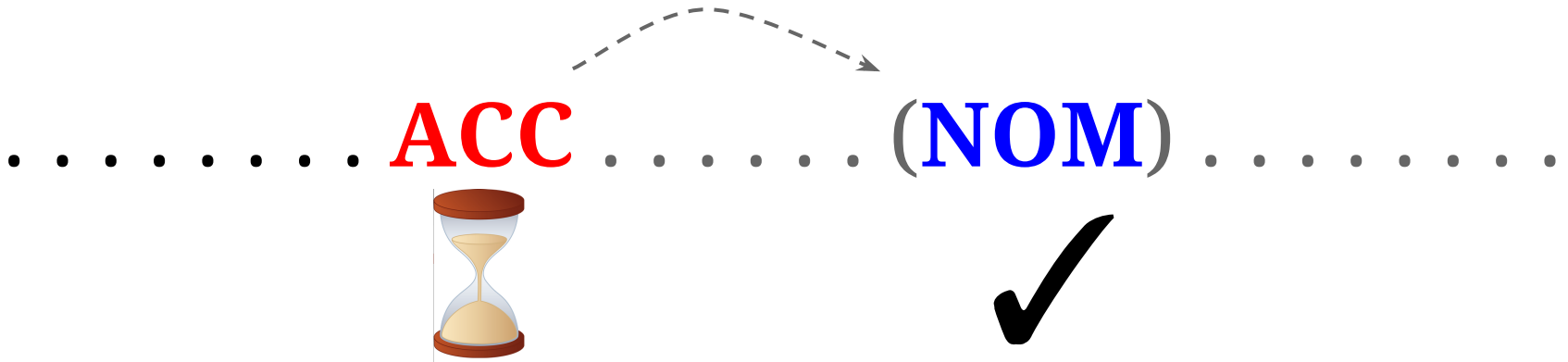
Predictions

..... **ACC** (**NOM**)



..... **ERG** ?

Predictions

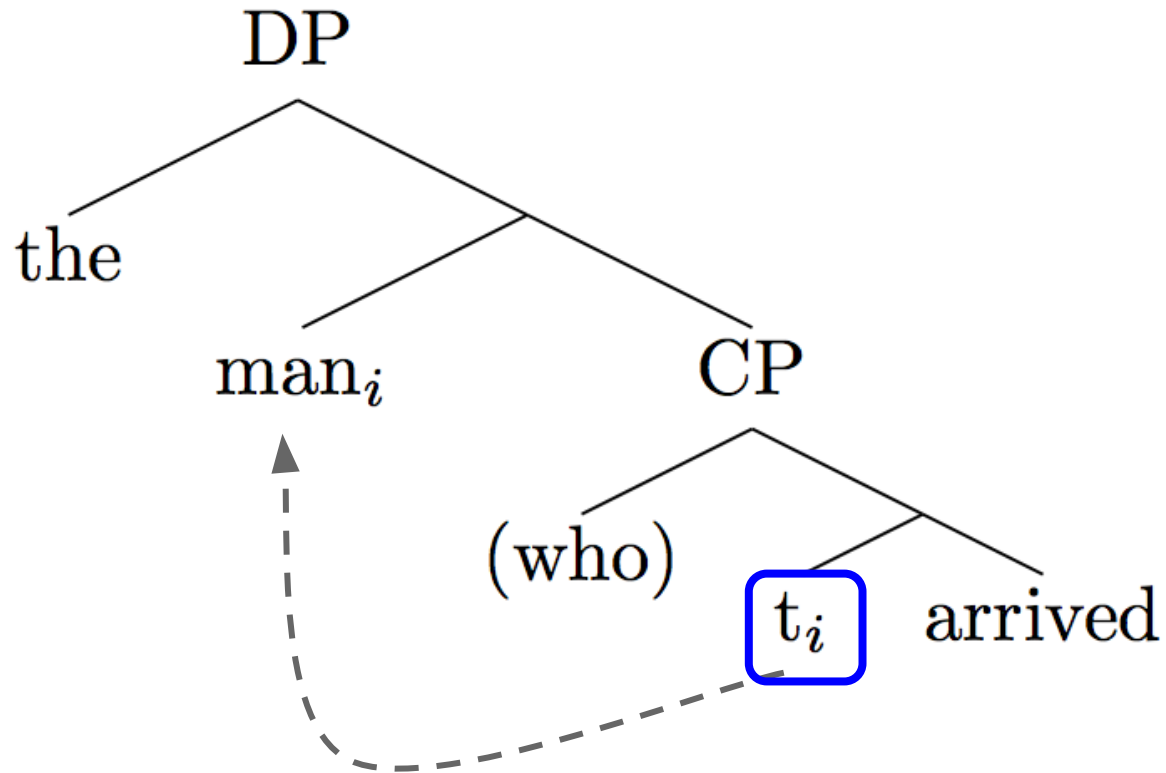


Subject Preference

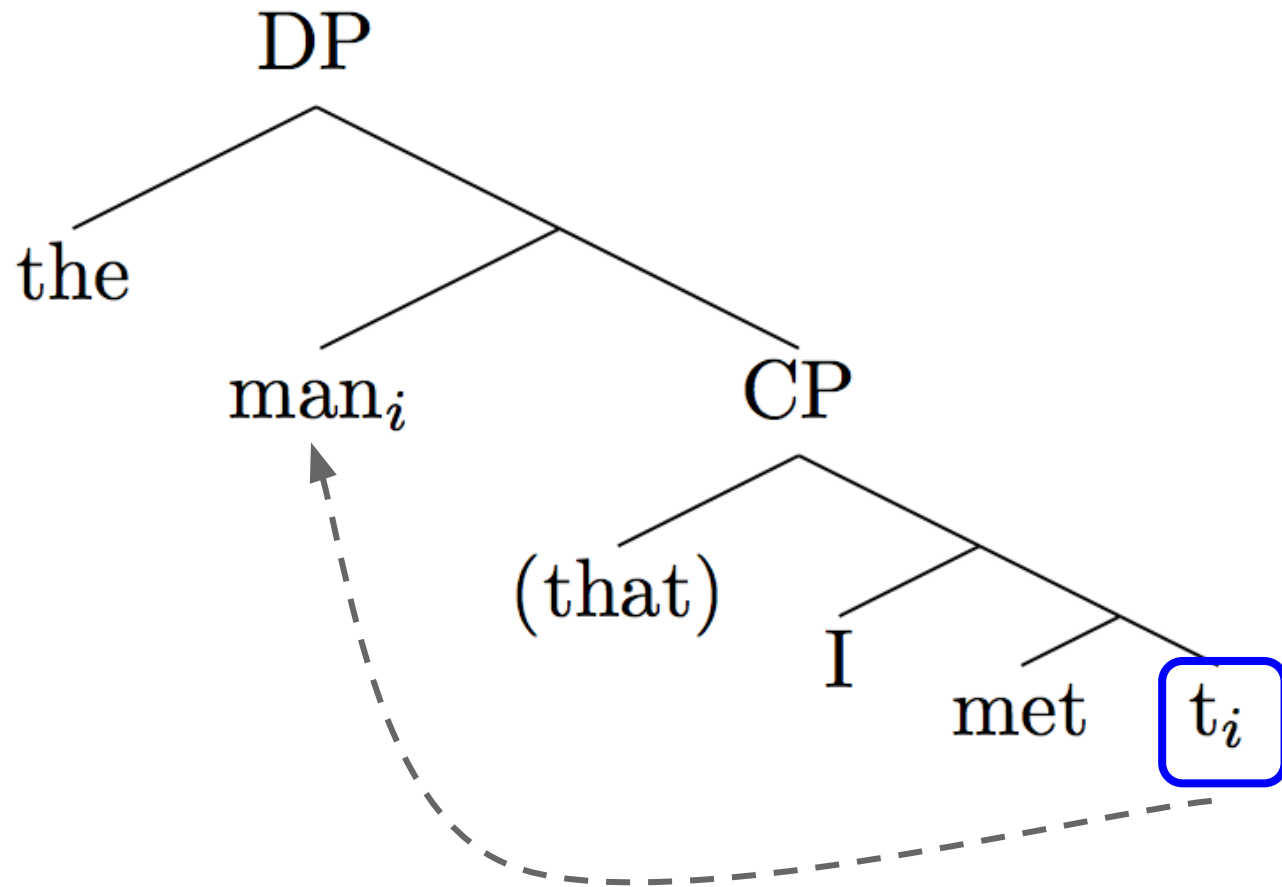
- Relativization
- Wh-questions
- Cross-clausal coreference
- Variable binding

(Clemens, et al.)

