Summer Neurolinguistics School 2019
Moscow, HSE, July 1-3, 2019

SUBJECT PREFERENCE AND ERGATIVITY: SYNTAX AND REAL-TIME PHENOMENA

Maria Polinsky

MAIN CHARACTERS

- Relative clauses
- Argument alignment

RELATIVE CLAUSES

***the cat* [*that is chasing the dog*]**

***the dog* [*that the cat is chasing*]**

RELATIVE CLAUSES

***кошка* [*которая догоняет собаку*]**

***собака* [*которую догоняет кошка*]**

RELATIVE CLAUSES

- *the cat* [*that* ___ *chased the dog*]

  subject gap

- *the cat* [*that the dog chased* ___]

  object gap

NOT ALL RELATIVE CLAUSES ARE CREATED EQUAL

Accessibility Hierarchy (Keenan & Comrie 1977)

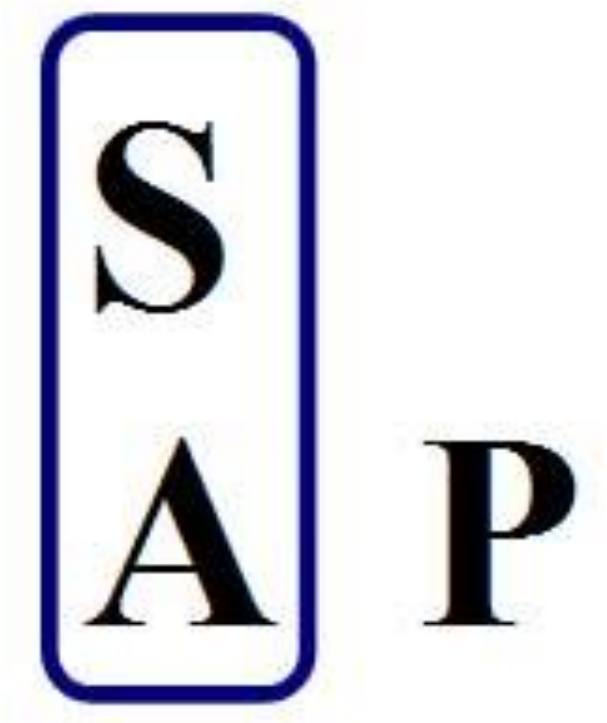
- captures relative clause formation across languages
- captures relative ease of relative clause processing

ALIGNMENT

- S = single argument of an intransitive predicate
- A = (more) agentive argument of a transitive predicate
- P = least agentive/most inactive argument of a transitive predicate

How S, A, and P can be encoded

Accusative alignment



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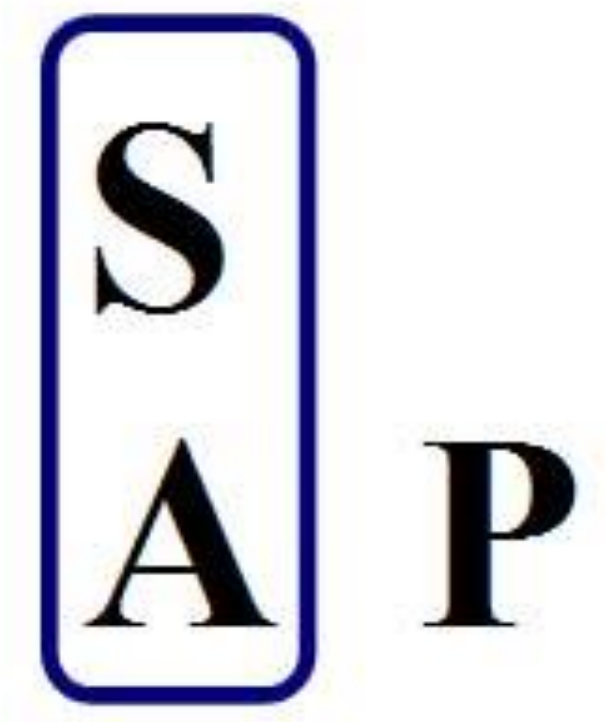
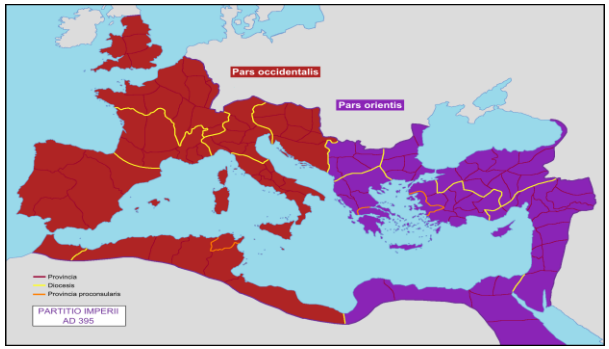