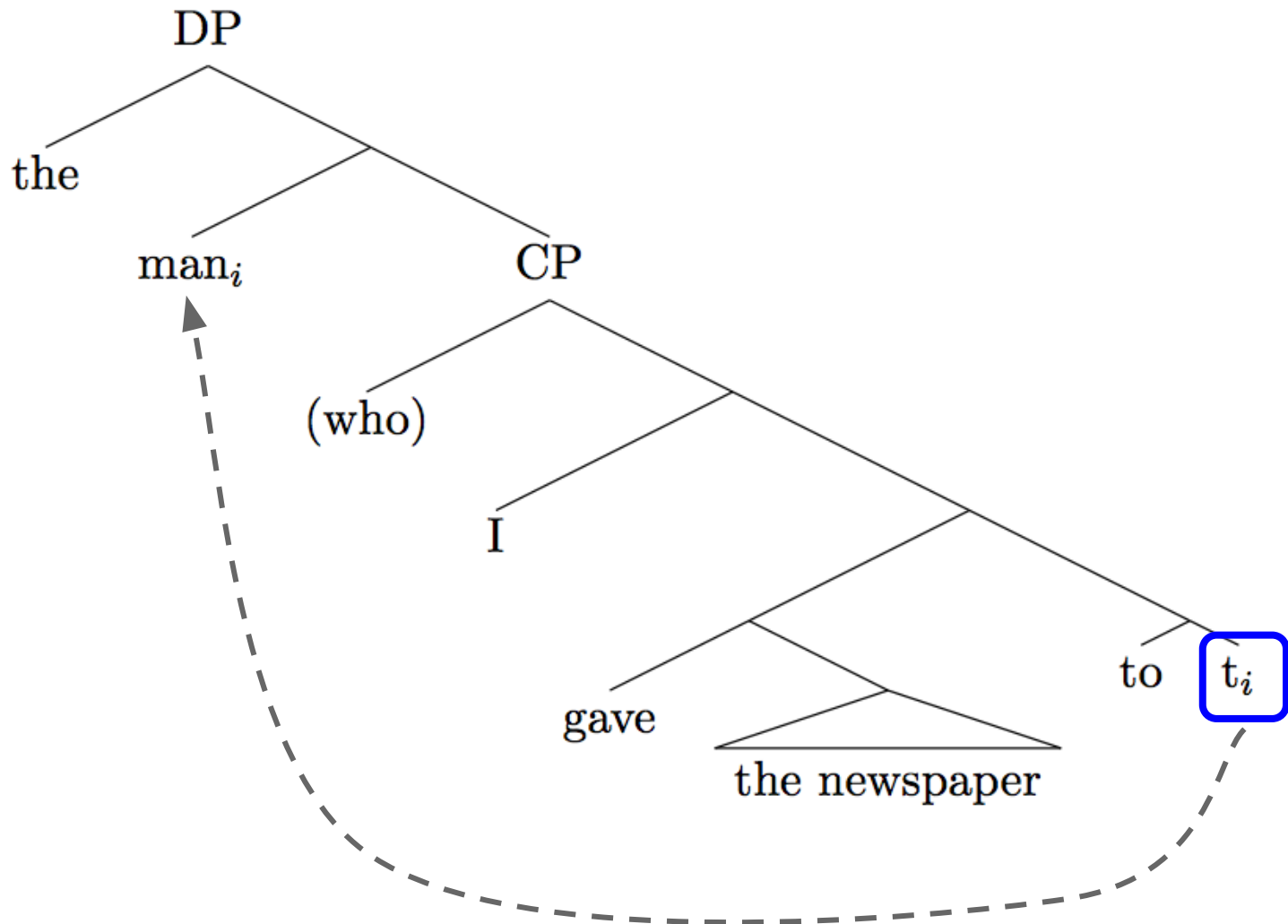
Subject Relativization



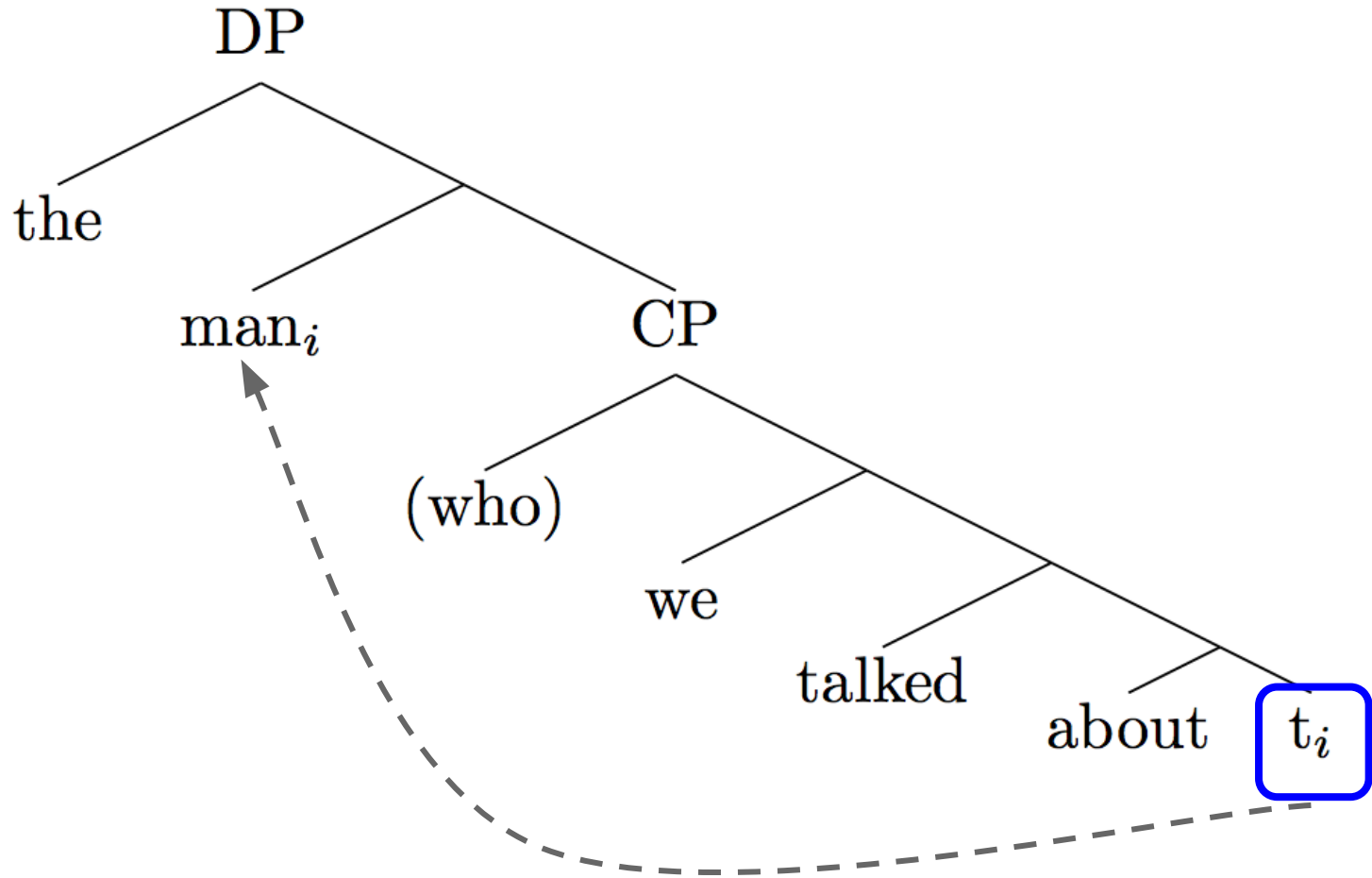
Object Relativization



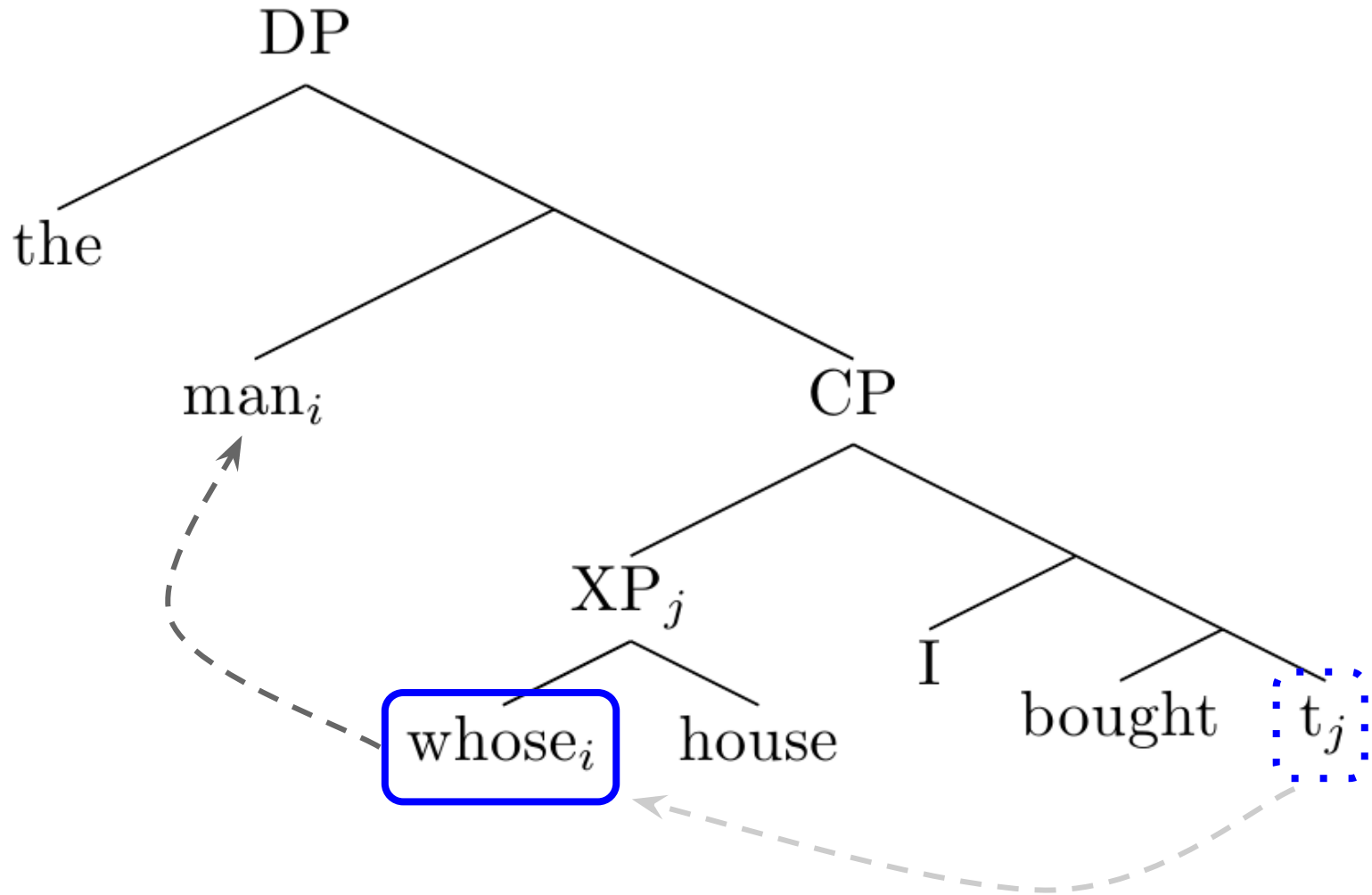
Indirect Object Relativization



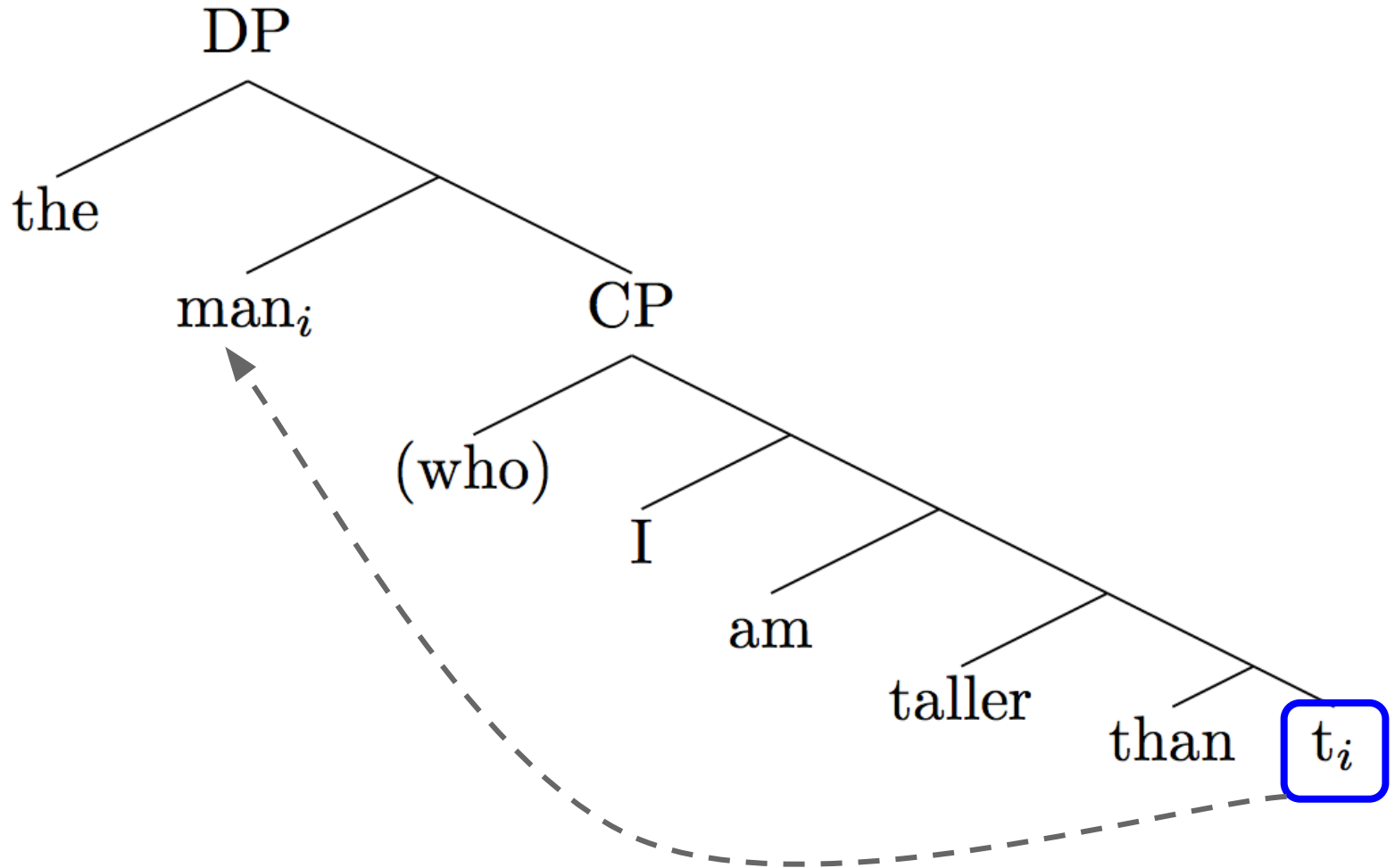
Oblique Object Relativization



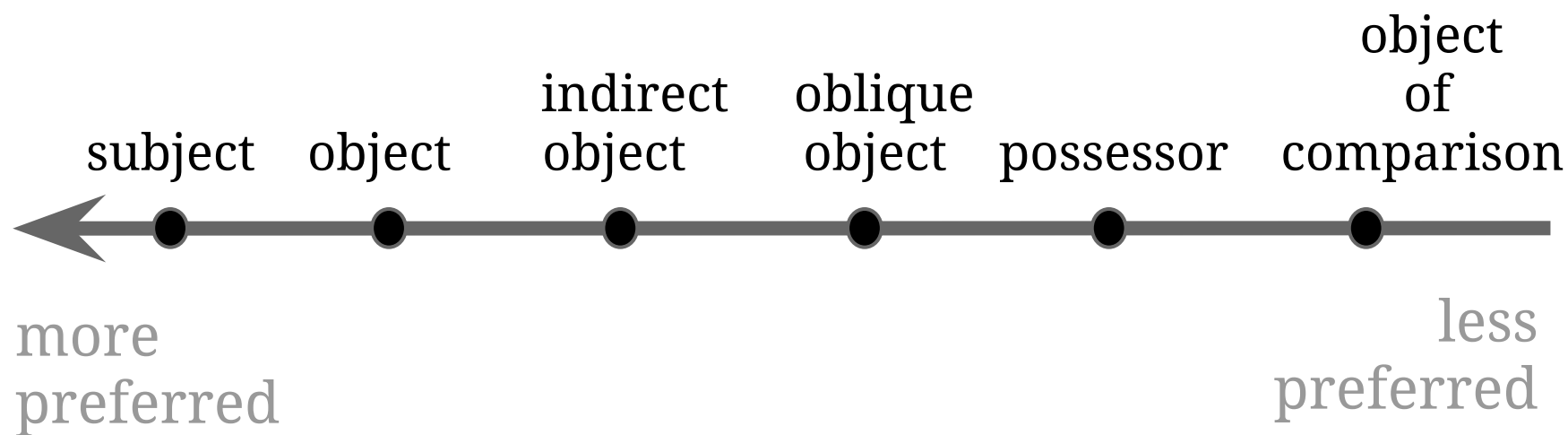
Possessor Relativization



Object of Comparison Relativization

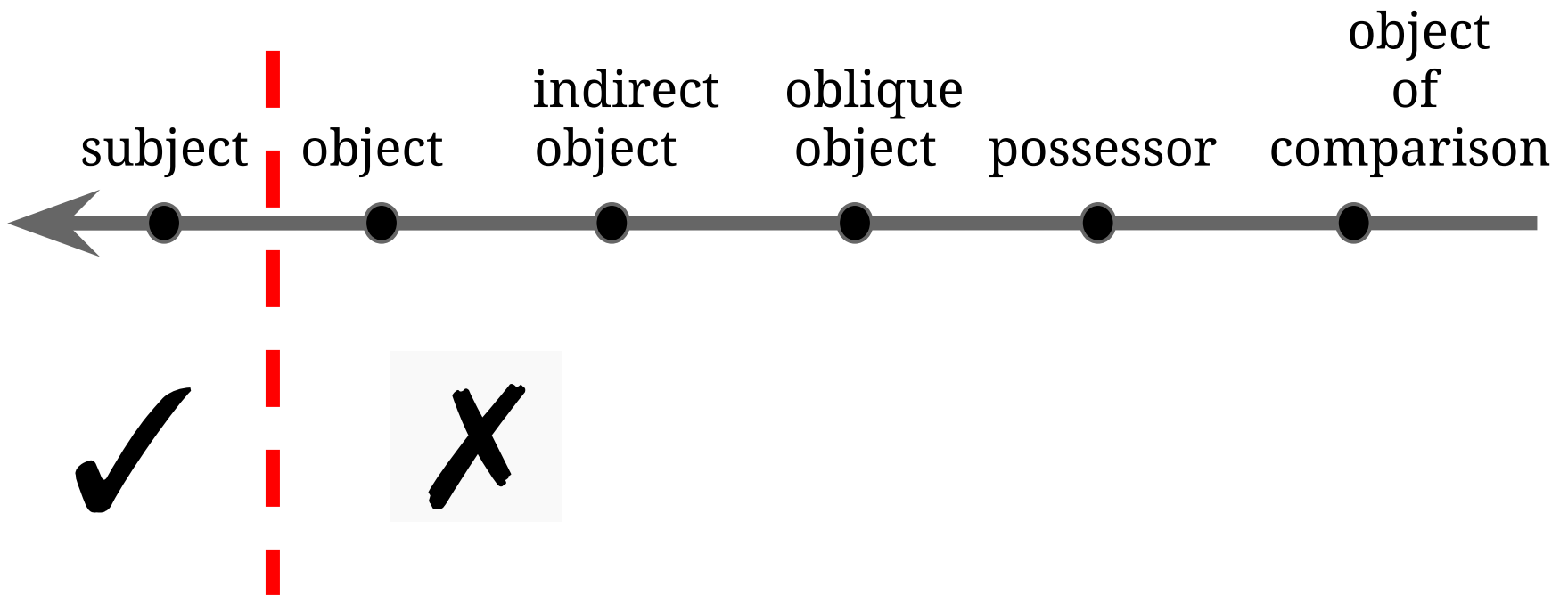


The Accessibility Hierarchy



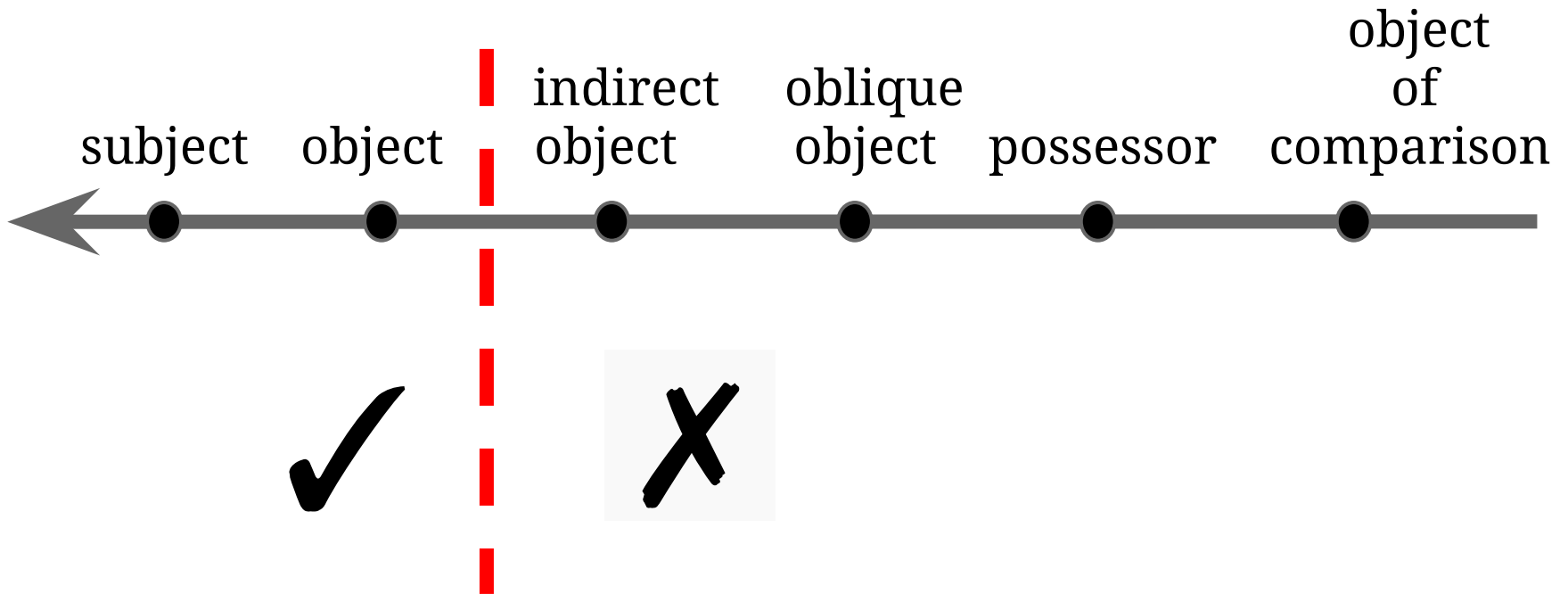
Keenan and Comrie
(1977, 1979)

The Accessibility Hierarchy: Relativization



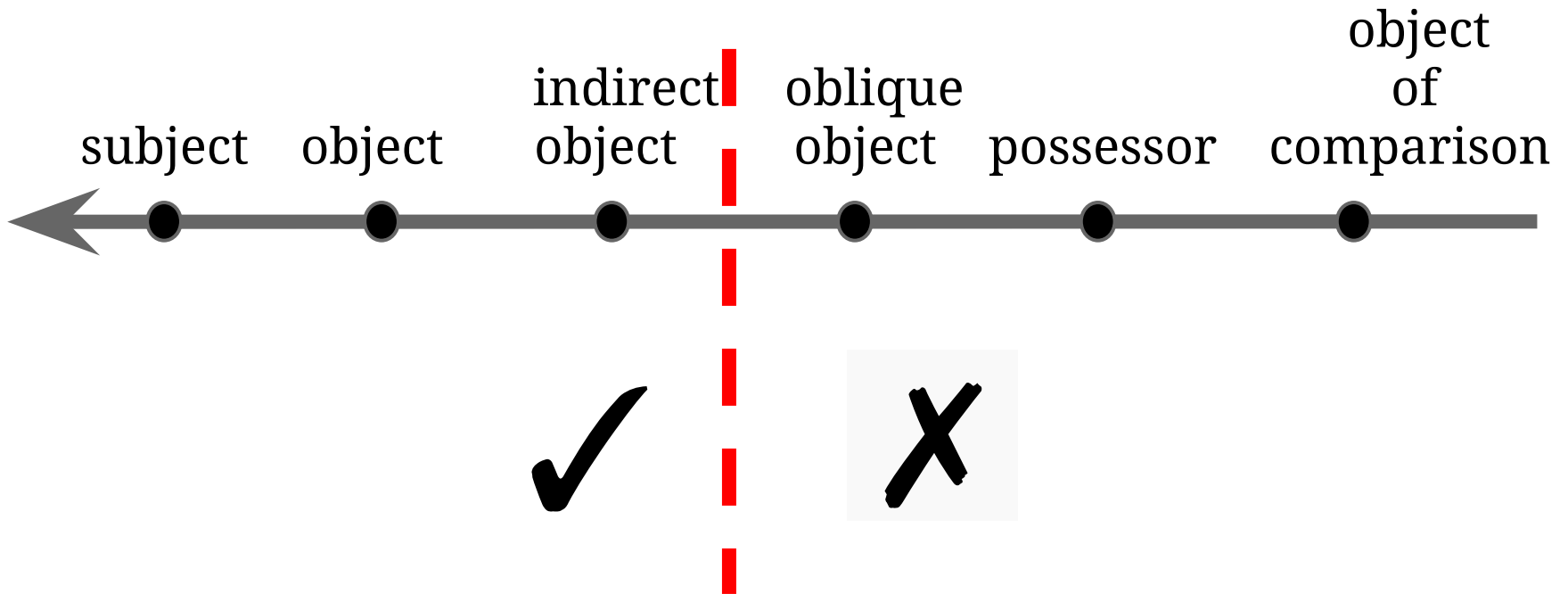
Malagasy

The Accessibility Hierarchy: Relativization



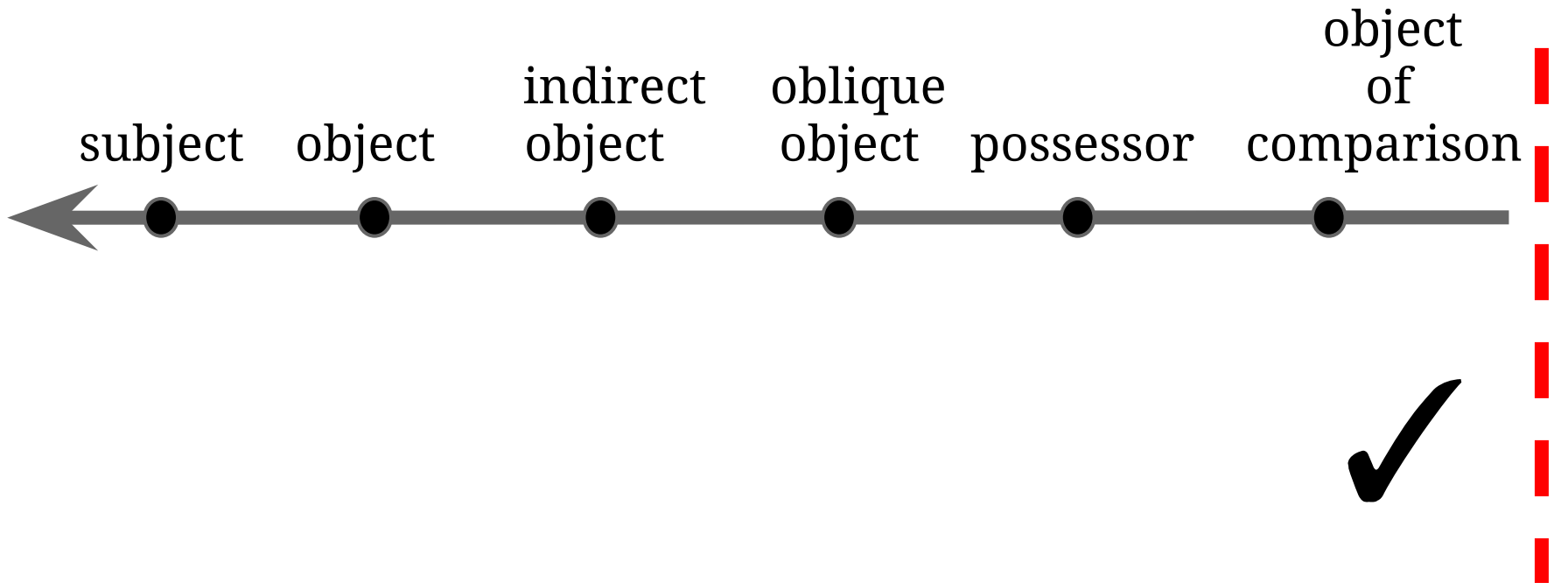
Kinyarwanda, Welsh

The Accessibility Hierarchy: Relativization



North Frisian

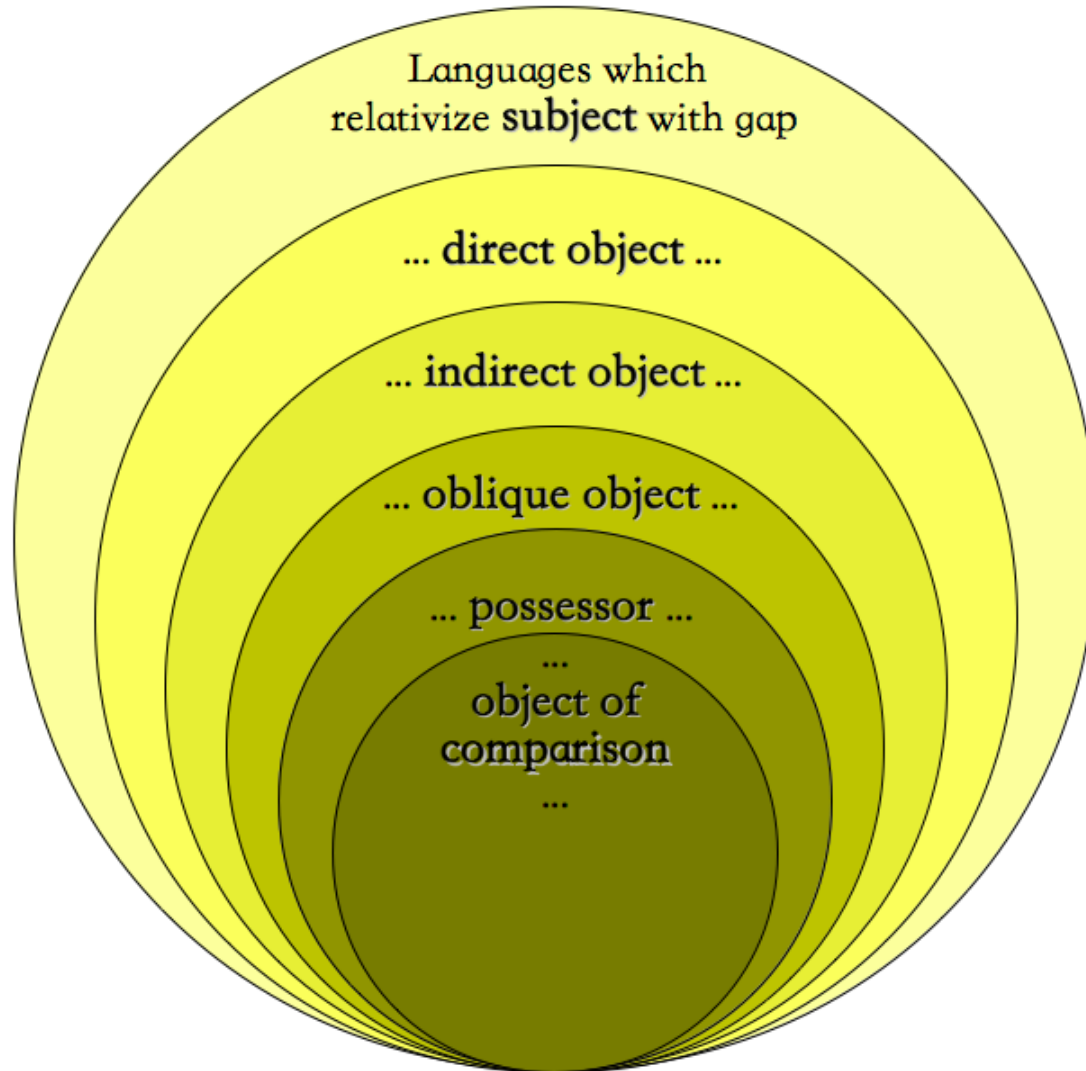
The Accessibility Hierarchy: Relativization



English, Avar

Polinsky, M. LING 130 handout.

Accessibility Hierarchy: Relativization

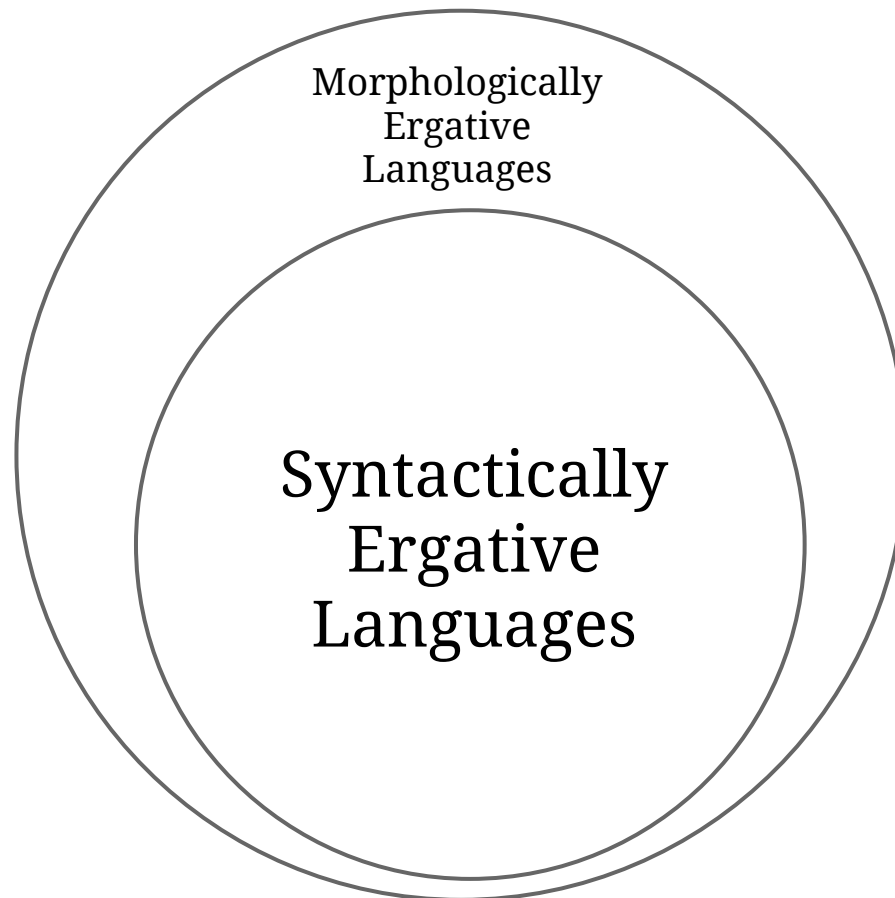


Exceptions to Subject Preference: Syntactic Ergativity

- 27/32 morphologically ergative languages in WALS prohibit A-bar movement of ergatives (p. 274)

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Why?

Exceptions to Subject Preference: Syntactic Ergativity

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The Processing Account (Hawkins, 2004, inter alia):

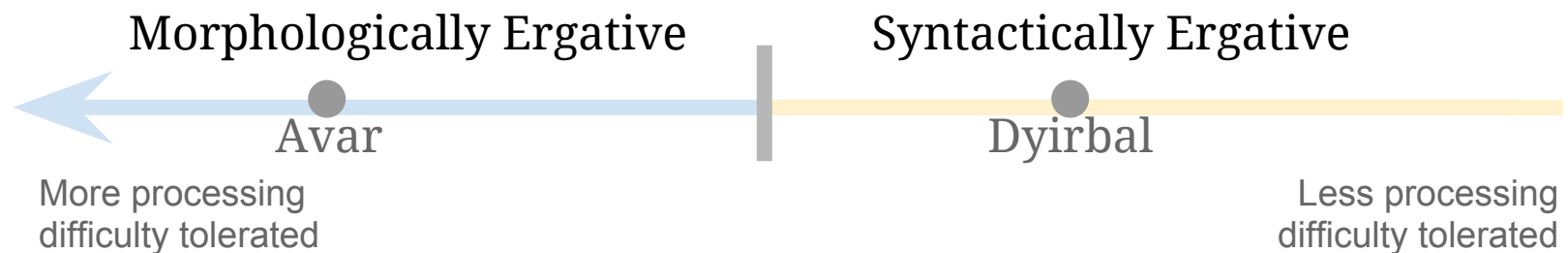
Syntactic ergativity is the grammaticalization of a gradient processing constraint

Exceptions to Subject Preference: Syntactic Ergativity

- 27/32 morphologically ergative languages in WALS prohibit A-bar movement of ergatives (p. 274)

The Processing Account (Hawkins, 2004, inter alia):

Syntactic ergativity is the grammaticalization of a gradient processing constraint



Grammatical Function and Case in Nominative-Accusative Languages

	NOM	ACC
SUB	✓	
OBJ		✓

Effects of Grammatical Function and Morphological Cueing on Relativization in Nominative-Accusative Languages

Subject Preference:

	NOM	ACC
SUB		
OBJ		

Effects of Grammatical Function and Morphological Cueing on Relativization in Nominative-Accusative Languages

Morphological Cueing:

	NOM	ACC
SUB		
OBJ		

Effects of Grammatical Function and Morphological Cueing on Relativization in Nominative-Accusative Languages

Subject Preference + Morphological Cueing:

	NOM	ACC
SUB		
OBJ		

Grammatical Function and Case in Ergative-Absolutive Languages

	ABS	ERG
SUB	✓	✓
OBJ	✓	

Effects of Grammatical Function and Morphological Cueing on Relativization in Ergative-Absolutive Languages

Subject Preference:

	ABS	ERG
SUB		
OBJ		

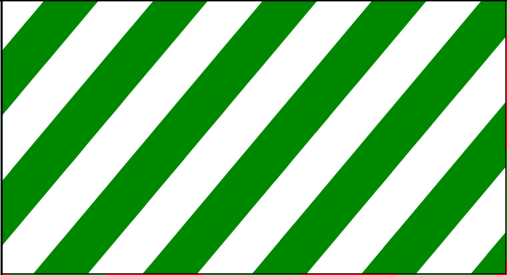



Effects of Grammatical Function and Morphological Cueing on Relativization in Ergative-Absolutive Languages

Morphological Cueing:

	ABS	ERG
SUB	?	
OBJ		

Effects of Grammatical Function and Morphological Cueing on Relativization in Ergative-Absolutive Languages

Subject Preference + Morphological Cueing:

	ABS	ERG
SUB		
OBJ		

"An investigation into the processing of ergative languages therefore offers us a special opportunity to explore the respective roles of grammatical functions and of case forms in the parsing of relative clauses, which are indistinguishable in accusative languages. "

(p. 268)

Avar

Nakh-Daghestanian (N.E. Caucasian) > Avar-Andic-Tsezic > Avar-Andic
(Comrie, 2008)

- ~800,000 speakers (Comrie, 2008)
- ~700,000 (Polinsky, et al., 2012)
- Gradually giving way to Russian
- Modest written tradition
- N.W. & Central Dagestan, Azerbaijan, Turkey (~30,000 in Moscow)

Ethnolinguistic Groups in the Caucasus Region



Ethnolinguistic Groups in the Caucasus Region



Avar

- (Flexible but mostly) **SOV**:

	Subject	Object	Verb
(3) a.	was:-as: boy-ERG	šiša bottle.ABS	b-ek-ana III-break-PAST
	‘The boy broke a/the bottle.’		

Avar

- SOV
- **Head-final:**

[__ _i	xalq'iya-y	artistka-yal-da-ask'o-y	repetici-yal-de	č':u-n	y-ik'-ara-y]	yas _i	best'ala-y	y-igo
	people's-II	actress-OBL-LOC-near-II	rehearsal-OBL-LOC	standing-GER	PRTCP-II	girl.ABS	orphaned-II	II-AUX

Complement Relative Clause

Head
Noun

'The girl that stood next to the distinguished actress at the rehearsal is an orphan.'
(9)

(p. 272)

Avar

- SOV
- Head-final
- Morphologically (not syntactically)

ergative:

(3)

a.

ERG	ABS	Verb
was:-as: boy-ERG	šiša bottle.ABS	b-ek-ana III-break-PAST

‘The boy broke a/the bottle.’

b.

ABS	Oblique Object	Verb
was boy.ABS	ruq’o-w-e home-I-LAT	-an-ila go-PAST

‘The boy went home.’

Avar

- SOV
- Head-final
- Morphologically (not syntactically) ergative
- Allows relativization of all arguments, and relativization *with gaps* of absolutive subject, absolutive object, and ergative subject

Method

- Used the standard literary dialect of Avar
- Self-paced reading methodology
- Conducted in Moscow
- 46 participants, 21 female; average age 31
- 17 participants visiting from Dagestan
- Average accuracy rate lower than "traditionally allowed" (p. 272)

Method: Self-Paced Reading

The quick brown fox jumps over the lazy dog.

The

_____.

_____ quick _____

_____ brown _____

fox

_____ jumps _____.

_____ over _____.

_____ the _____.

_____ lazy _____.

_____ ' dog.

Analysis

The quick brown fox jumps over the lazy dog.

W1

W2

W3

W4

W5

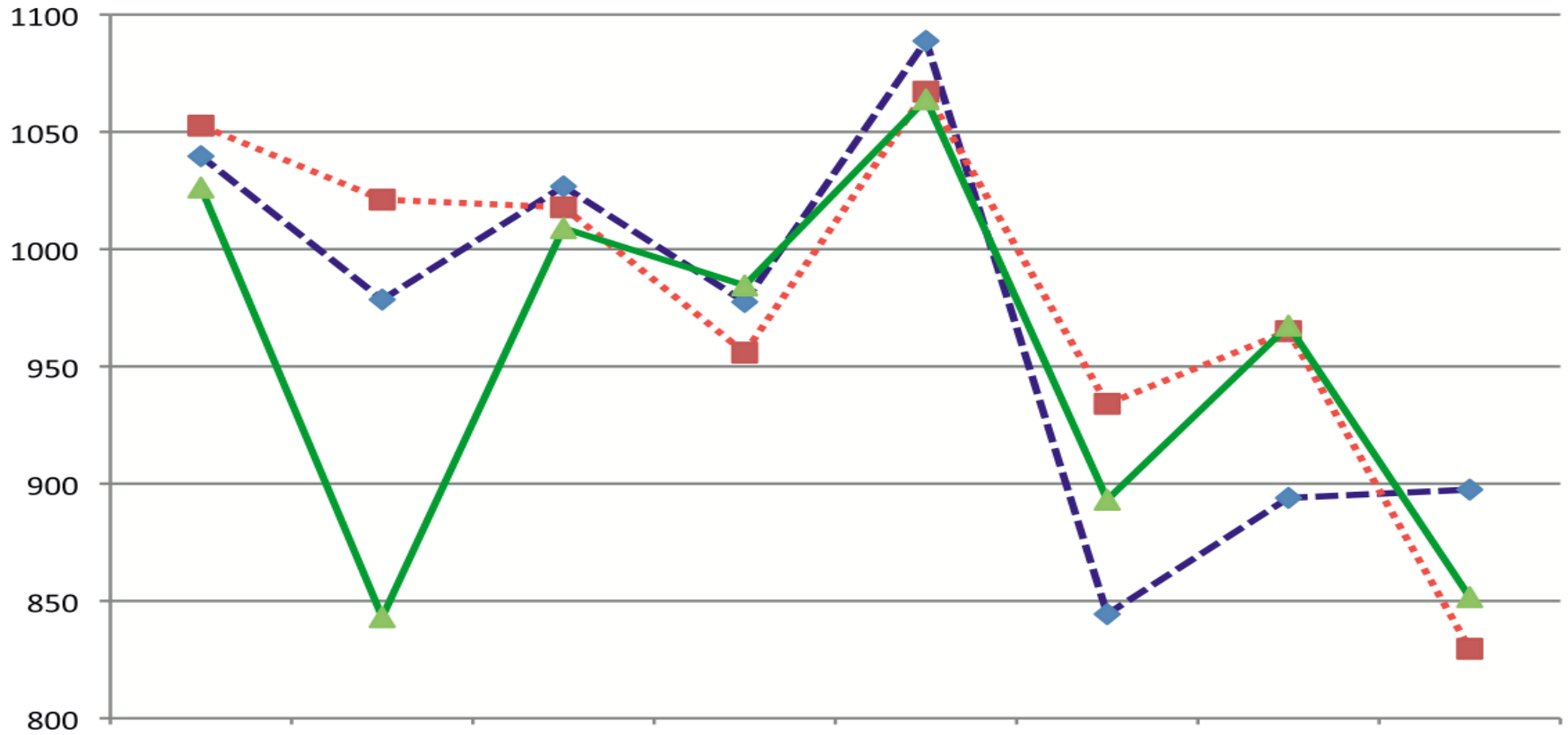
W6

W7

W8

W9

Analysis



The quick brown fox jumps over the lazy dog.

W1

W2

W3

W4

W5

W6

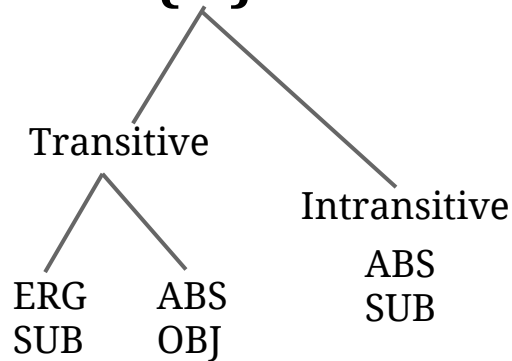
W7

W8

W9

Materials

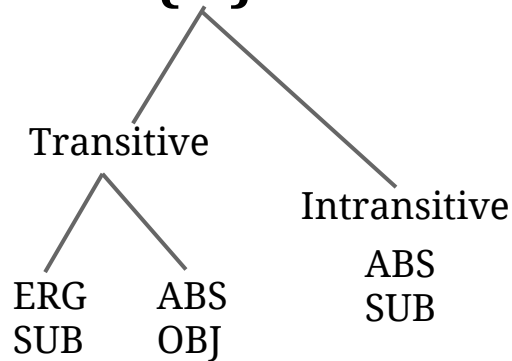
- 18 x {3} sentences w/ gapped relative clauses



- 110 fillers
- Comprehension questions every ~4 sentences

Materials

- 18 x {3} sentences w/ gapped relative clauses



(Each participant saw all items.)

- 110 fillers
- Comprehension questions every ~4 sentences

Materials

- All sentences matched in **number of words**
- All constituents matched in **number of syllables**
- Nouns matched in **animacy**
- Even distribution of **unaccusative-/unergative-** type verbs
- Head noun in **absolute** case half the time, **ergative** case half the time



Absolute subject gap

Absolute subject gap

(9) *Absolute subject gap (intransitive subject RC)*

[_i xalq'iya-y artistka-yal-da-ask'o-y repetici-yal-de č':u-n
people's-II actress-OBL-LOC-near-II rehearsal-OBL-LOC standing-GER
y-ik'-ara-y] yas_i best'ala-y y-igo
PRTCP-II girl.ABS orphaned-II II-AUX

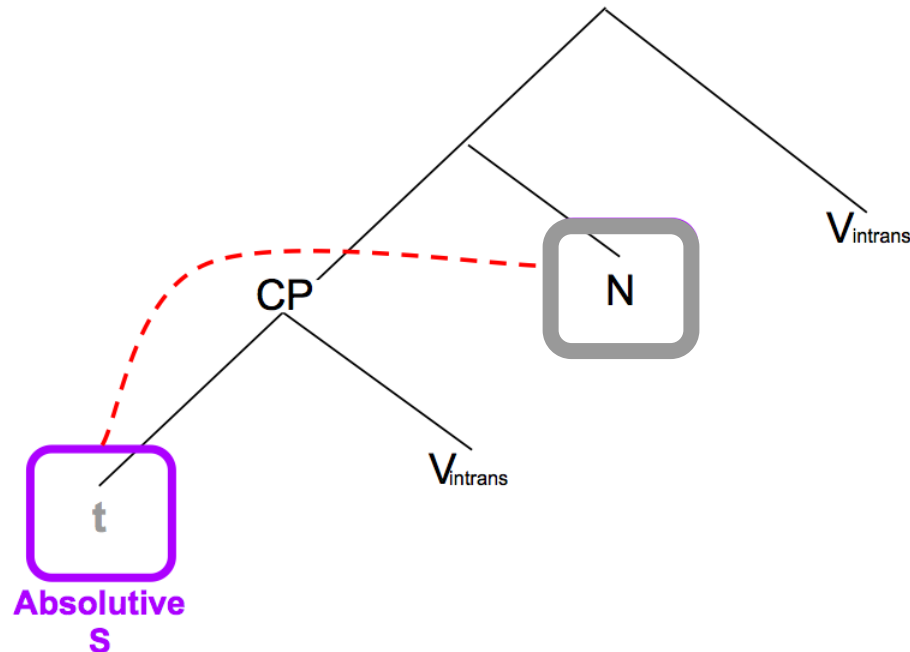
'The girl that stood next to the distinguished actress at the rehearsal is an orphan.'

Absolute subject gap

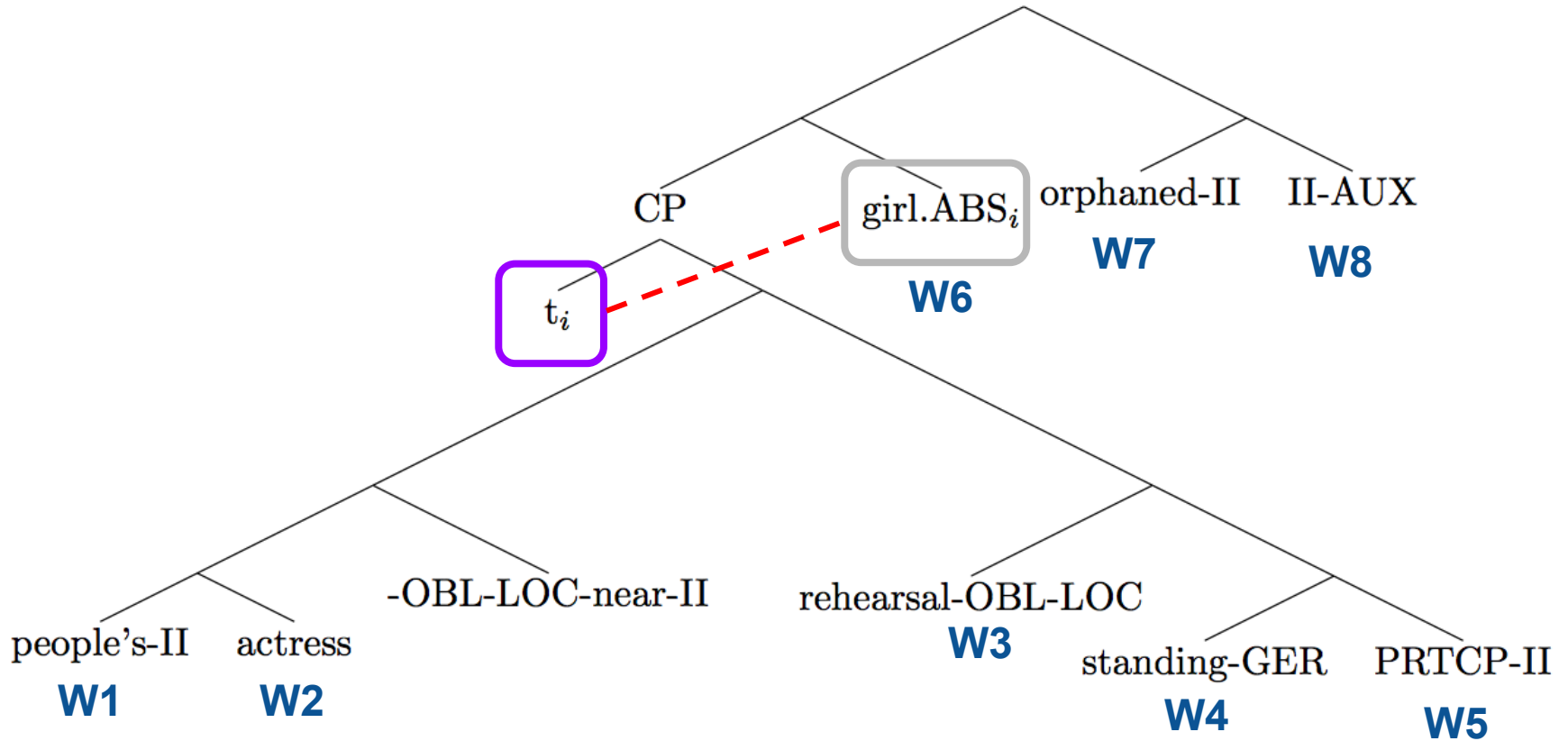
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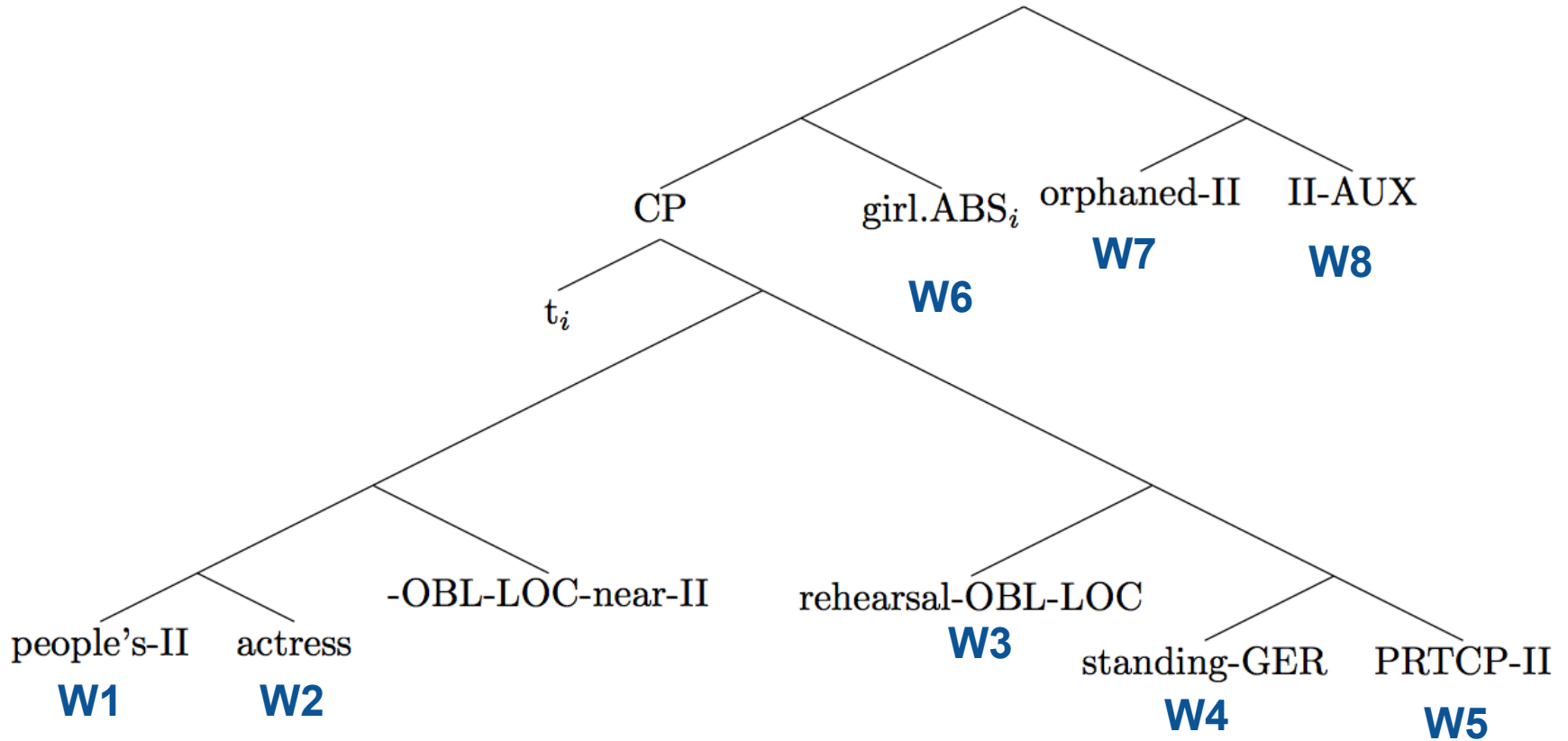
Absolute subject gap



t_i people's-II actress-OBL-LOC-near-II rehearsal-OBL-LOC standing-GER PRTCP-II girl.ABS_i orphaned-II II-AUX

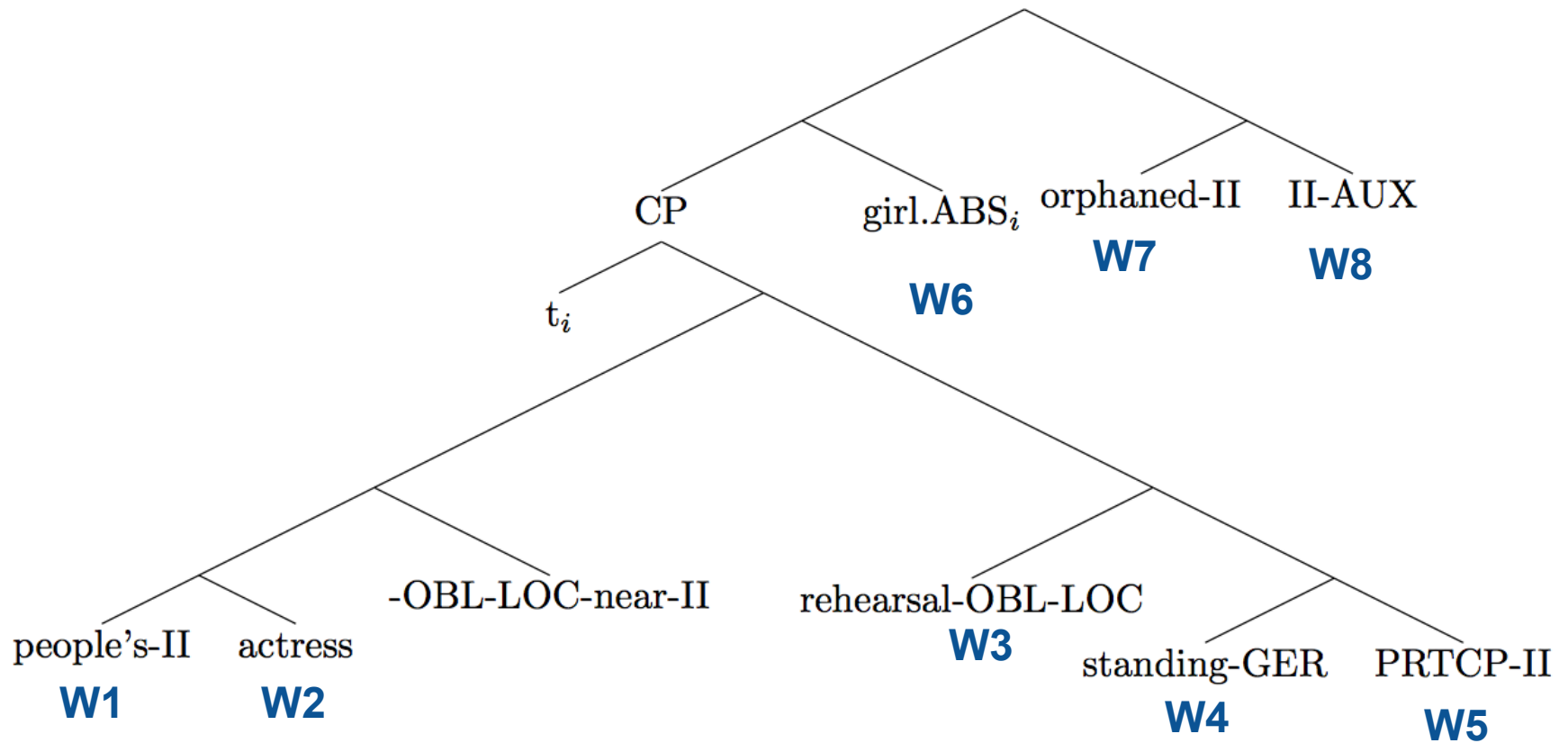
W1 W2 W3 W4 W5 W6 W7

Morphological Cueing



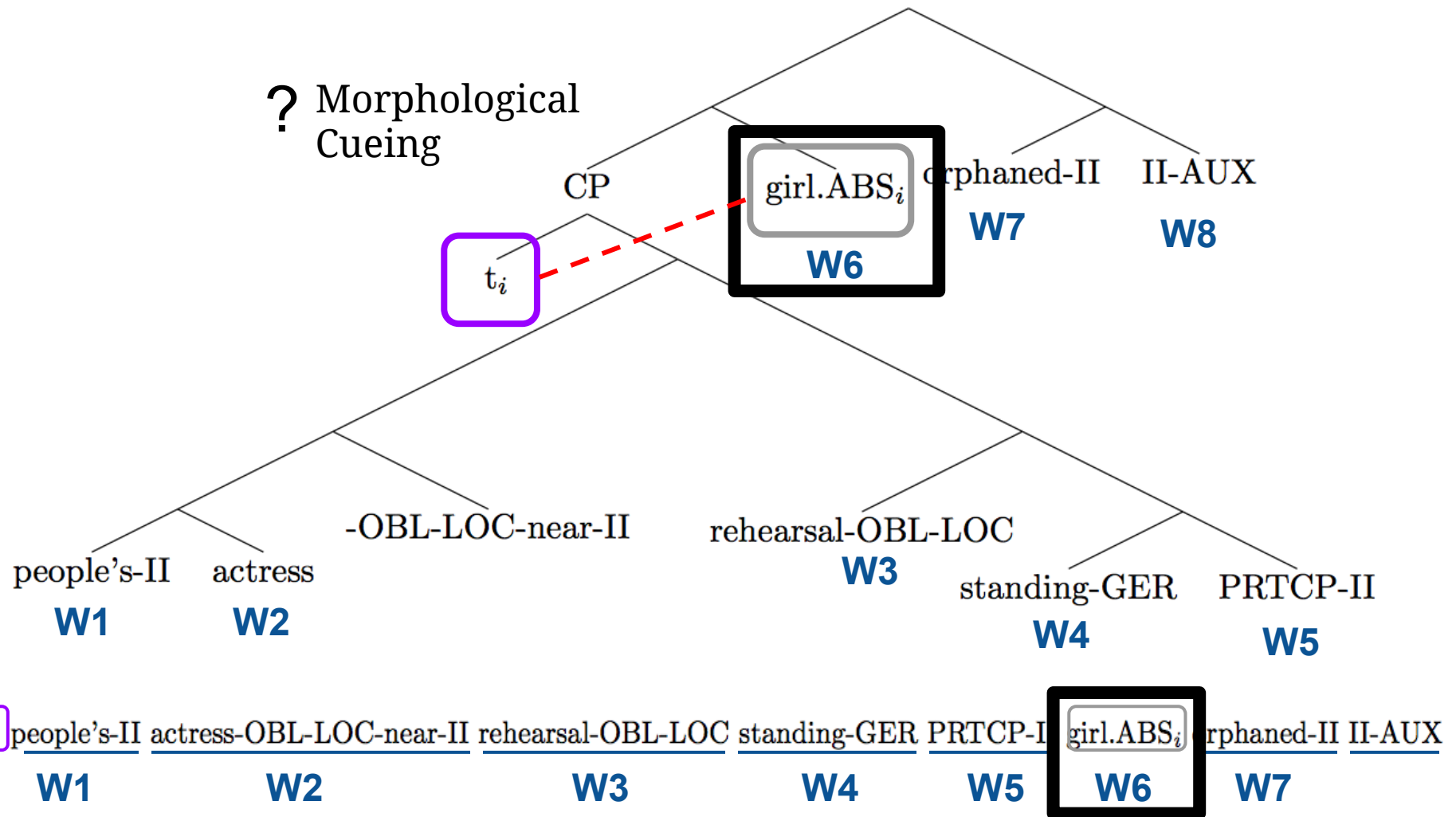
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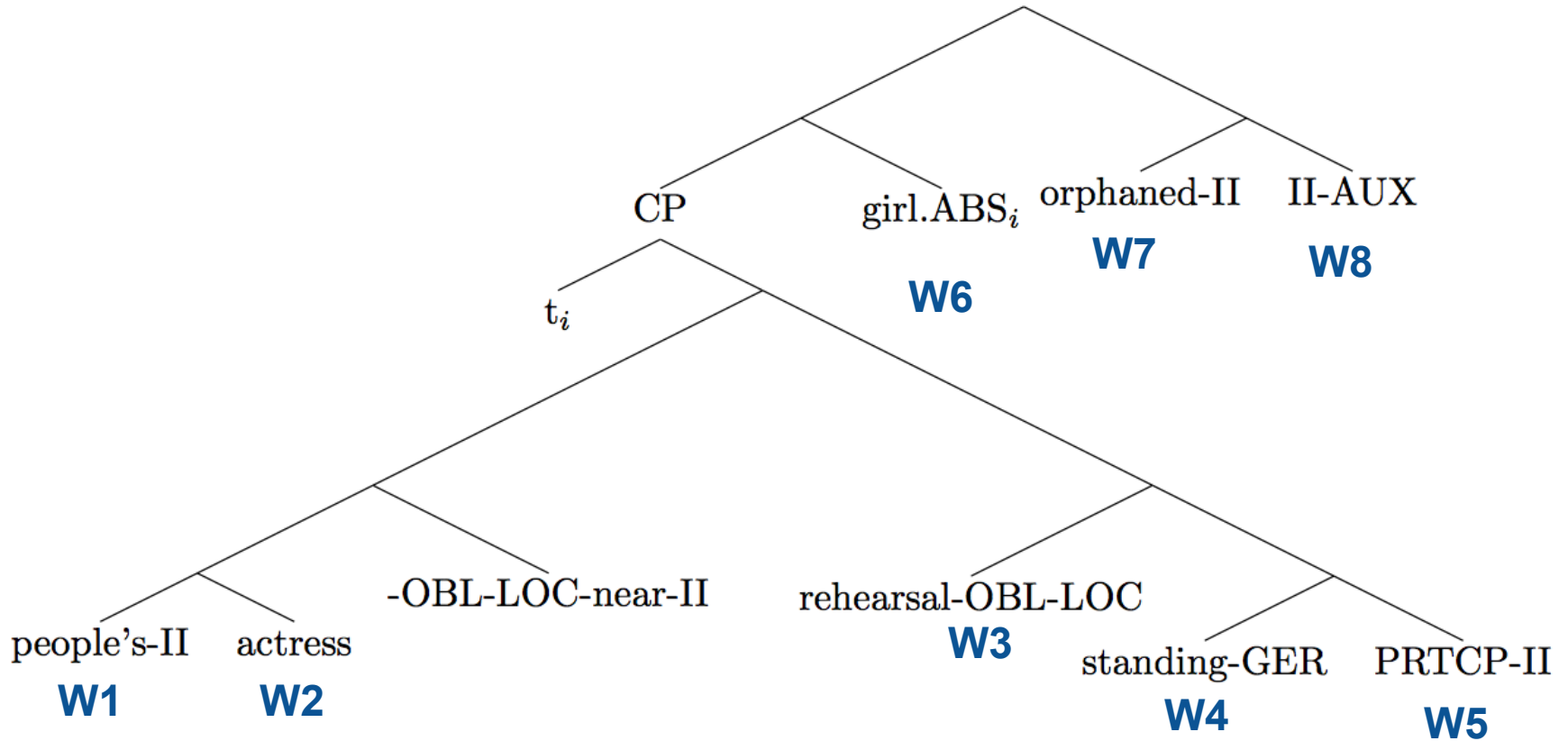


t_i people's-II actress-OBL-LOC-near-II rehearsal-OBL-LOC standing-GER PRTCP-II girl.ABS_i orphaned-II II-AUX
W1 **W2** **W3** **W4** **W5** **W6** **W7**

Morphological Cueing



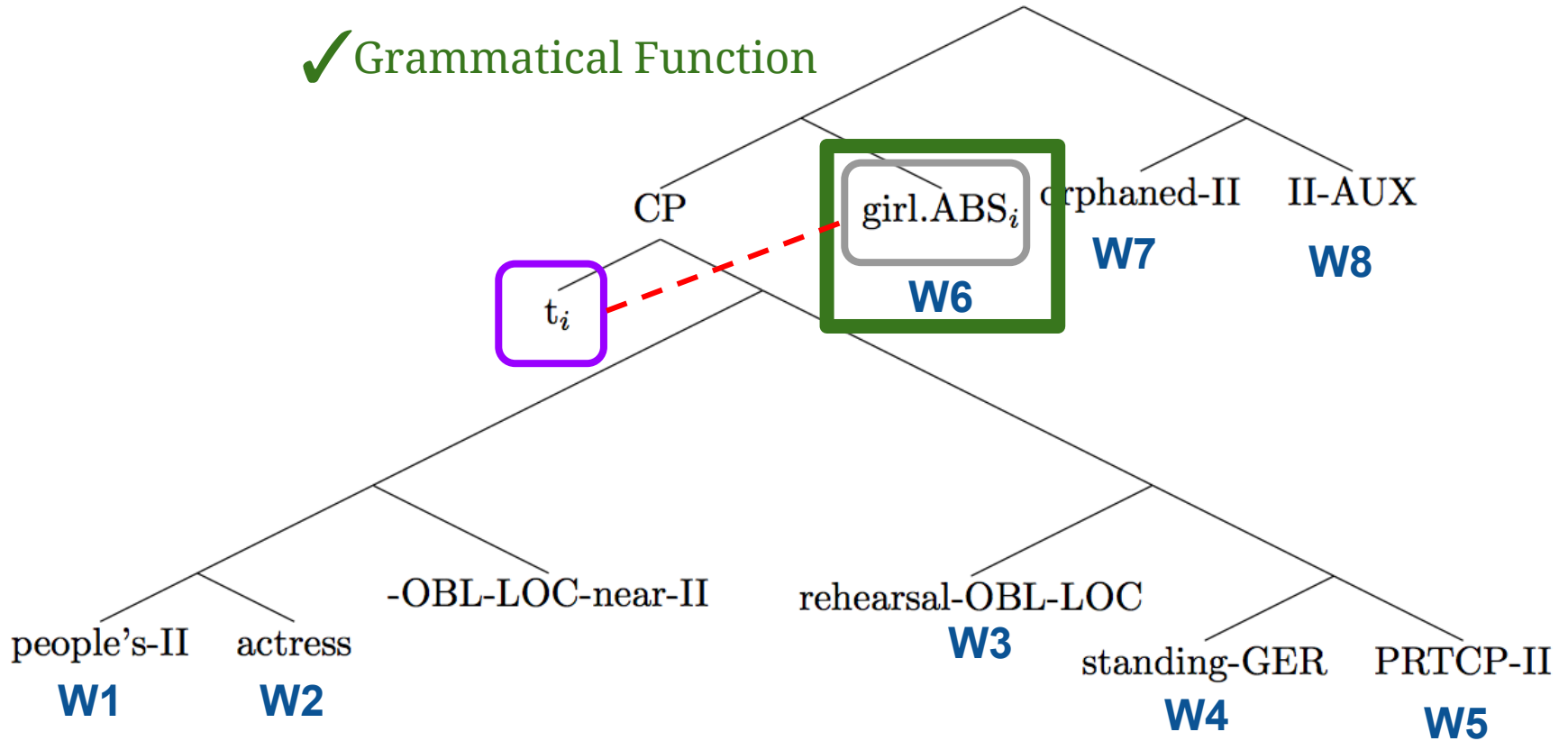
Grammatical Function



t_i people's-II actress-OBL-LOC-near-II rehearsal-OBL-LOC standing-GER PRTCP-II girl.ABS_{*i*} orphaned-II II-AUX
W1 **W2** **W3** **W4** **W5** **W6** **W7**

Grammatical Function

✓ Grammatical Function



t_i people's-II actress-OBL-LOC-near-II rehearsal-OBL-LOC standing-GER PRTCP-II girl.ABS_i orphaned-II II-AUX
W1 **W2** **W3** **W4** **W5** **W6** **W7** **W8**



Absolute object gap

Absolute object gap

(8) *Absolute object gap (object RC)*

[xalq'iya-y	artistka-yał	— _i	repetici-yal-de	y-ač':-un	y-ač'-ara-y]
people's-II	actress-ERG		rehearsal-OBL-LOC	II-bring-GER	II-come-PRTCP-II
yas _i	bercina-y		y-igo		
girl.ABS	beautiful-II		II-AUX		

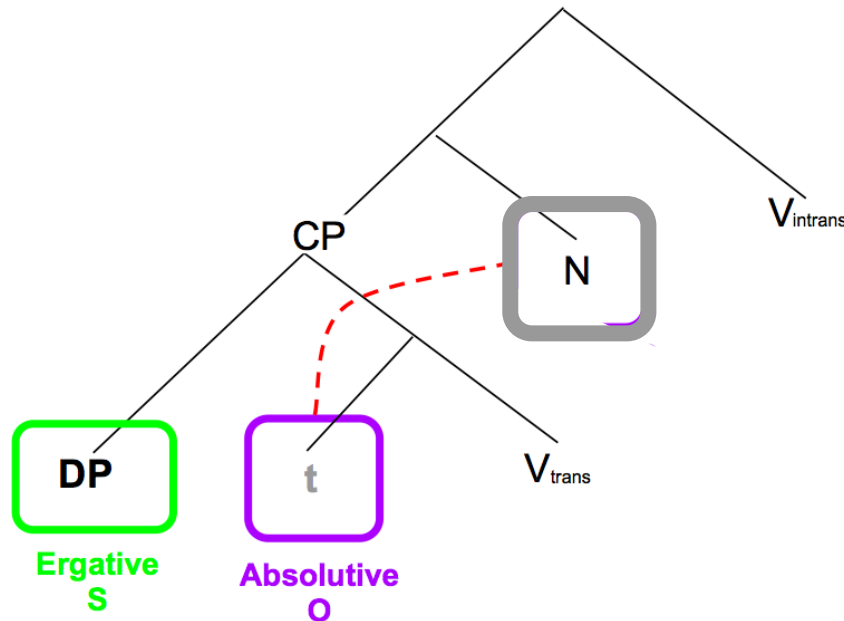
'The girl that the distinguished actress brought to the rehearsal is pretty.'

Absolute object gap

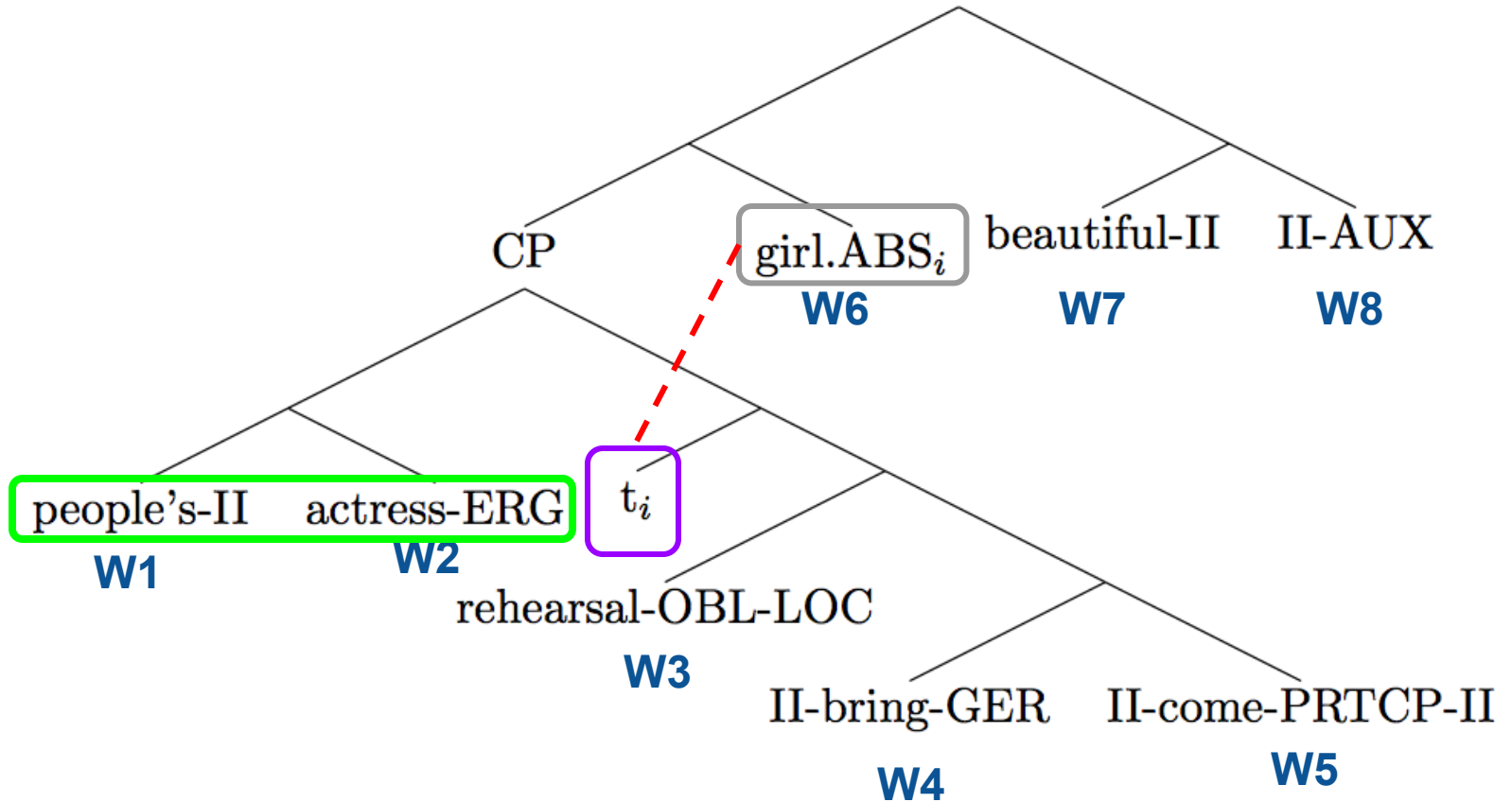
(8) *Absolute object gap (object RC)*

[xalq'iya-y people's-II	artistka-yał actress-ERG	— _i	repetici-yal-de rehearsal-OBL-LOC	y-ač':-un II-bring-GER	y-ač'-ara-y] II-come-PRTCP-II
yas _i girl.ABS	bercina-y beautiful-II		y-igo II-AUX		

'The girl that the distinguished actress brought to the rehearsal is pretty.'



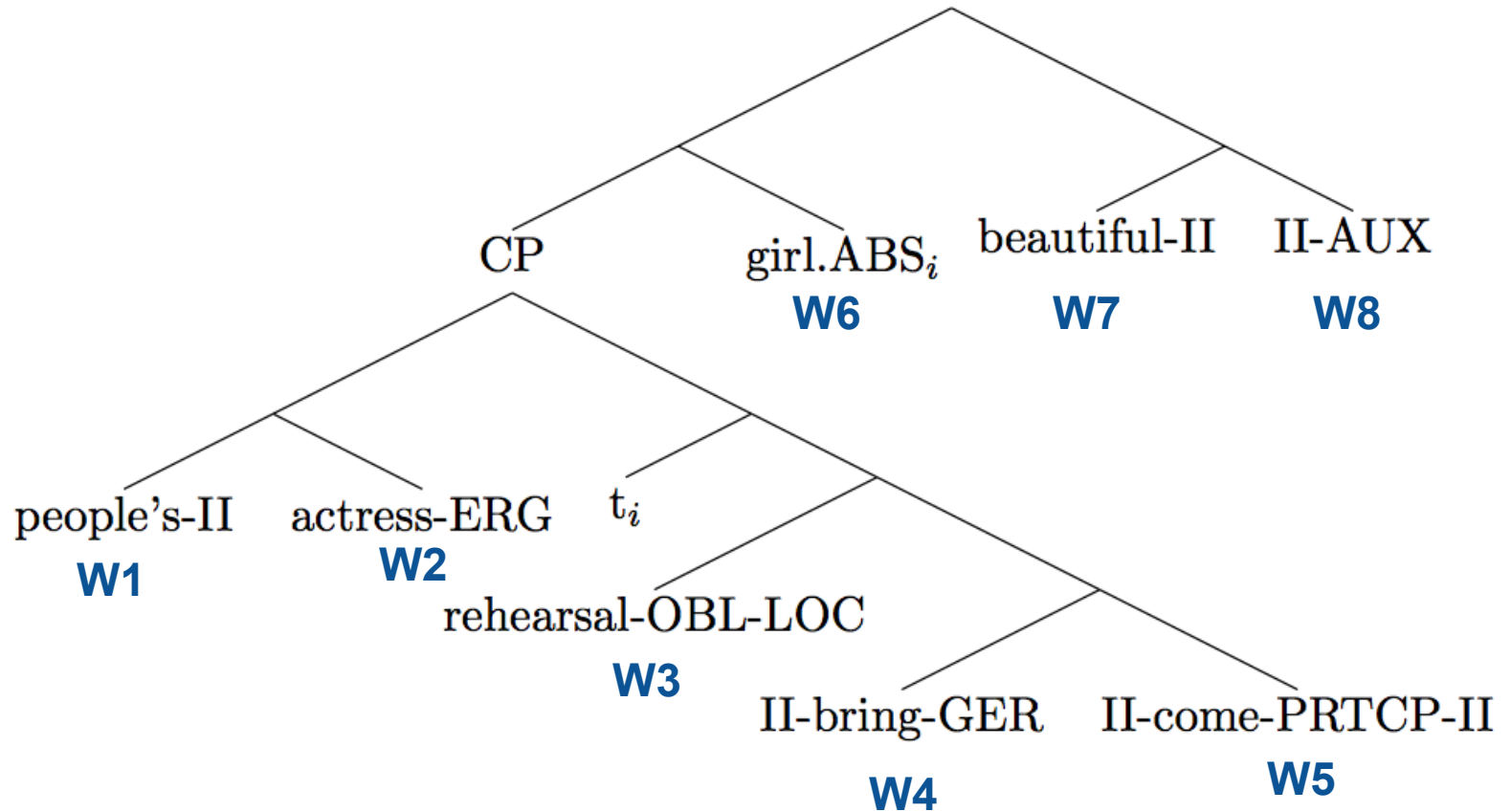
Absolute object gap



people's-II actress-ERG t_i rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II girl.ABS_i beautiful-II II-AUX

W1 W2 W3 W4 W5 W6 W7 W8

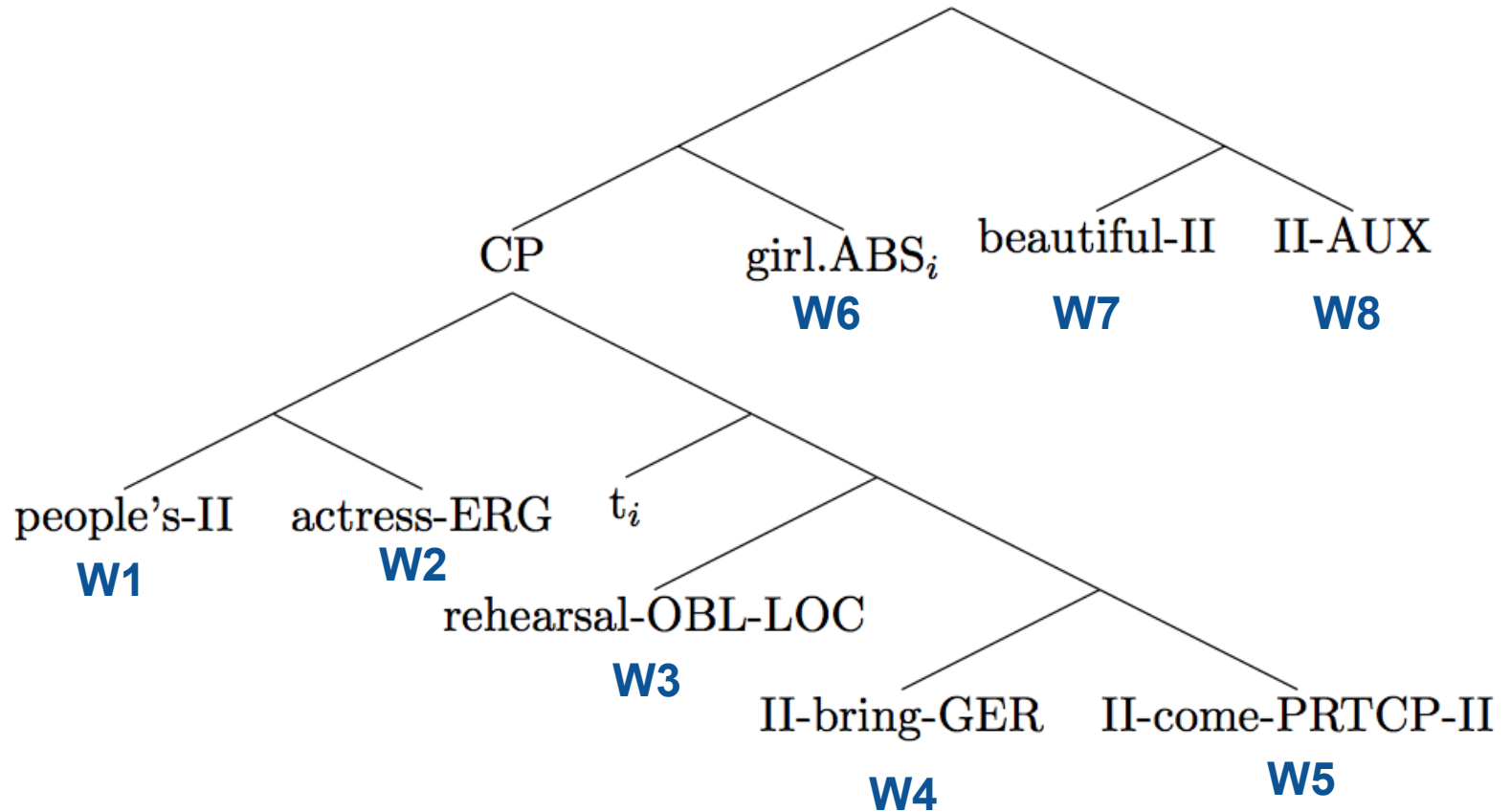
Morphological Cueing



people's-II actress-ERG t_i rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II girl.ABS_i beautiful-II II-AUX

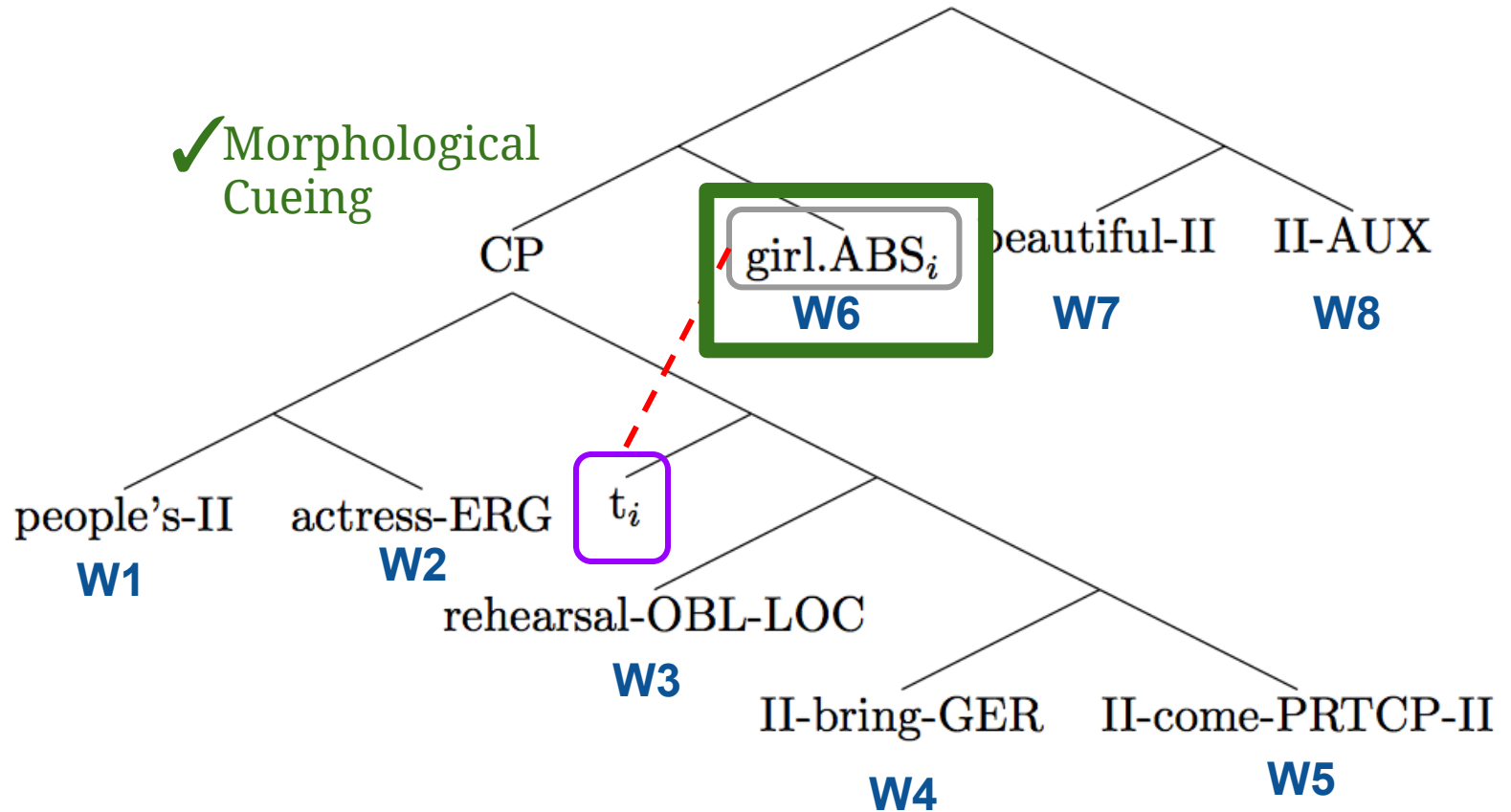
W1 **W2** W3 W4 W5 W6 W7 W8

Morphological Cueing



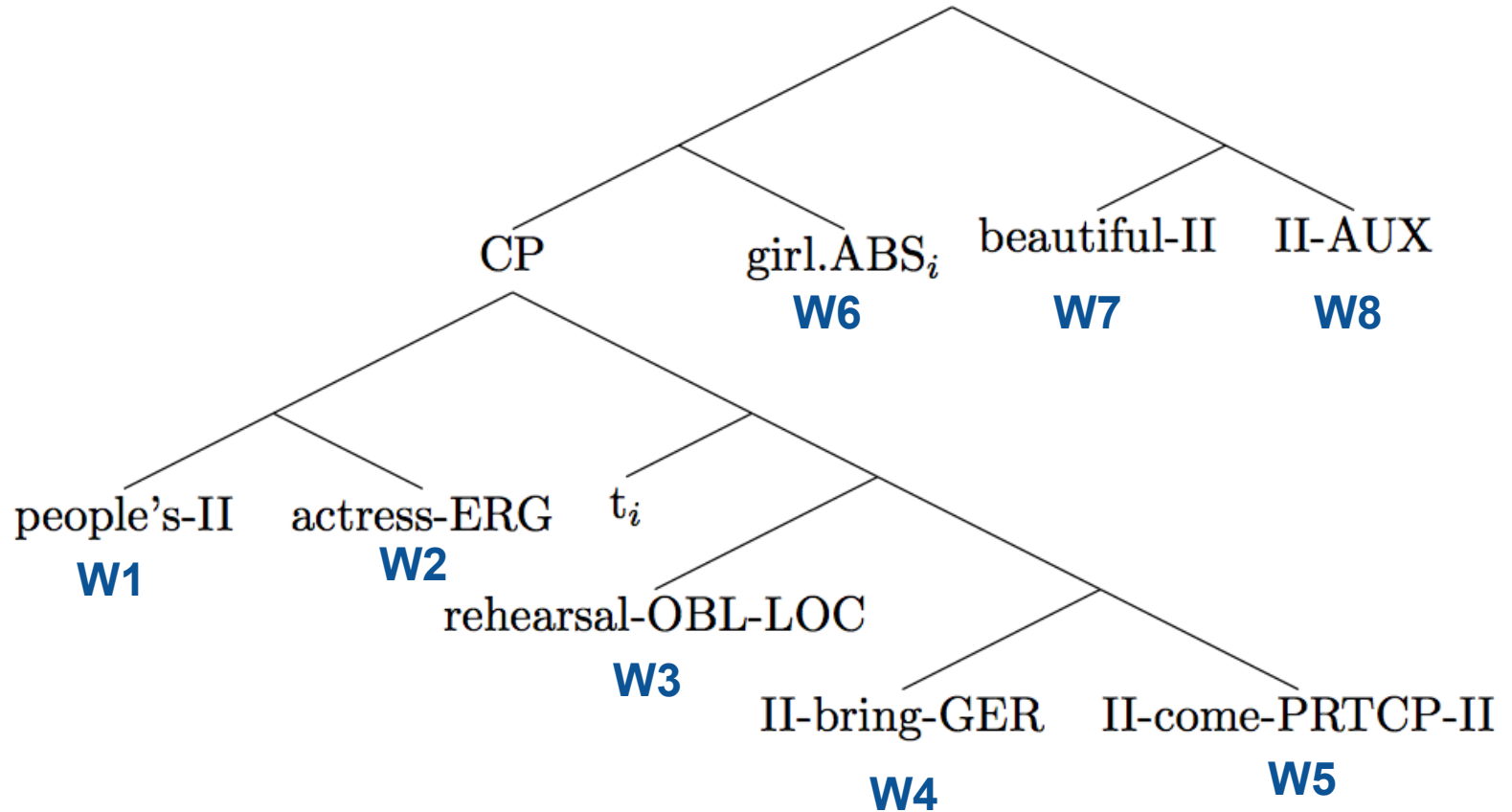
people's-II actress-ERG t_i rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II girl.ABS_i beautiful-II II-AUX
W1 **W2** **W3** **W4** **W5** **W6** **W7** **W8**

Morphological Cueing



people's-II W1 actress-ERG W2 t_i rehearsal-OBL-LOC W3 II-bring-GER W4 II-come-PRTCP-II W5 girl.ABS_i W6 beautiful-II W7 II-AUX W8

Grammatical Function

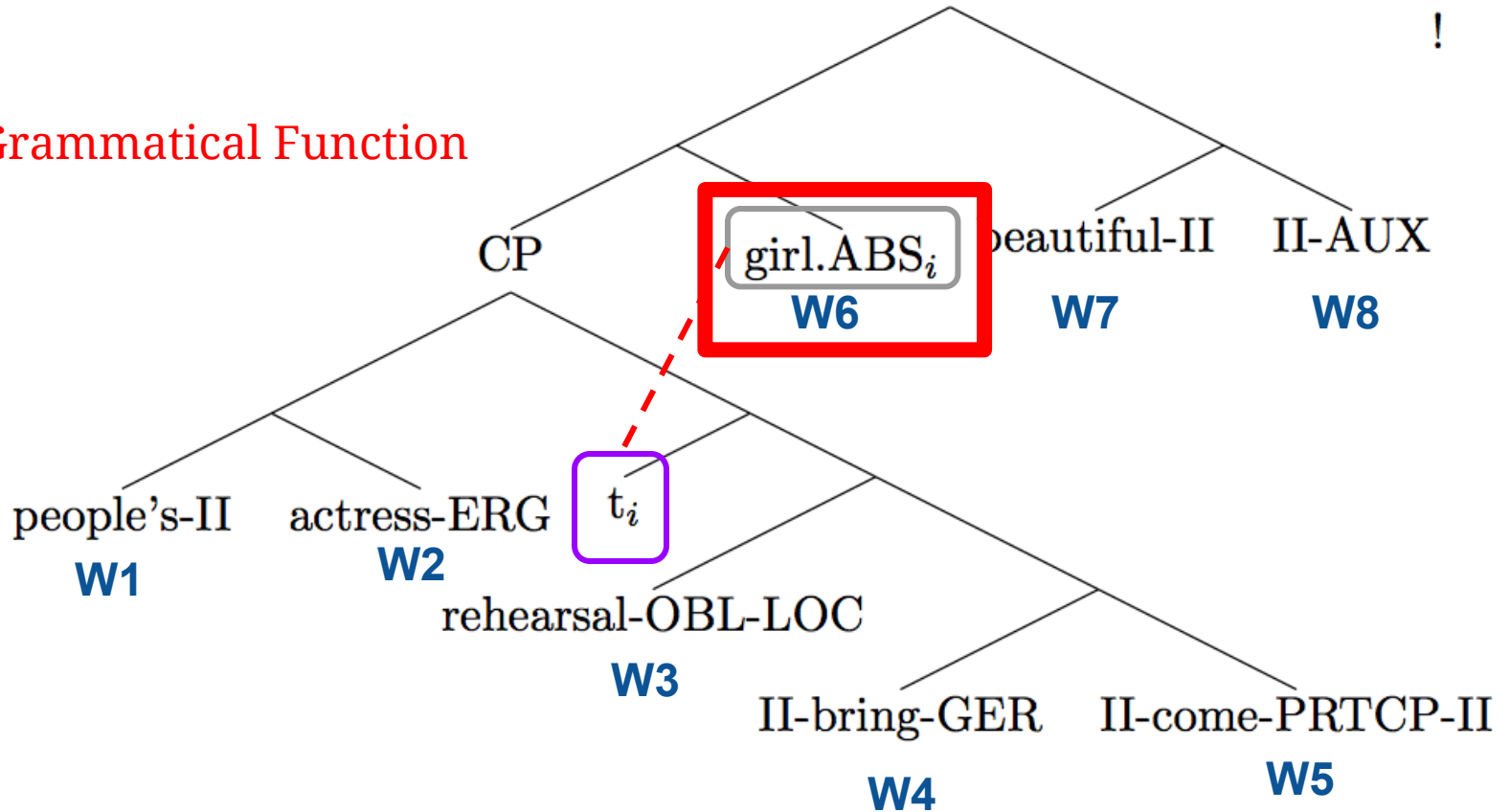


people's-II actress-ERG t_i rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II girl.ABS_{*i*} beautiful-II II-AUX

W1 **W2** **W3** **W4** **W5** **W6** **W7** **W8**

Grammatical Function

~~X~~ Grammatical Function



people's-II W1 actress-ERG W2 t_i rehearsal-OBL-LOC W3 II-bring-GER W4 II-come-PRTCP-II W5 girl.ABS_i W6 beautiful-II W7 II-AUX W8



Ergative subject gap

Ergative subject gap

(7) *Ergative subject gap (transitive subject RC)*

[—] _i	ŝoloqana-y yas unmarried-II girl.ABS	repetici-yal-de rehearsal-OBL-LOC	y-ač:-un II-bring-GER	y-ač'-ara-y] II-come-PRTC- II	
	W1	W2	W3	W4	W5 [RC PREDICATE]
	artistka _i actress.ABS	bercina-y beautiful-II	y-igo II-AUX		
	W6 [HEAD NOUN]	W7 [SPILL OVER]	W8		

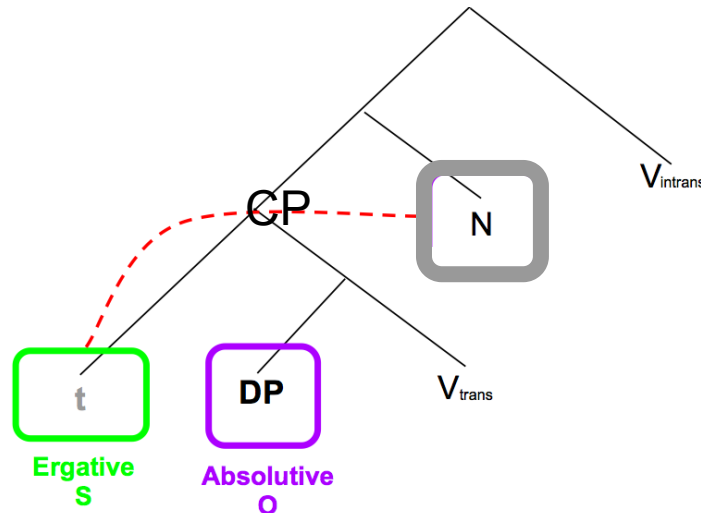
'The actress that brought the young girl to the rehearsal is pretty.'

Ergative subject gap

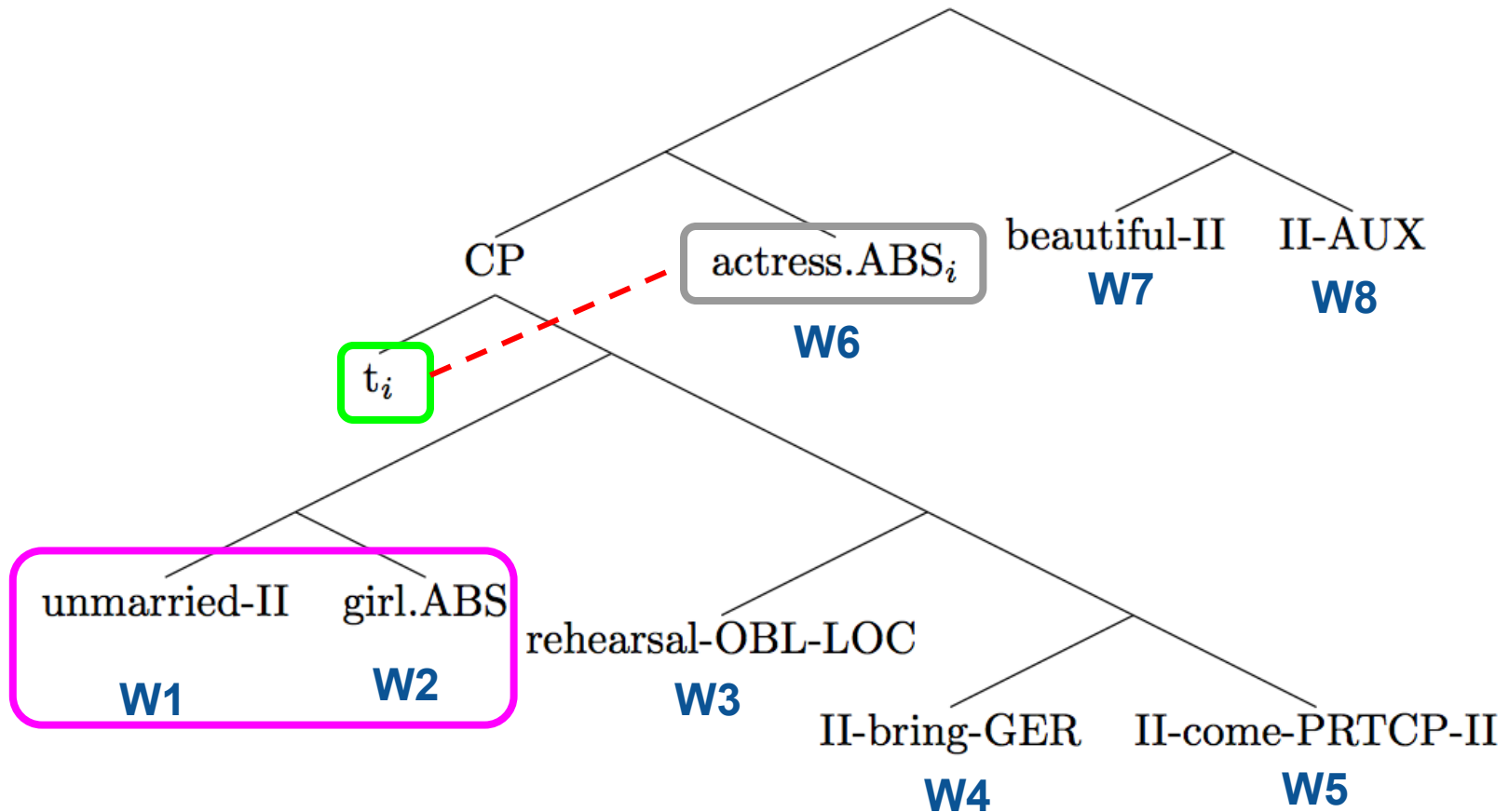
(7) Ergative subject gap (transitive subject RC)

[—] _i	ŝoloqana-y yas unmarried-II girl.ABS	repetici-yal-de rehearsal-OBL-LOC	y-ač’-un II-bring-GER	y-ač’-ara-y II-come-PRTC- II
	W1	W2	W3	W4
	artistka _i actress.ABS	bercina-y beautiful-II	y-igo II-AUX	W5 [RC PREDICATE]
	W6 [HEAD NOUN]	W7 [SPILL OVER]	W8	

‘The actress that brought the young girl to the rehearsal is pretty.’

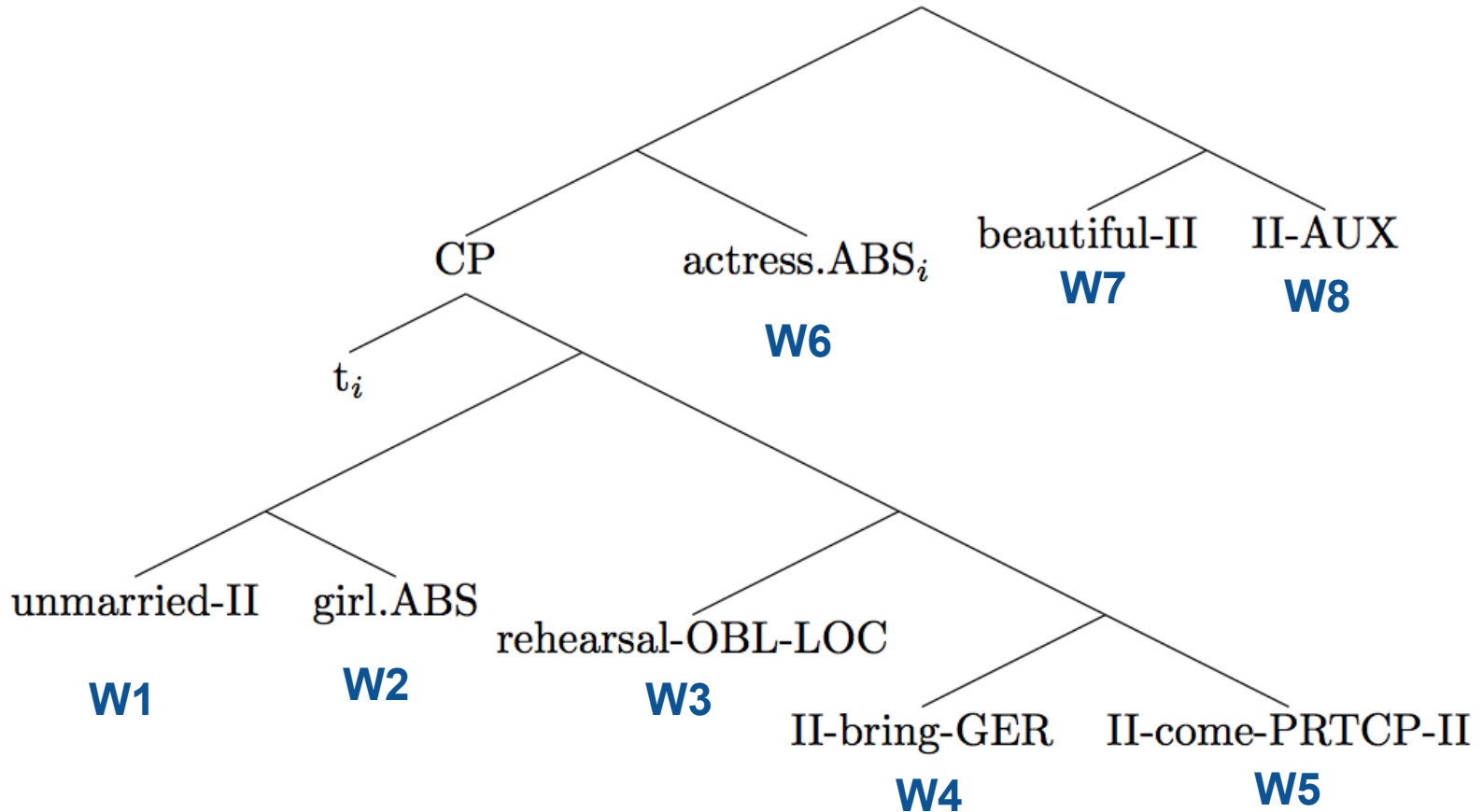


Ergative subject gap



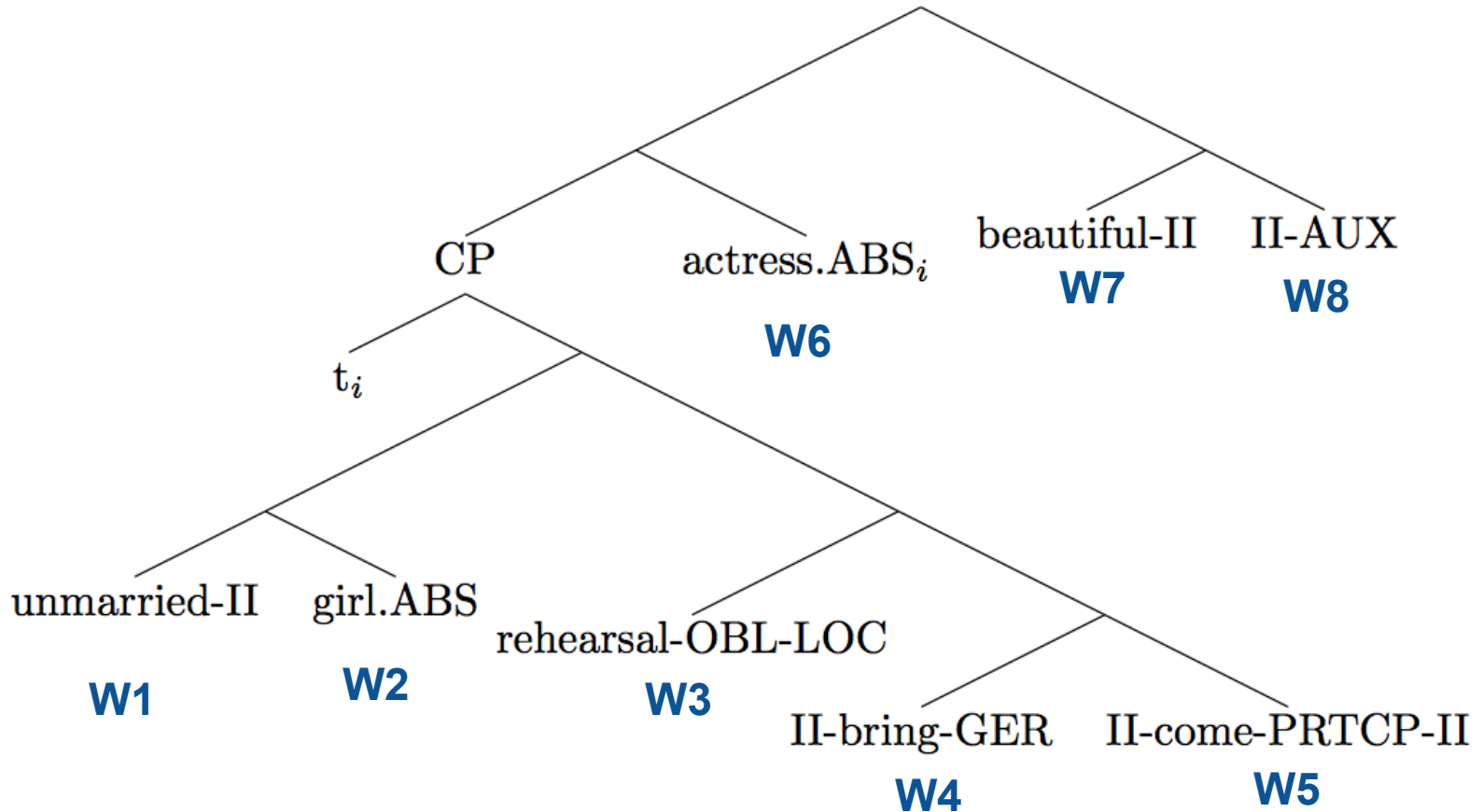
t_i
unmarried-II girl.ABS rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II
actress.ABS_i
beautiful-II II-AUX
 W1 W2 W3 W4 W5 W6 W7 W8

Morphological Cueing



t_i unmarried-II girl.ABS rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II actress.ABS_i beautiful-II II-AUX
W1 W2 W3 W4 W5 W6 W7 W8

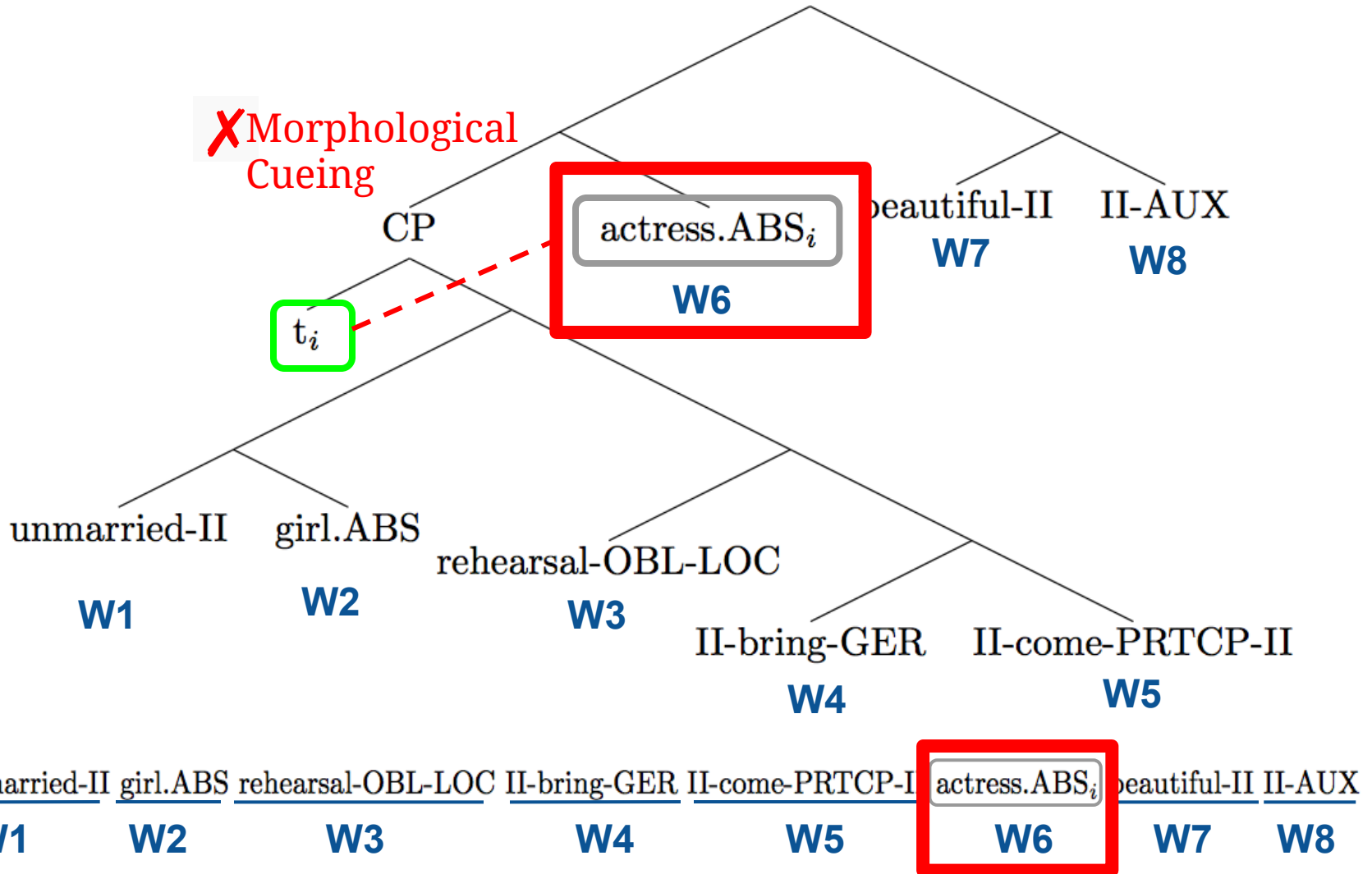
Morphological Cueing



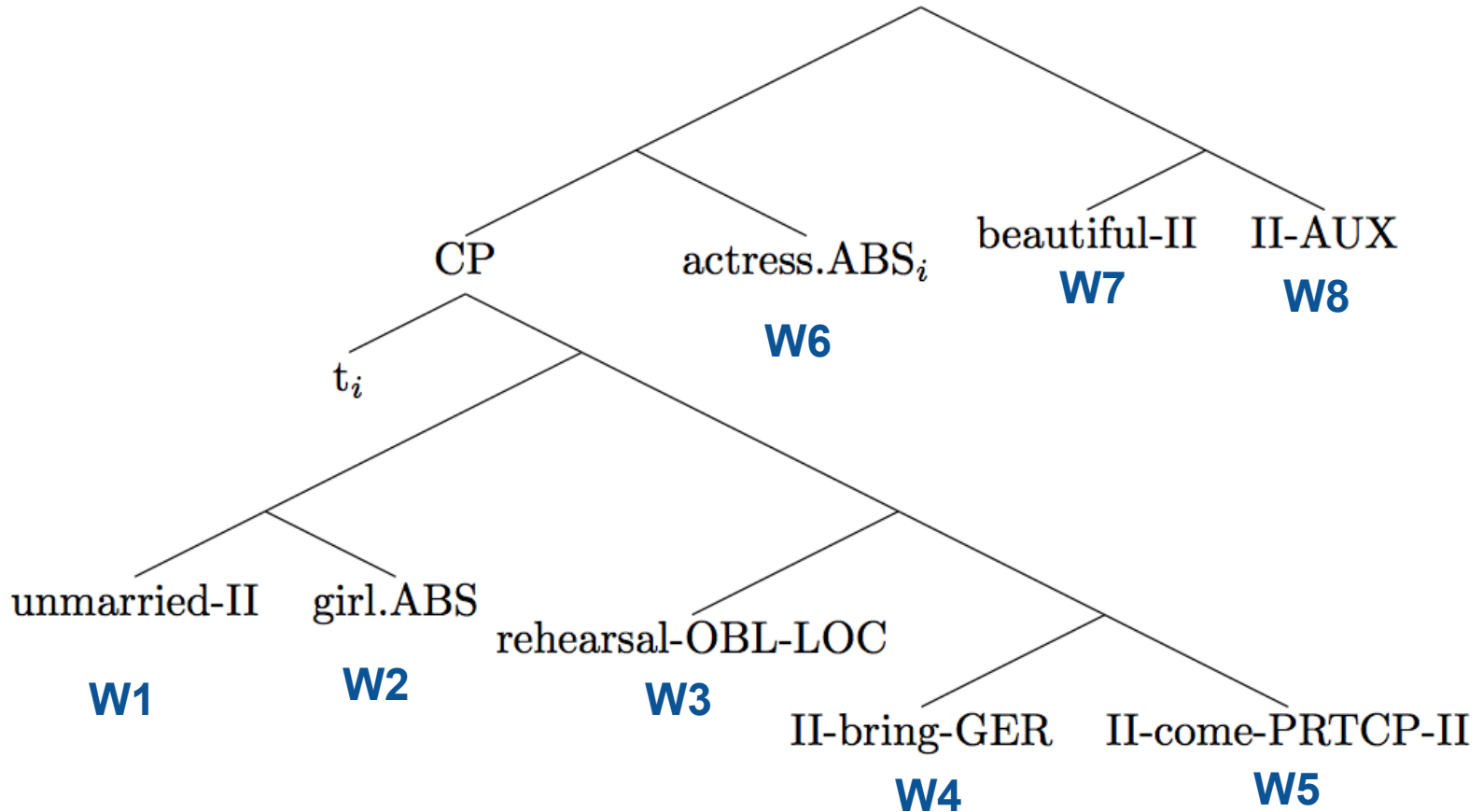
t_i unmarried-II girl.ABS rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II actress.ABS_{*i*} beautiful-II II-AUX

W1 **W2** **W3** **W4** **W5** **W6** **W7** **W8**

Morphological Cueing



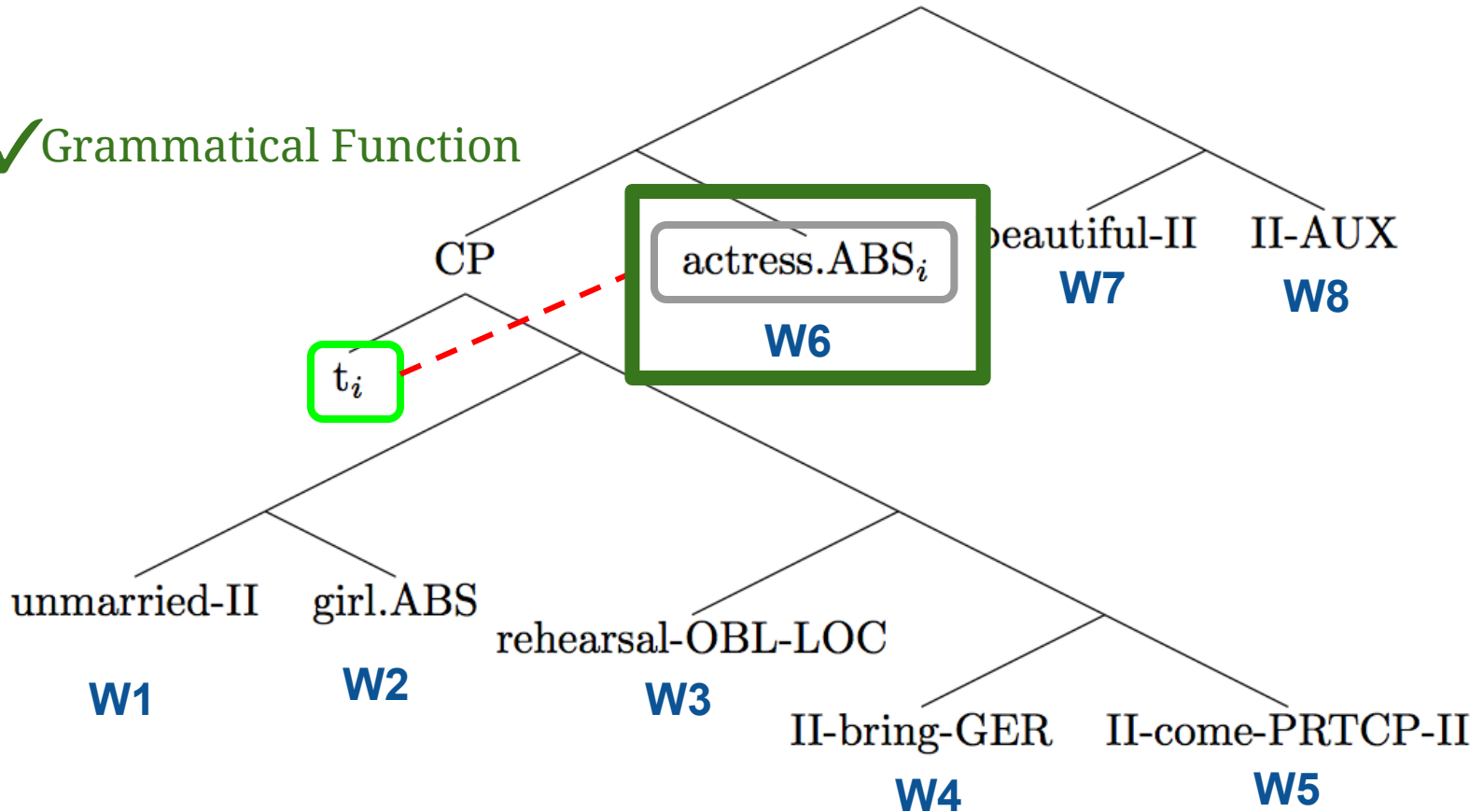
Grammatical Function



t_i	unmarried-II	girl.ABS	rehearsal-OBL-LOC	II-bring-GER	II-come-PRTCP-II	actress.ABS _i	beautiful-II	II-AUX
	W1	W2	W3	W4	W5	W6	W7	W8

Grammatical Function

✓ Grammatical Function



t _i	unmarried-II	girl.ABS	rehearsal-OBL-LOC	II-bring-GER	II-come-PRTCP-II	actress.ABS _i	beautiful-II	II-AUX
W1	W2	W3	W4	W5	W6	W7	W8	

Grammatical Function Predictions:

t_i people's-II actress-OBL-LOC-near-II rehearsal-OBL-LOC standing-GER PRTCP-II girl.ABS_i orphaned-II II-AUX
W1 **W2** **W3** **W4** **W5** **W6** **W7** **W8**

people's-II actress-ERG t_i rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II girl.ABS_i beautiful-II II-AUX
W1 **W2** **W3** **W4** **W5** **W6** **W7** **W8**

t_i unmarried-II girl.ABS rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II actress.ABS_i beautiful-II II-AUX
W1 **W2** **W3** **W4** **W5** **W6** **W7** **W8**

—◆— Absolute Subject Gap

...■... Absolute Object Gap




—▲— Ergative Gap

Morphological Cueing Predictions:

t_i people's-II actress-OBL-LOC-near-I rehearsal-OBL-LOC standing-GER PRTCP-II girl.ABS_i orphaned-II II-AUX
 W1 W2 W3 W4 W5 W6 W7 W8

people's-II actress-ERG_i rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II girl.ABS_i beautiful-II II-AUX
 W1 W2 W3 W4 W5 W6 W7 W8

t_i unmarried-I girl.ABS rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II actress.ABS_i beautiful-II II-AUX
 W1 W2 W3 W4 W5 W6 W7 W8

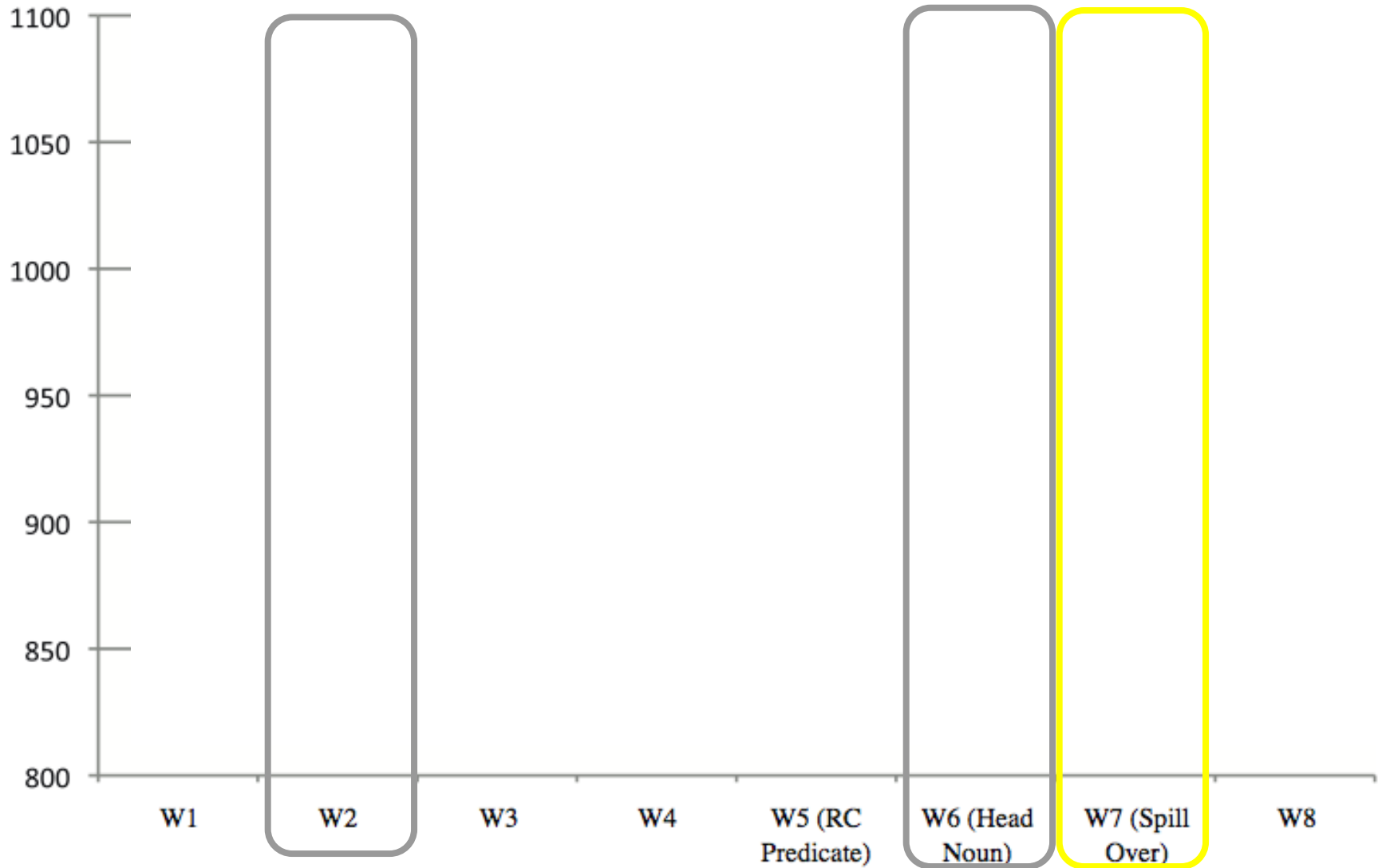
-  Absolute Subject Gap
-  Absolute Object Gap
-  Ergative Gap

Spillover

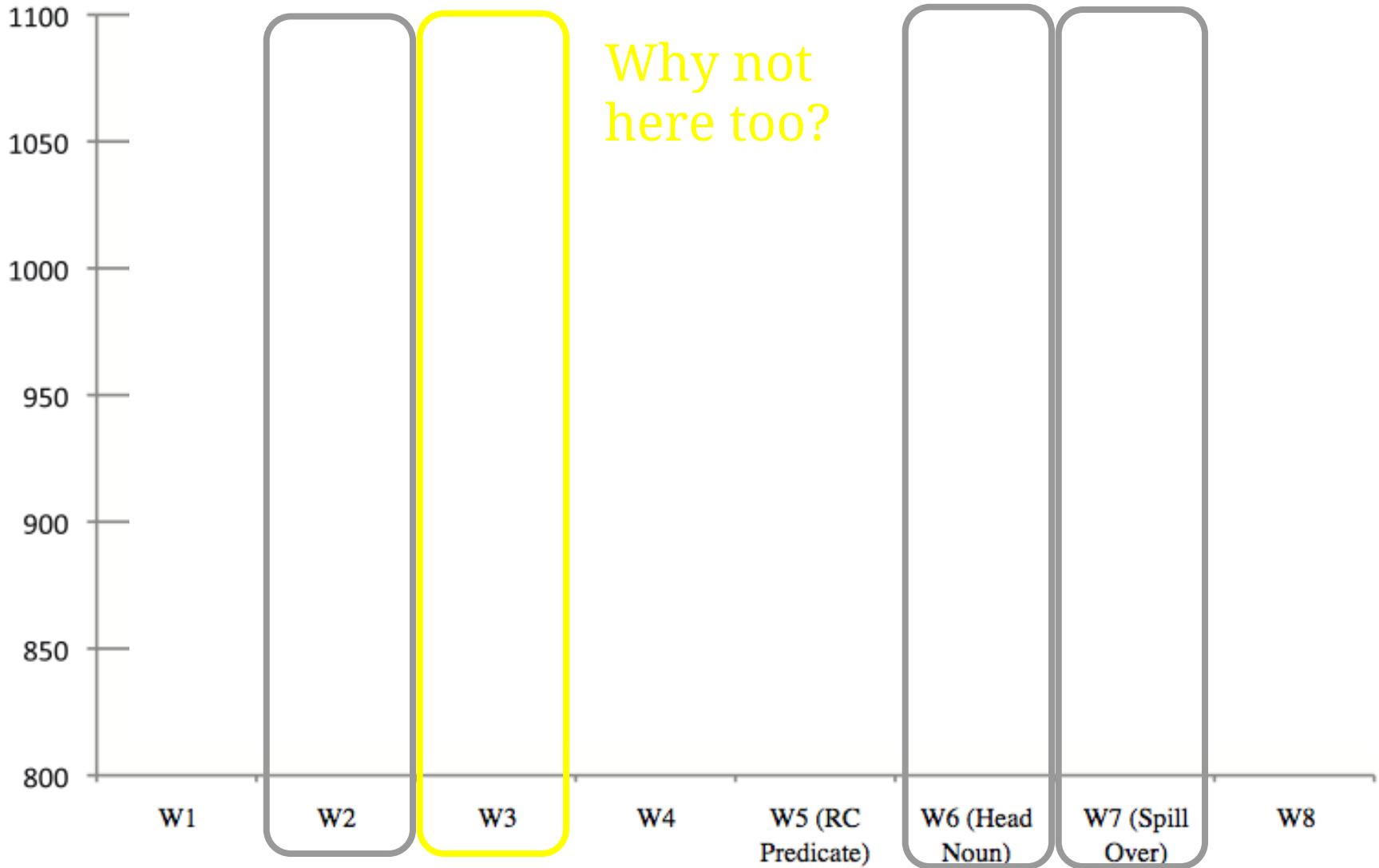
"...it is common for effects...to be delayed by a word or to spread over onto later regions" in self-paced reading. (p. 273)

Ueno and Garnsey, 2008:665

Spillover

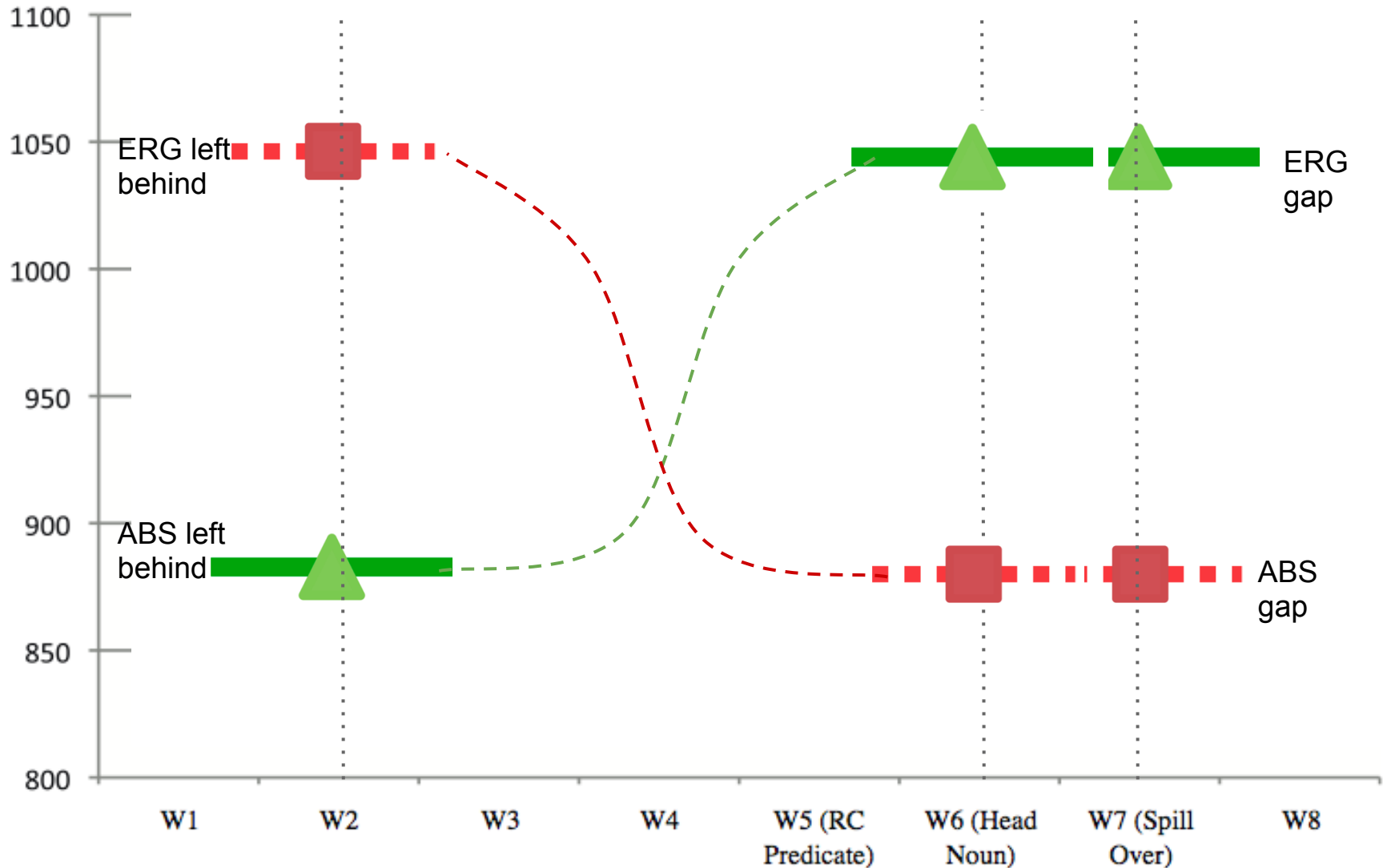


Spillover



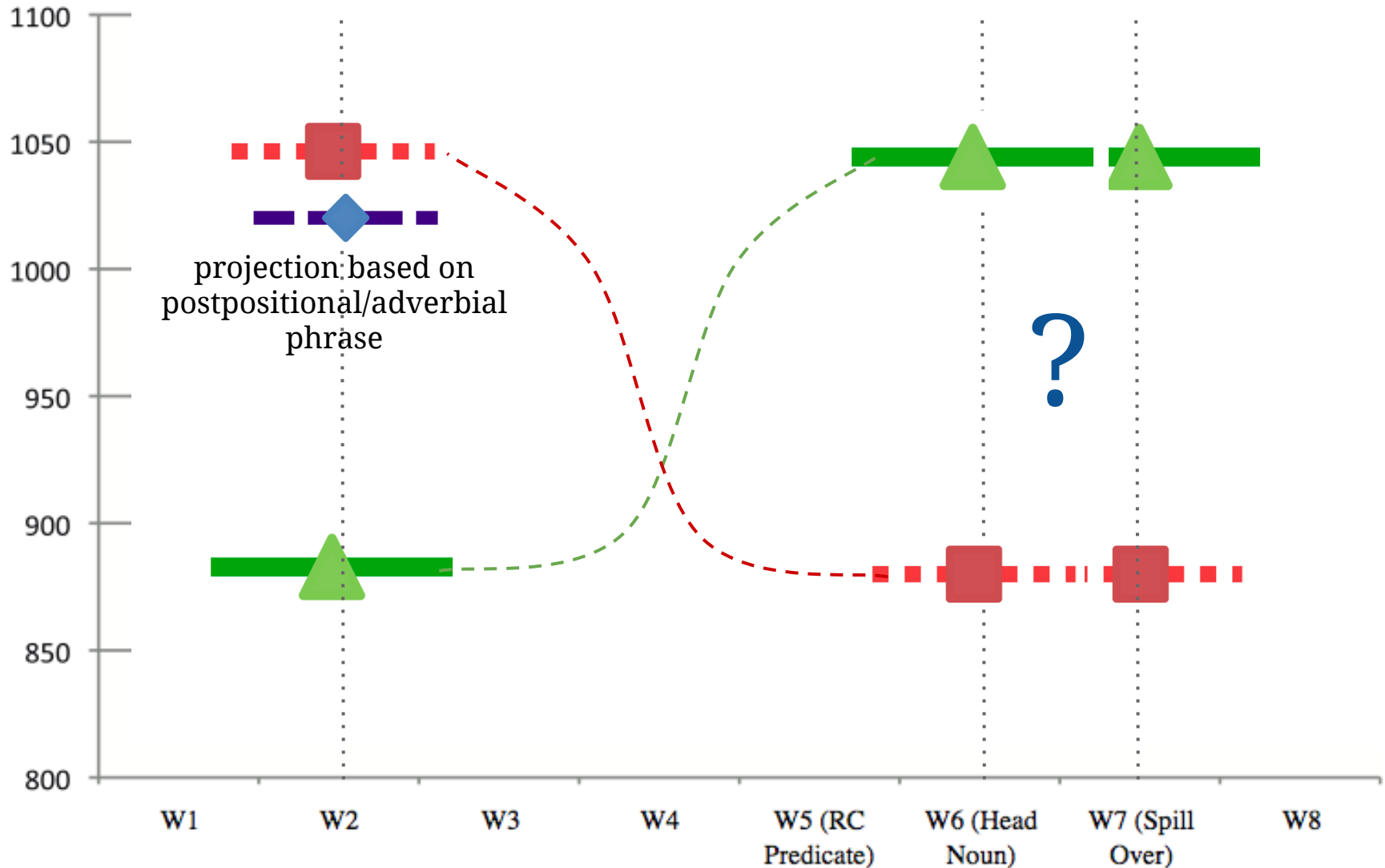
Predictions: Morphological Cueing

- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap



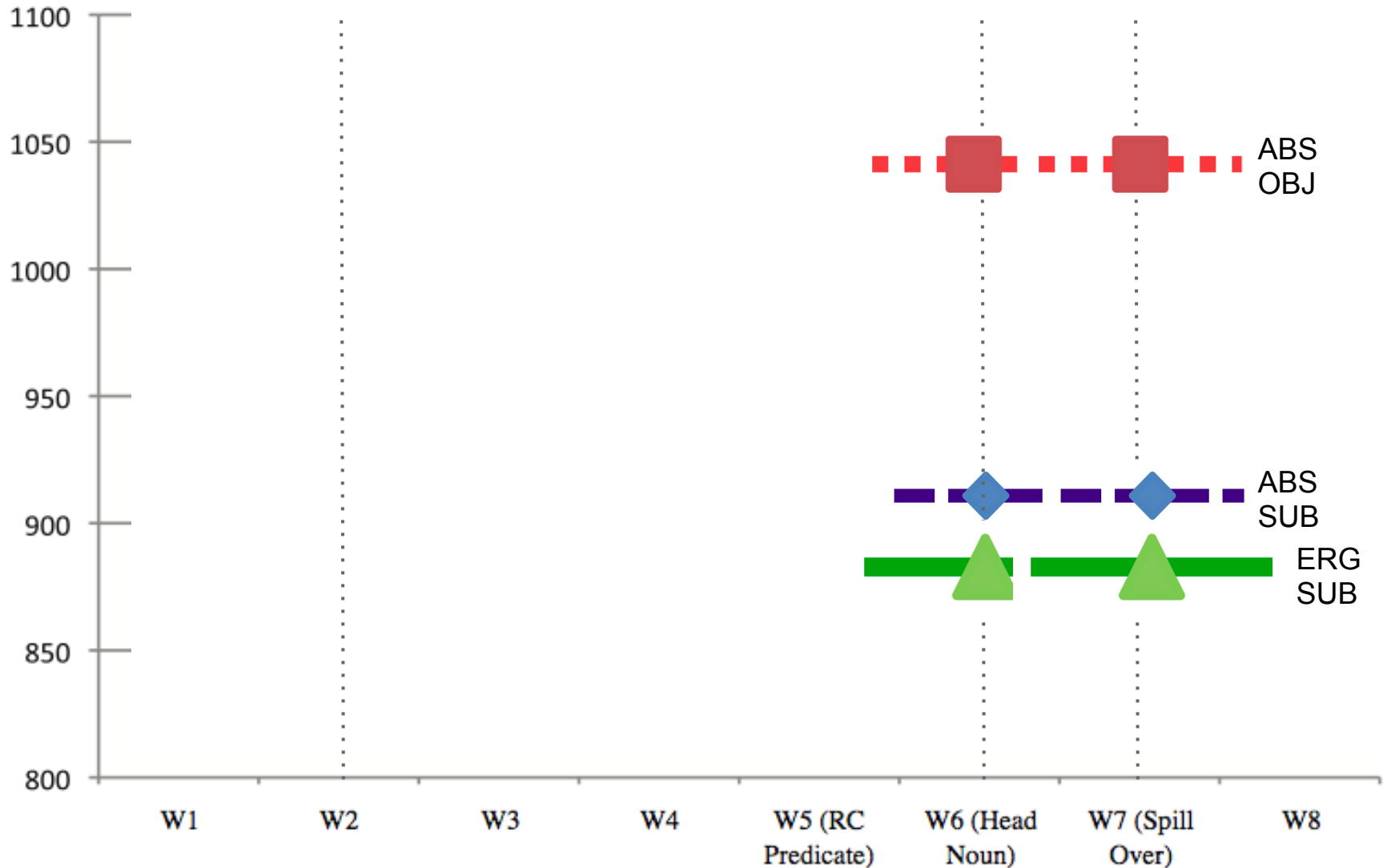
Predictions: Morphological Cueing

- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap



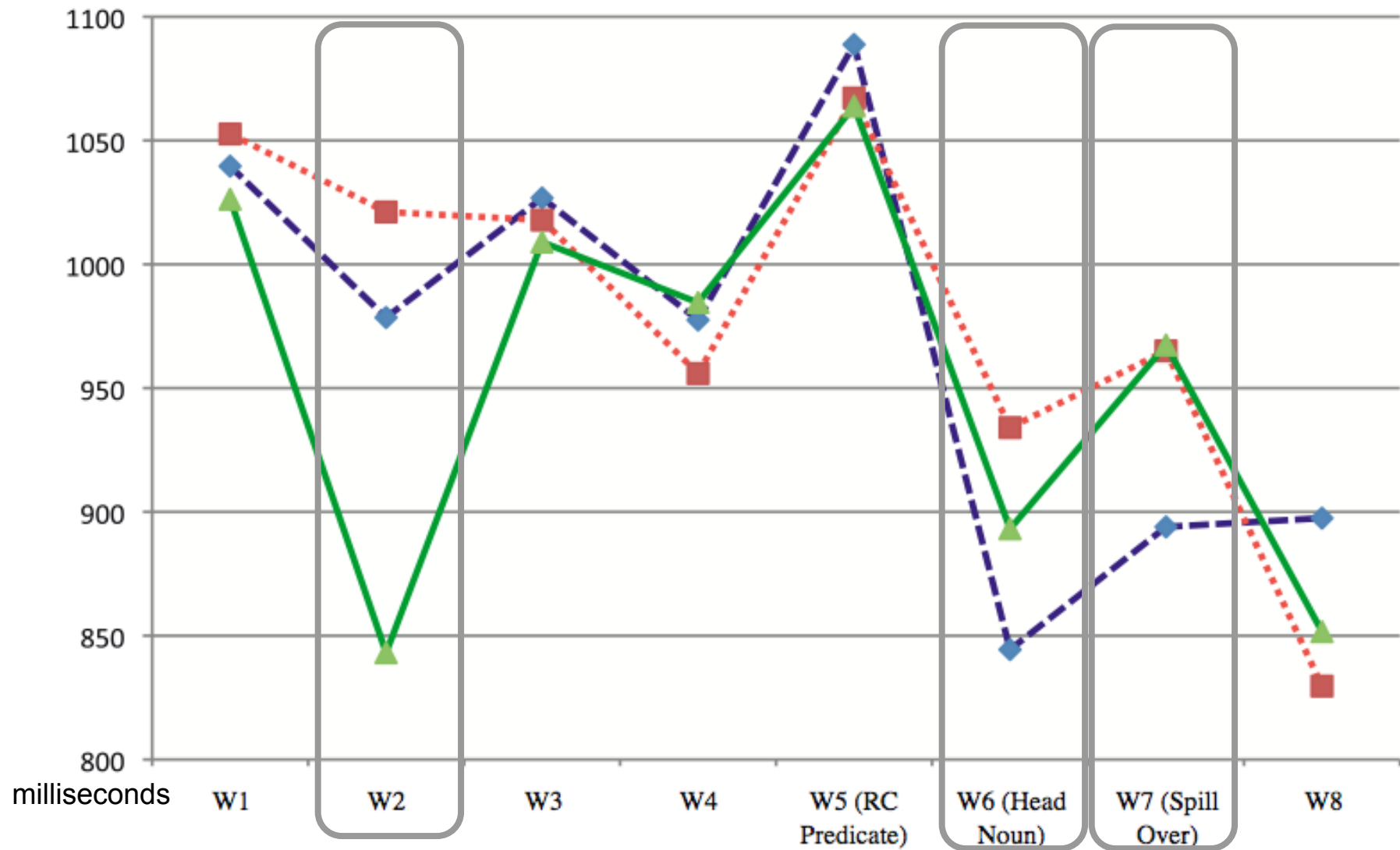
Predictions: Grammatical Function

- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap



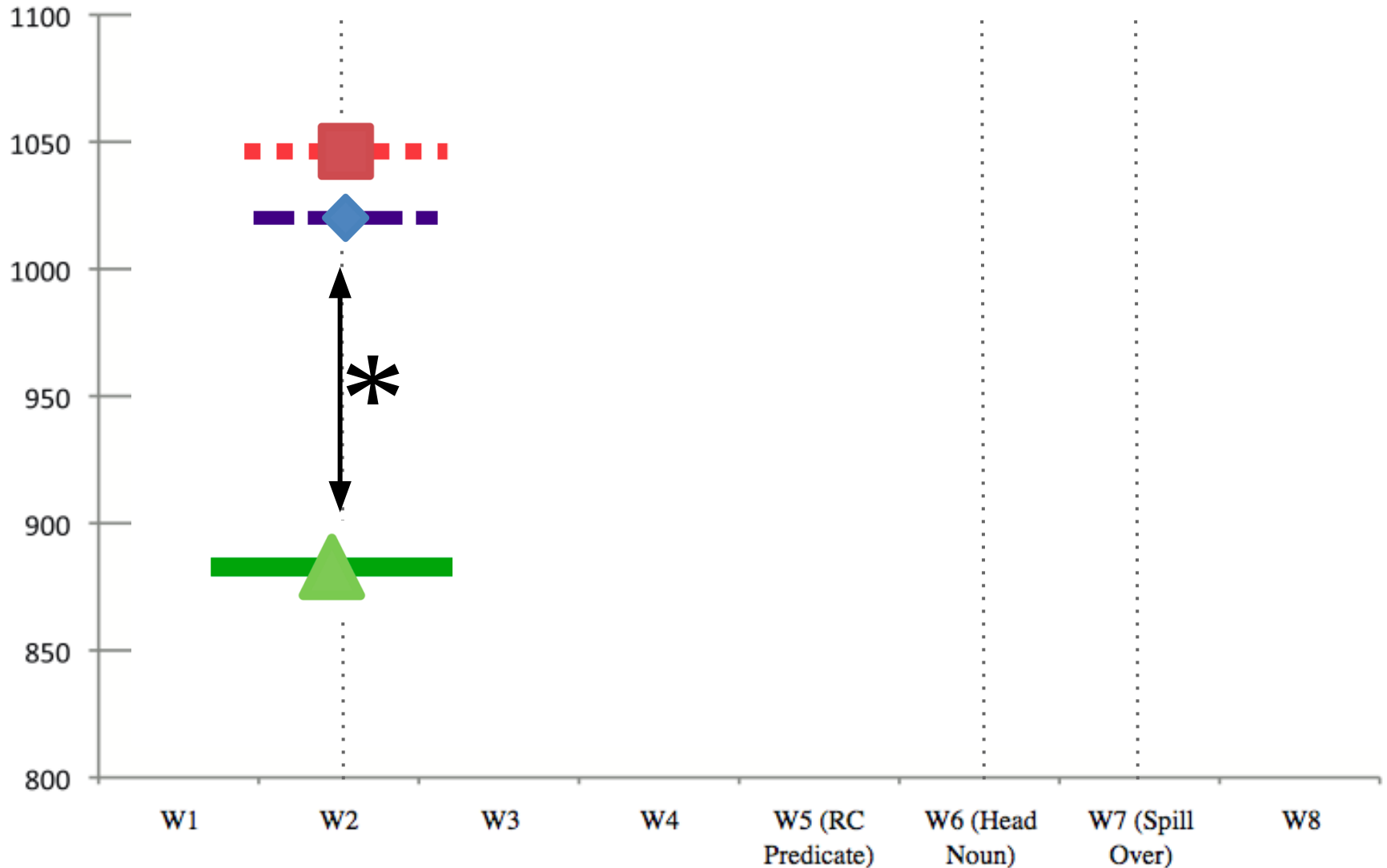
Results

- ◆— Absolute Subject Gap
- ...■... Absolute Object Gap
- ▲— Ergative Gap



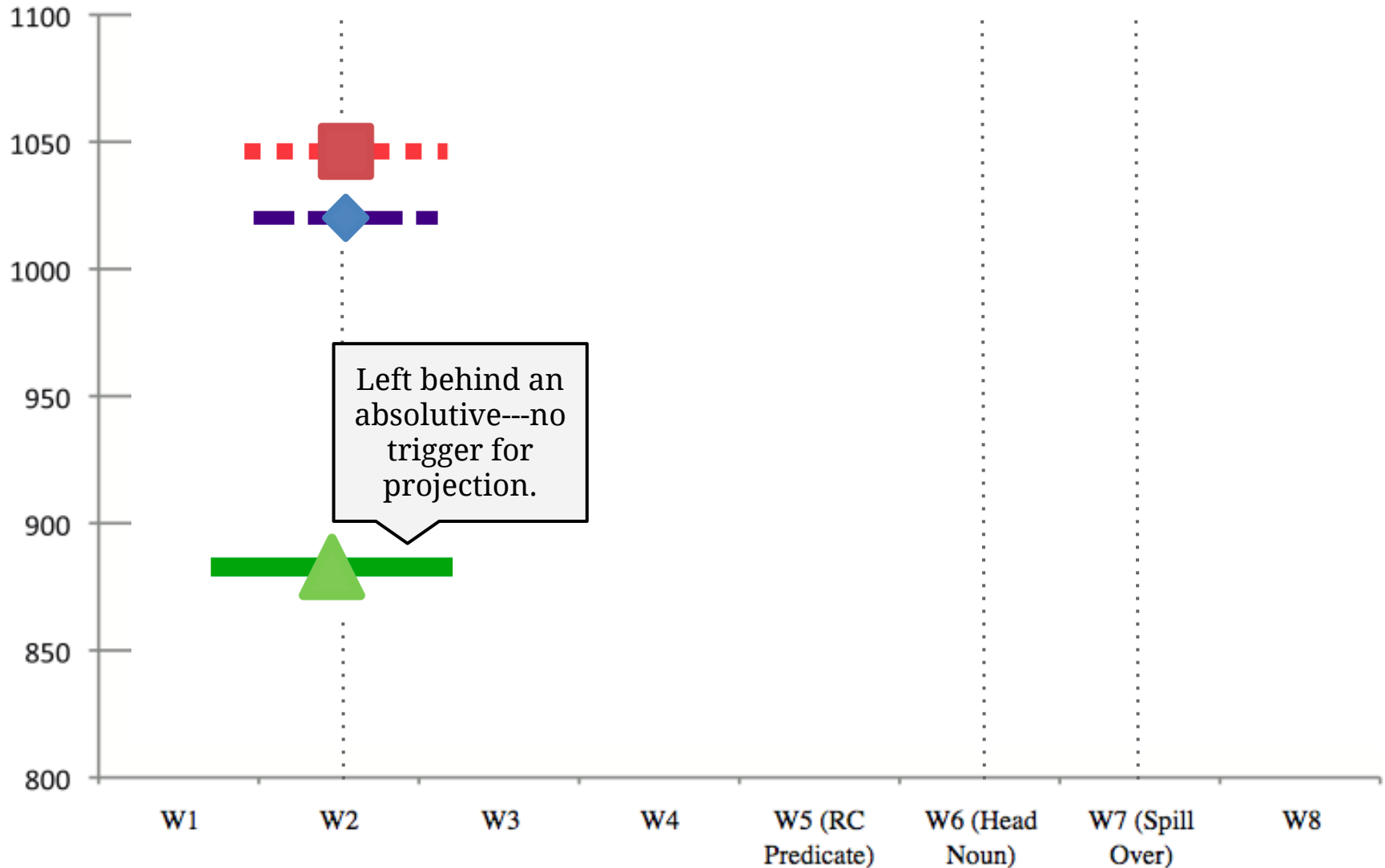
Results: W2 (scaled for significance)

- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap



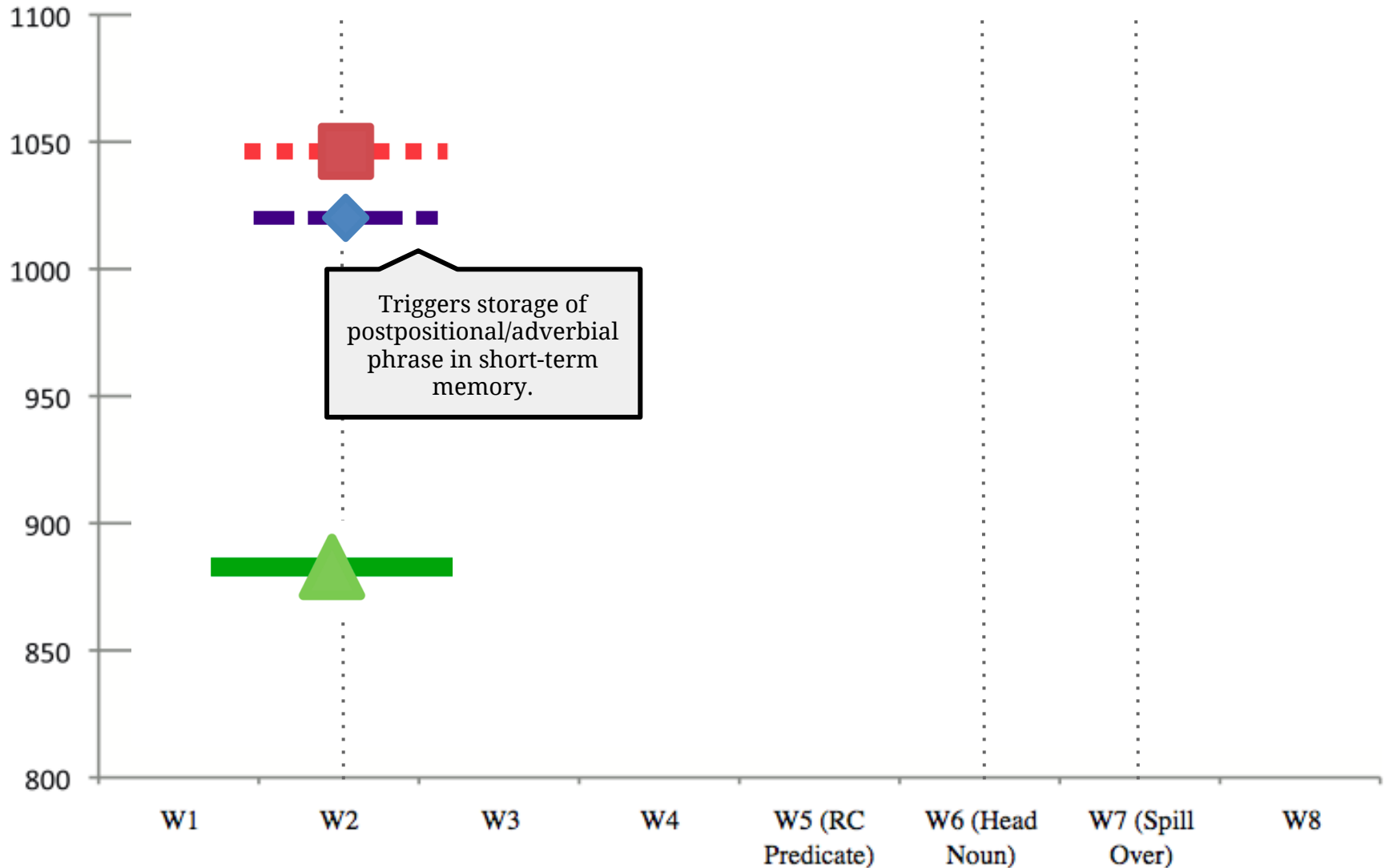
Results: W2 (scaled for significance)

- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap



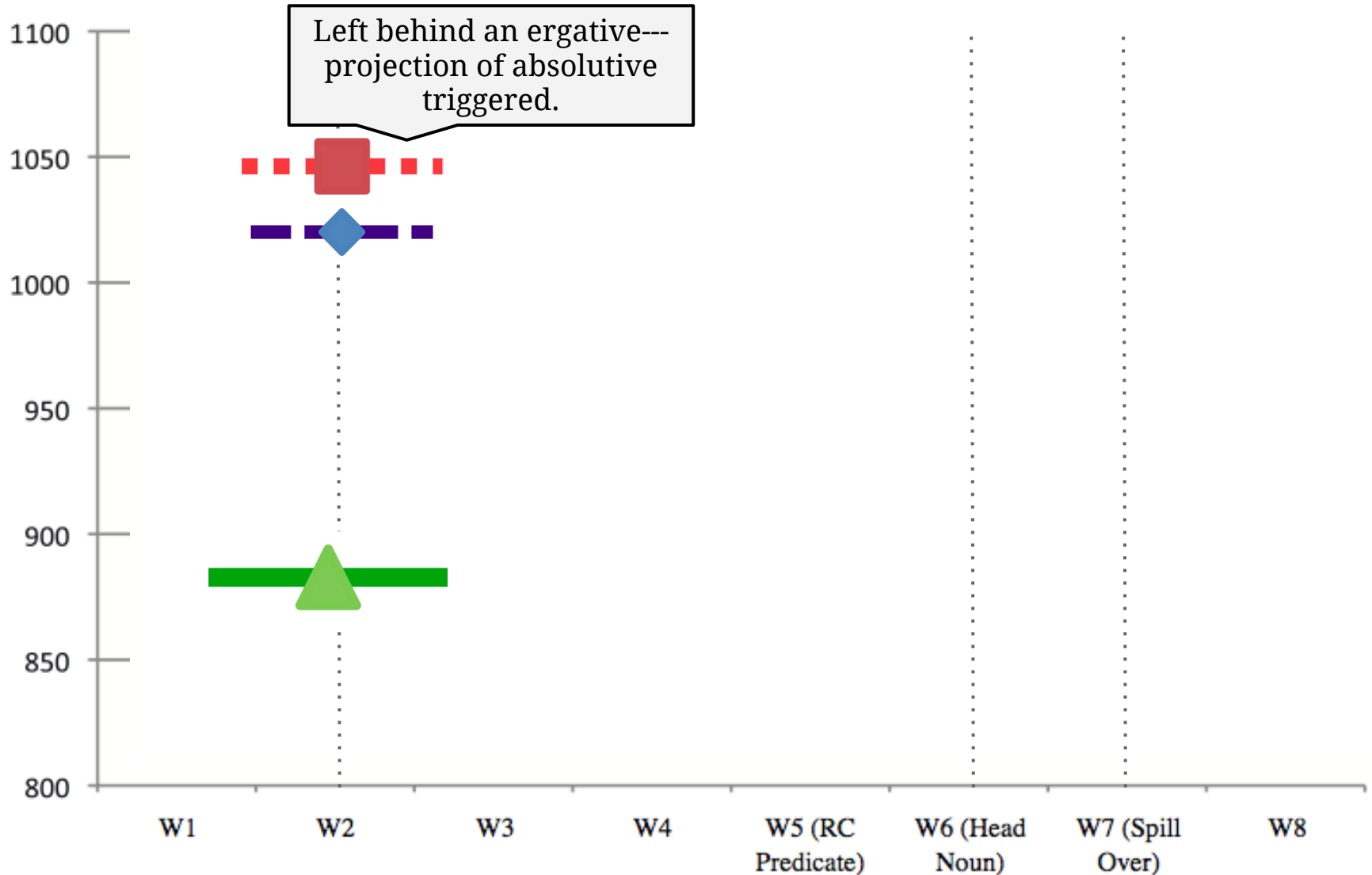
Results: W2 (scaled for significance)

- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap

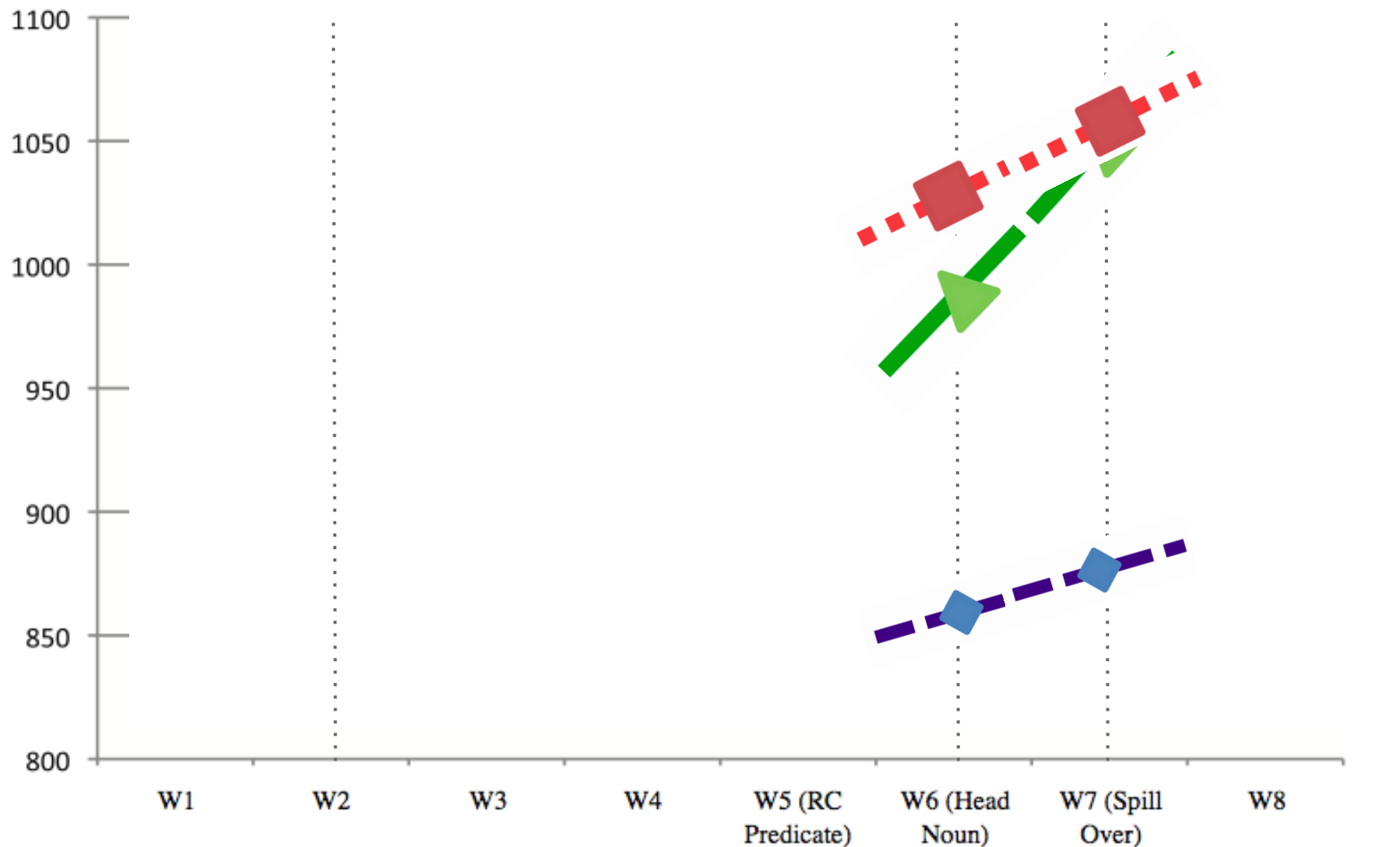


Results: W2 (scaled for significance)

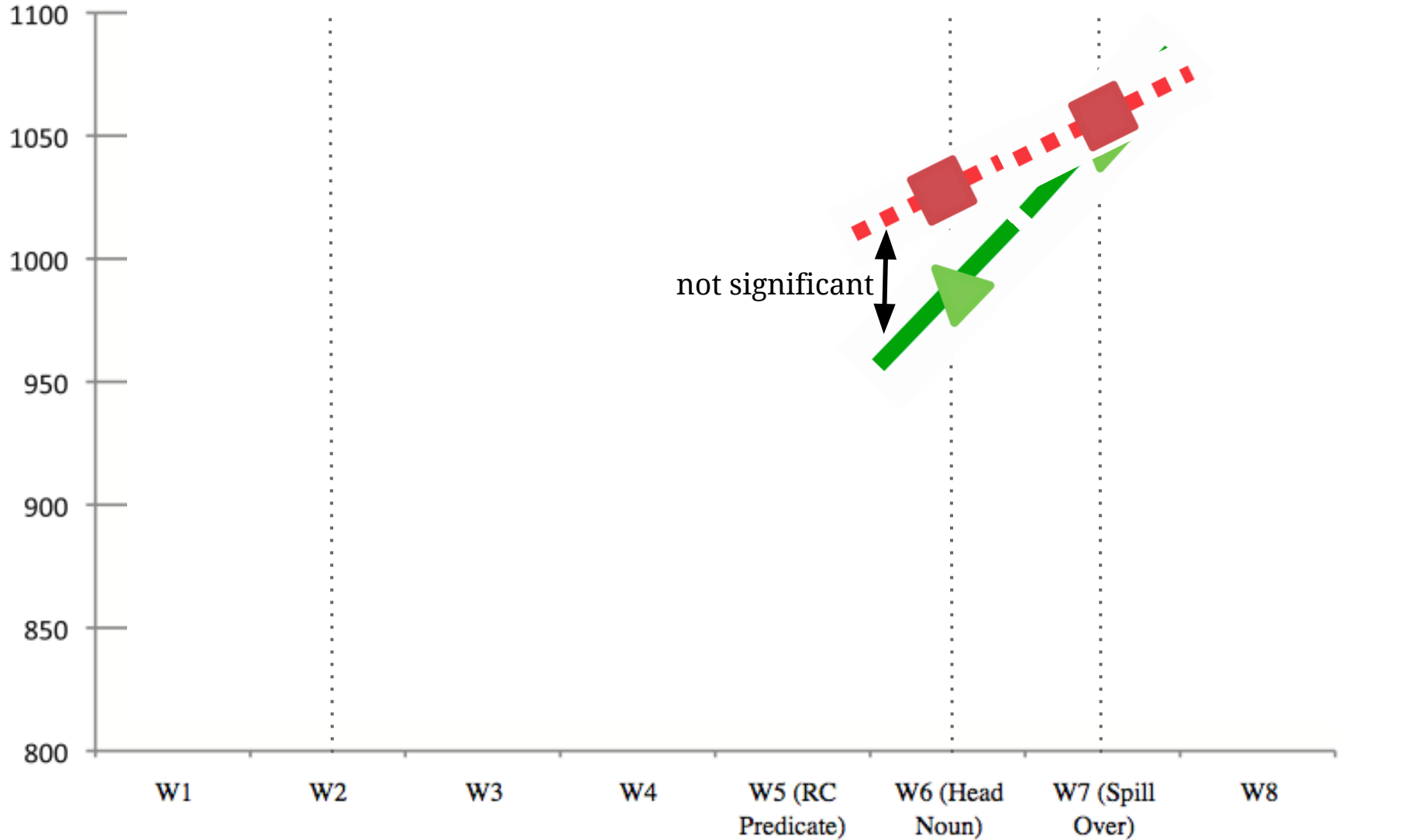
- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap



Results: W6 & W7 (scaled for significance)

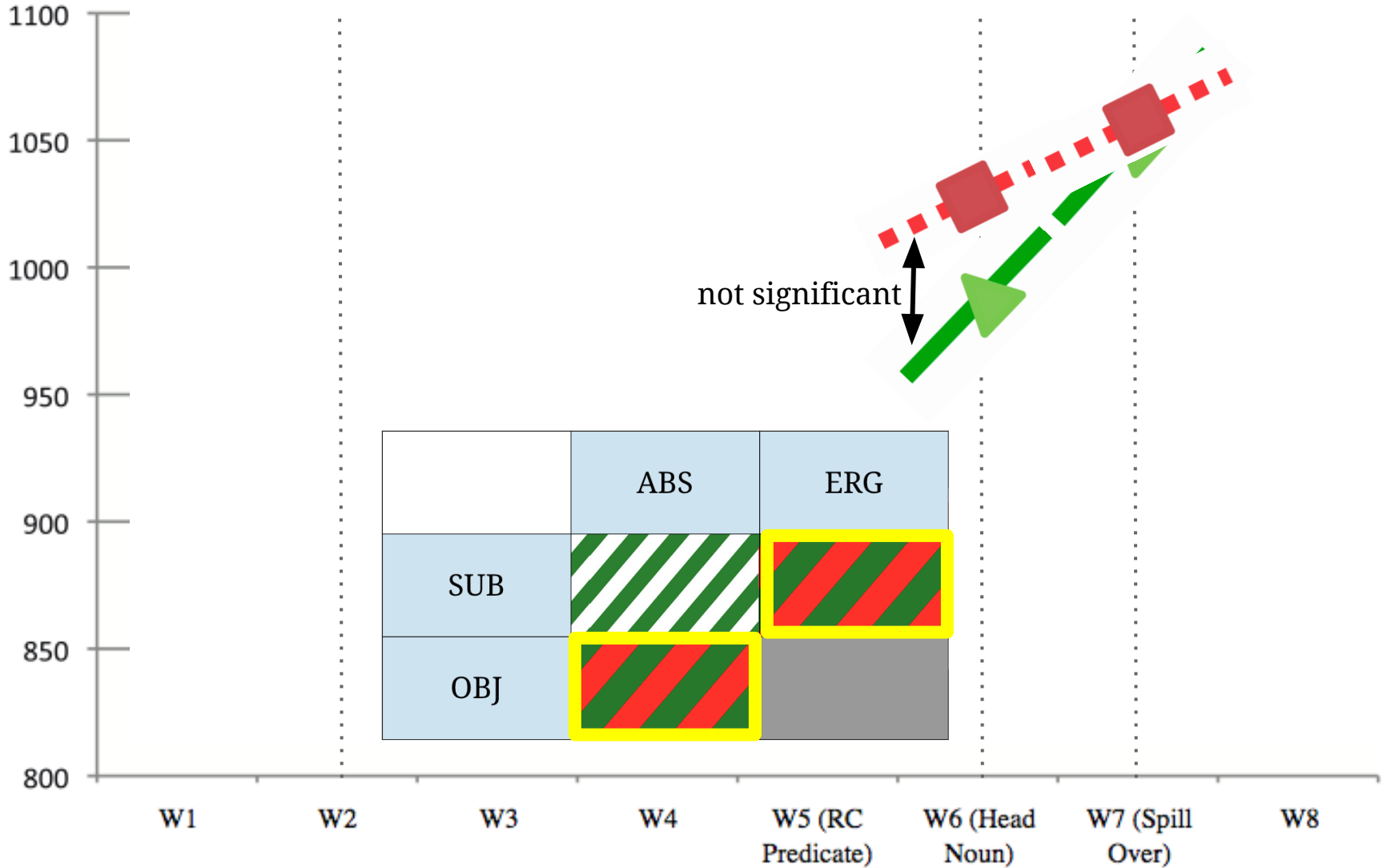


Results: W6 & W7 (scaled for significance)

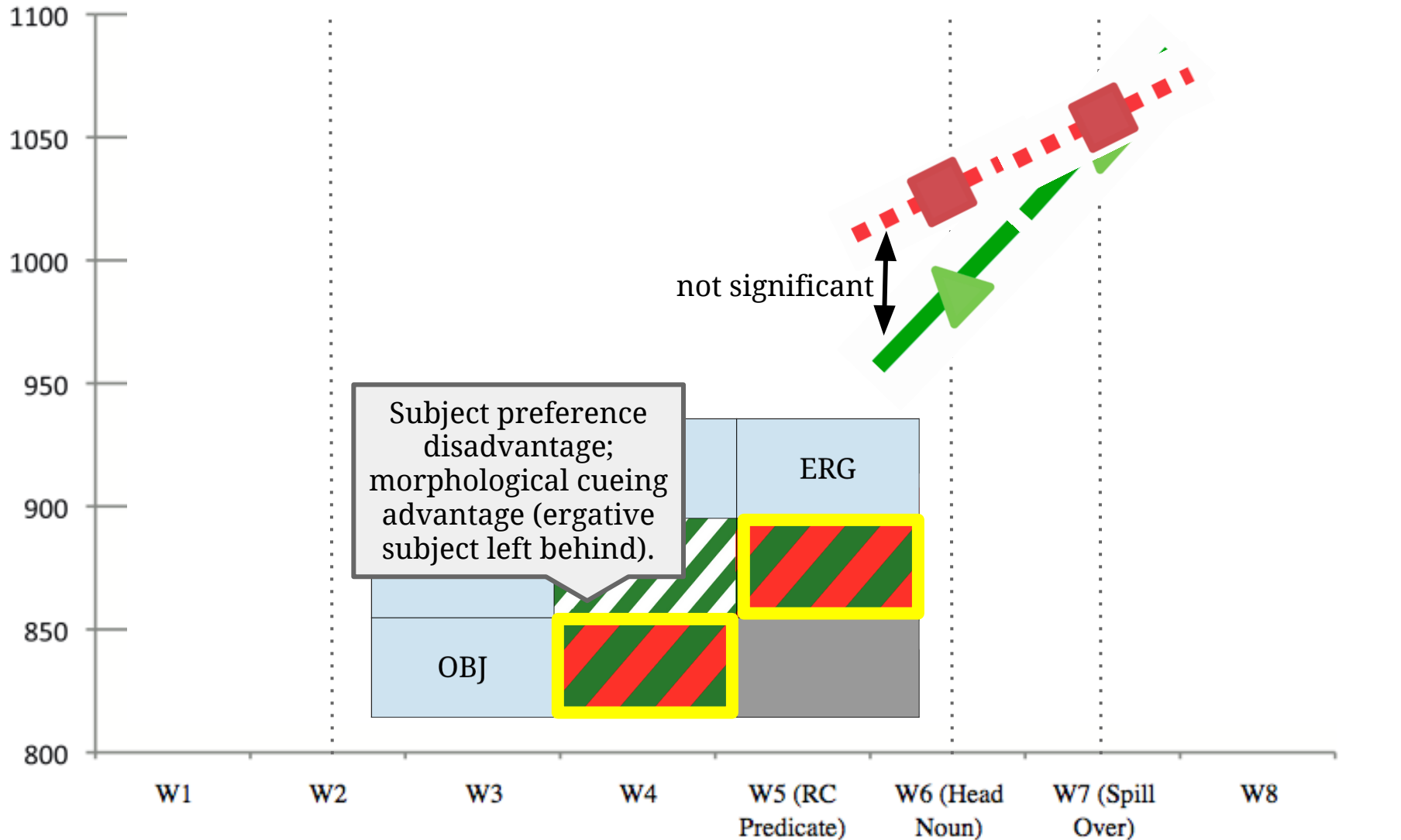


Results: W6 & W7 (scaled for significance)

- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap

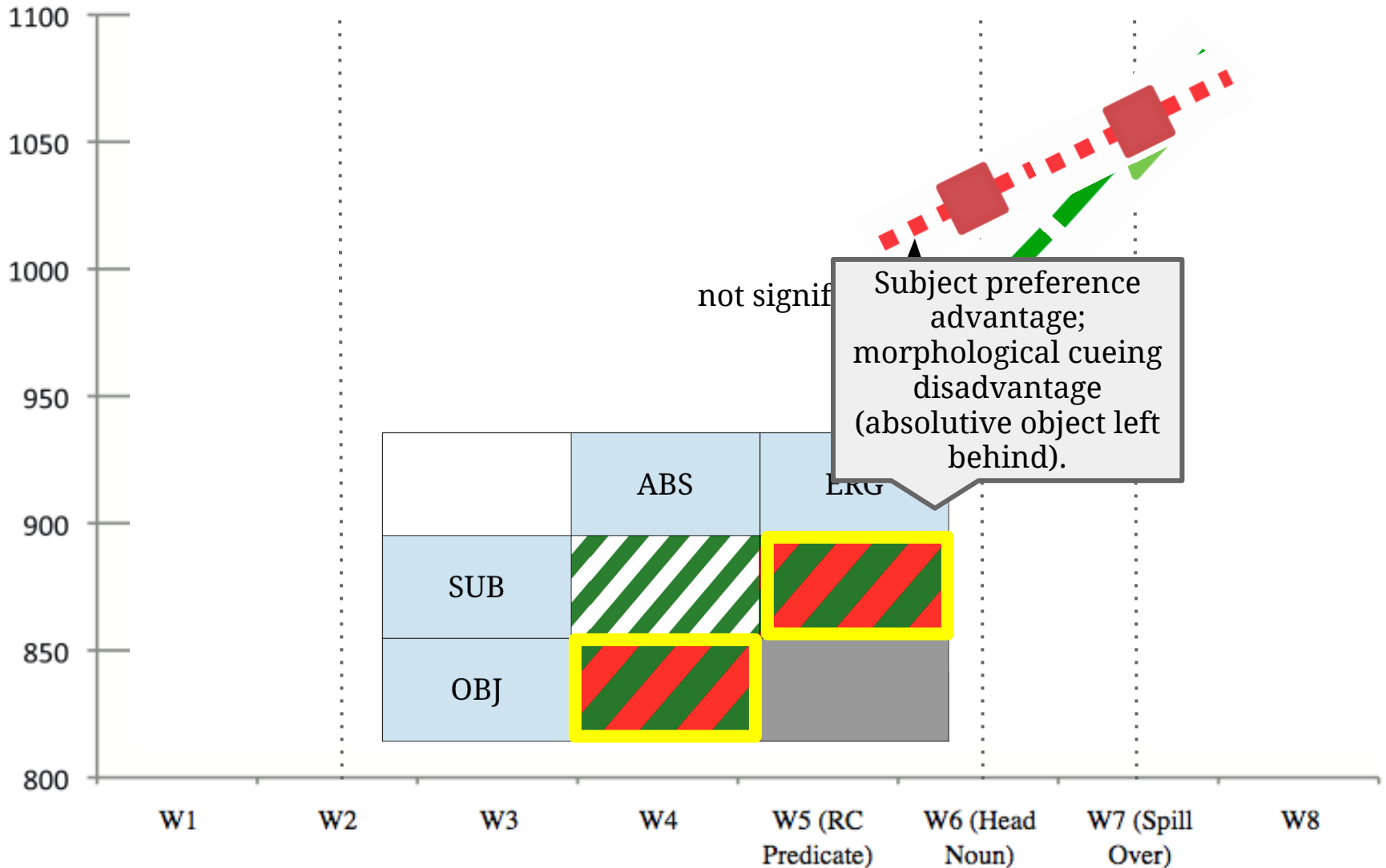


Results: W6 & W7 (scaled for significance)



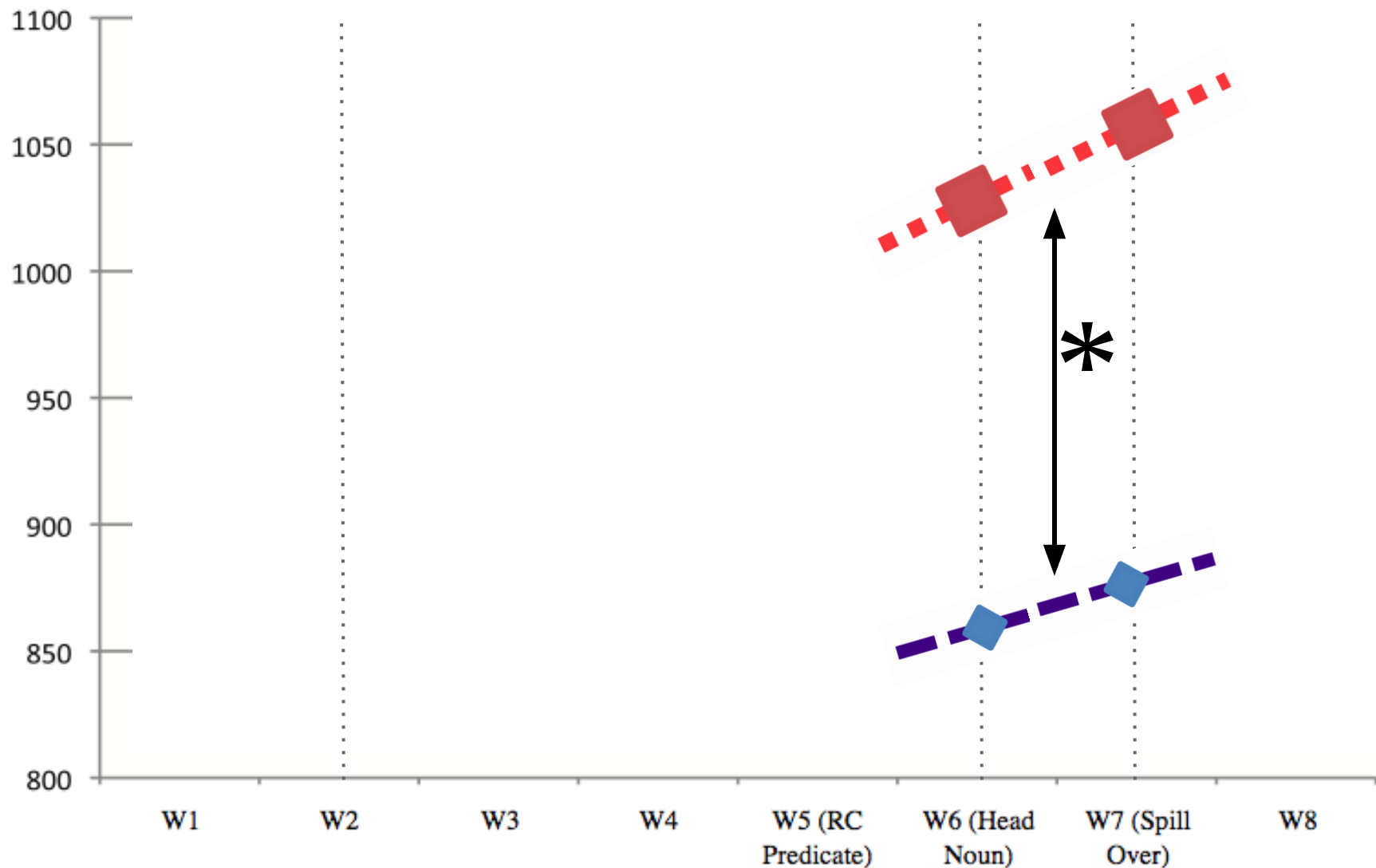
Results: W6 & W7 (scaled for significance)

- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap

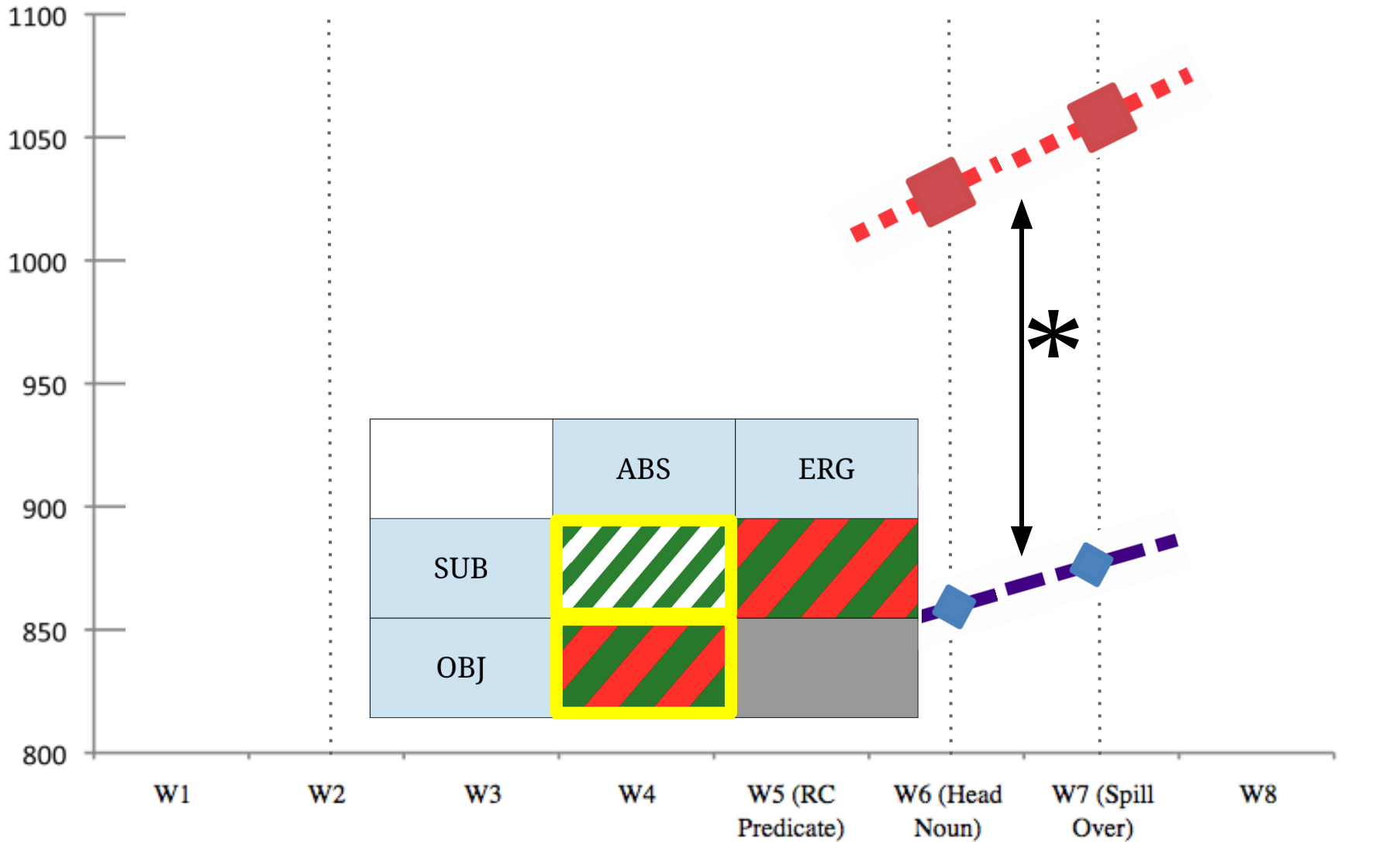


Results: W6 & W7 (scaled for significance)

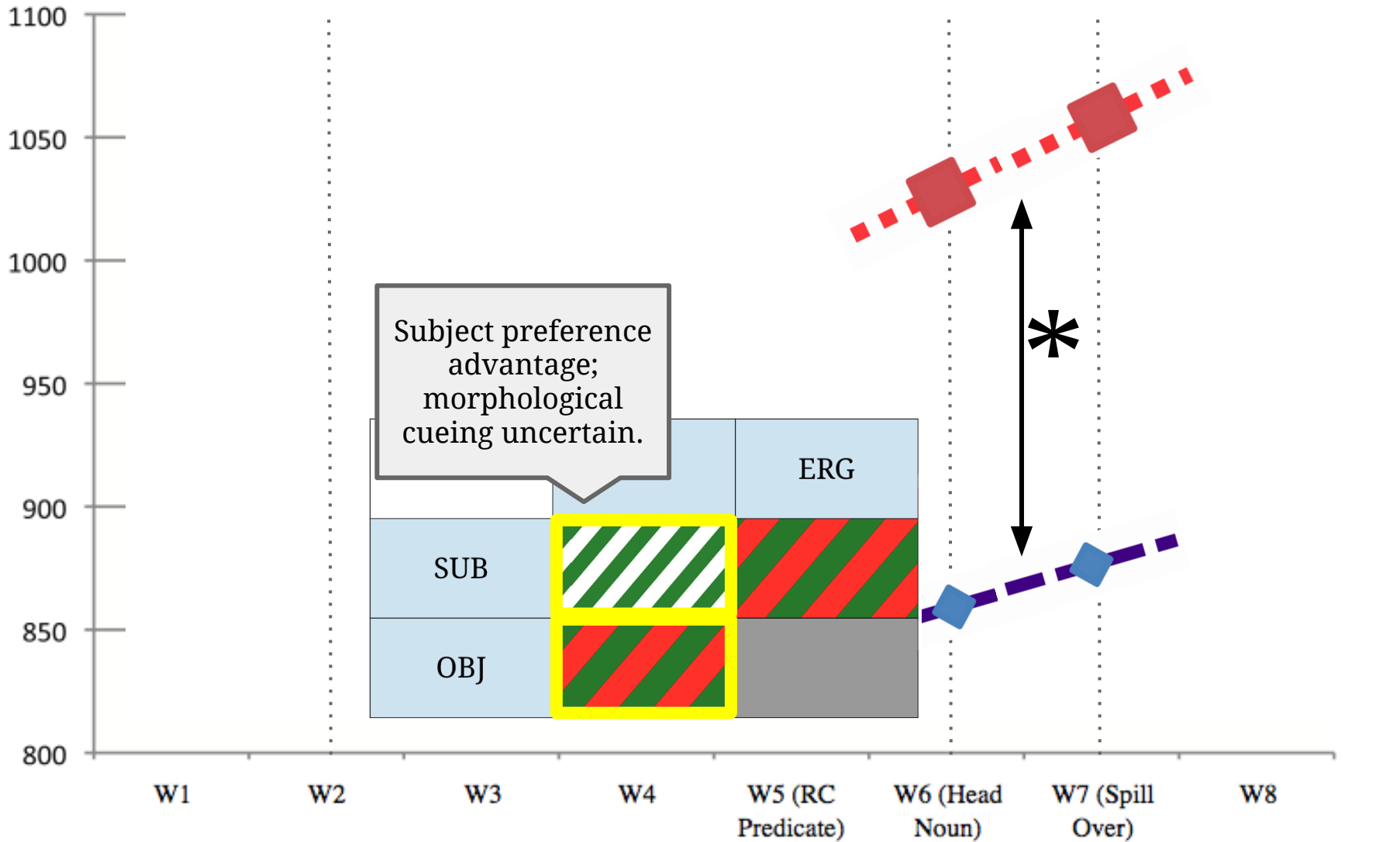
- Absolute Subject Gap
- Absolute Object Gap
- Ergative Gap



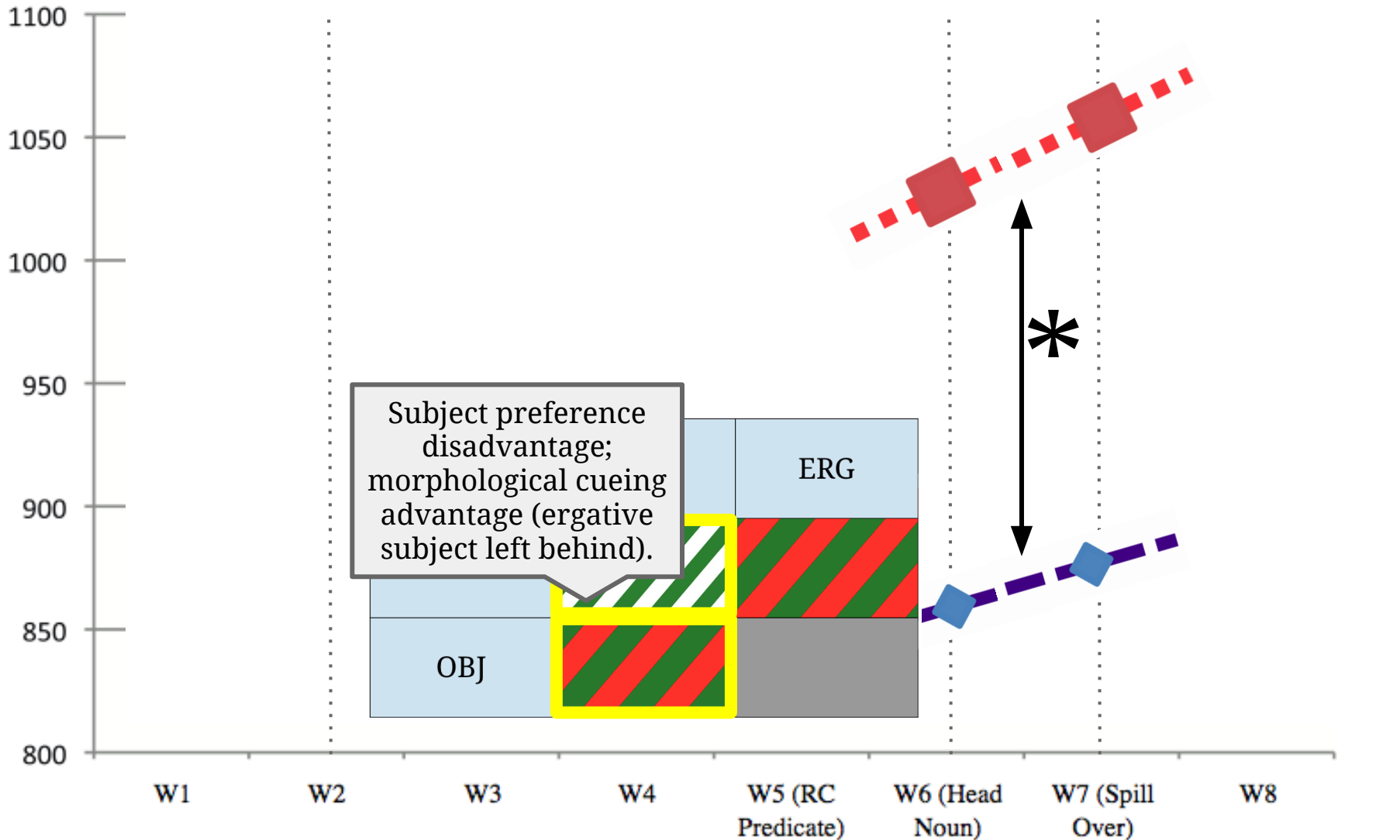
Results: W6 & W7 (scaled for significance)







Results: W6 & W7 (scaled for significance)



Results: W6 & W7 (scaled for significance)






Interpretation

	ABS	ERG
SUB		
OBJ		

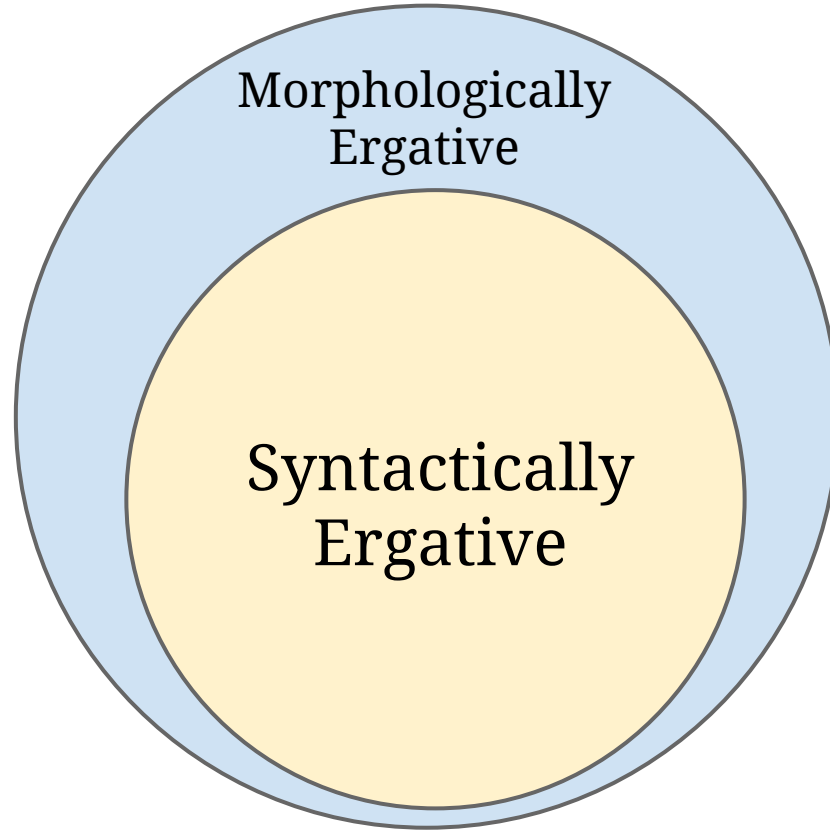
No significant difference → **grammatical function & morphological cueing** "cancel each other out"

Interpretation

	ABS	ERG
SUB		
OBJ		

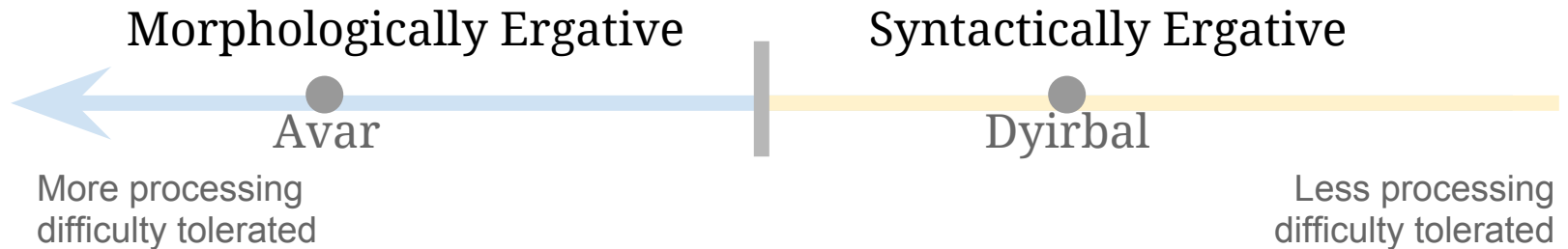
Significant difference → the **subject preference** is real

Implications: Syntactic Ergativity



Implications: Syntactic Ergativity

The Processing Account (Hawkins, 2004, a.o.):



Implications: Syntactic Ergativity

The Processing Account (Hawkins, 2004, a.o.):

1. Ergative case incurs processing costs
2. Some languages grammaticize gradient constraint as categorical rule: **syntactic ergativity**

Implications: Syntactic Ergativity

The Processing Account (Hawkins, 2004, a.o.):

"If languages without syntactic ergativity, such as Avar, showed a processing disadvantage for the ergative (and a processing advantage for the absolutive) then one could treat syntactic ergativity as grammaticalization of the gradient processing constraint... The results we have obtained do not show that ergative subjects pattern differently from absolutive subjects, however."
(p. 274)

1. ~~Ergative case incurs processing costs~~
2. Some languages grammaticize gradient constraint as categorical rule: **syntactic ergativity**

Implications: Syntactic Ergativity

The Processing Account (Hawkins, 2004, a.o.):

"The results we have obtained do not show that ergative subjects pattern differently from absolutive subjects, however." (p. 274)

1. ~~Ergative case incurs processing costs~~
2. Some languages grammaticize gradient constraint as categorical rule: **syntactic ergativity**

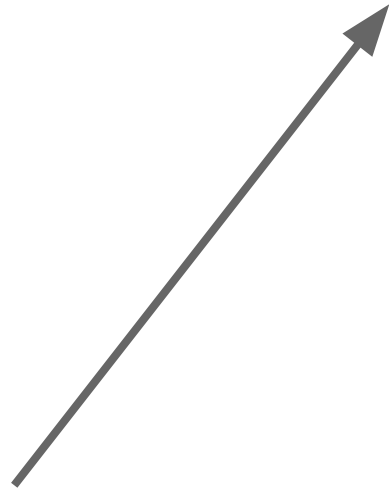
Sentence
Processing



Syntactic
Theory

Implications: Subject Preference

"Subject Preference"



Subject Preference

Implications: Subject Preference

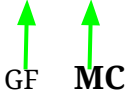

"Subject Preference"

```
graph BT; A[Subject Preference] --> B["Subject Preference"]; C[Morphological Cueing] --> B;
```

Subject Preference Morphological Cueing

Implications: Subject Preference

Nominative-Accusative
Languages
e.g., Korean, Japanese





	NOM	ACC
SUB	 GF MC	
OBJ		 GF MC

Subject preference overdiagnosed.

Confound of morphological cueing in the direction of subject preference.







Implications: Subject Preference

Nominative-Accusative
Languages
e.g., Korean, Japanese

	NOM	ACC
SUB	 GF  MC	
OBJ		 GF  MC

Subject preference overdiagnosed.

Ergative-Absolutive Languages
e.g., Avar

	ABS	ERG
SUB	 GF ?  MC	 GF  MC
OBJ	 GF  MC	

Subject preference underdiagnosed.

Confound of morphological cueing
against the direction of subject
preference.

Implications: Subject Preference

Nominative-Accusative
Languages
e.g., Korean, Japanese

	NOM	ACC
SUB	↑ GF ↑ MC	
OBJ		↓ GF ↓ MC

Subject preference overdiagnosed.

Ergative-Absolutive Languages
e.g., Avar

	ABS	ERG
SUB	↑ GF ? MC	↑ GF ↓ MC
OBJ	↓ GF ↑ MC	

Subject preference underdiagnosed.

Confound-less data?





German: Schwartz, 2007

- (12) das Mädchen, [das die Frau attackierte]
 [DET girl]. NOM/ACC that.NOM/ACC [DET woman].NOM/ACC attacked
 (i) ‘the girl who attacked the woman’
 (ii) ‘the girl whom the woman attacked’

Ambiguous between subject extracted interpretation and object extracted interpretation; **subject extracted interpretation is preferred.**







Implications: Subject Preference

Nominative-Accusative
Languages
e.g., Korean, Japanese

	NOM	ACC
SUB	 GF  MC	
OBJ		 GF  MC





Subject preference overdiagnosed.

Ergative-Absolutive Languages
e.g., Avar

	ABS	ERG
SUB	 GF ?  MC	 GF  MC
OBJ	 GF  MC	

Subject preference underdiagnosed.

Nominative-Accusative
Languages
e.g., German

	NOM	ACC
SUB	 GF ∅  MC	
OBJ		 GF ∅  MC

Subject preference diagnosed.

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