Ergative alignment

SOME EXAMPLES



Accusative: Latin

rex-Ø *revenit*

king-**nom** came back

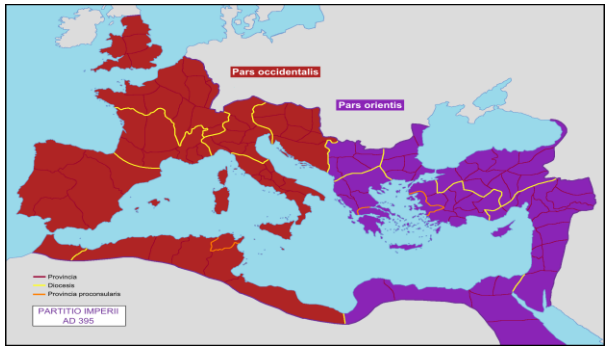
rex-Ø *host-em*

king-**nom** enemy-**acc**

occidit

killed

SOME EXAMPLES



Accusative: Latin

rex-Ø *revenit*
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king-**nom** enemy-**acc**
occidit
killed

Ergative: Tsez

šax-Ø *ays*
king-**abs** arrived

šax-zā *tušman-Ø*
king-**erg** enemy-**abs**
exursi
killed

General properties of subjects

- Subjects dominate other arguments
- For example, observable in binding

  (1) $John_i$ met his_i friends (John's friends)

  (2) $His_{k/*i}$ friends met $John_i$

  subjects bind objects, not the other way around

THE ERGATIVE IS A SYNTACTIC SUBJECT

The ergative NP has typical properties of a syntactic subject:

- binding
- addressee of the imperative
- control and raising
- coreference across clause

SO ERG IS SYNTACTIC SUBJECT…

- It should be high on the Accessibility Hierarchy which accounts for the ease of relative clause formation (Keenan & Comrie 1977)

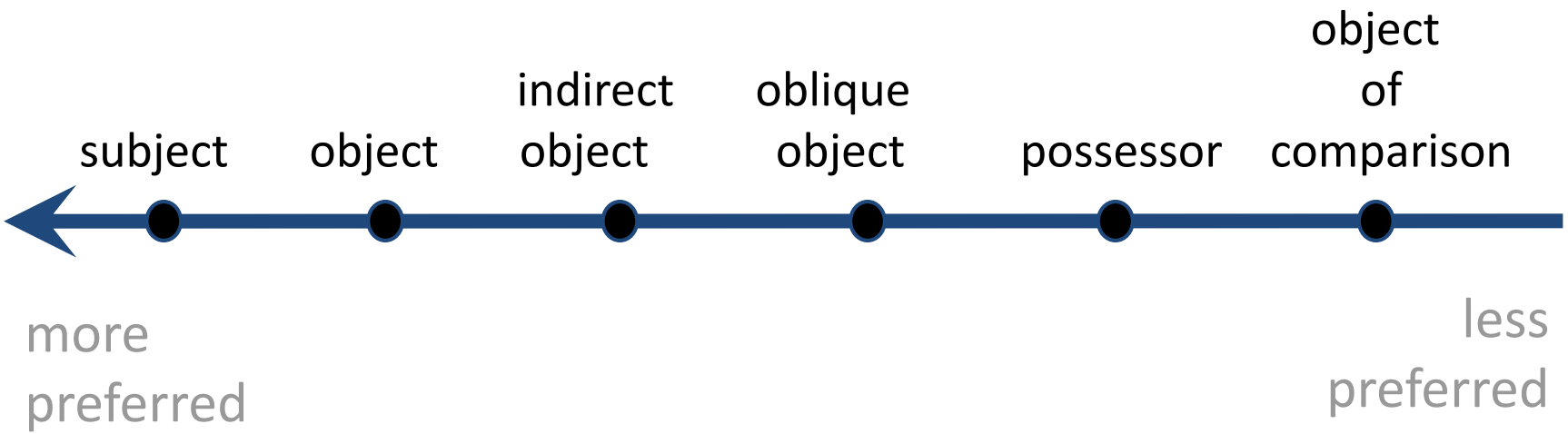
SO ERG IS SYNTACTIC SUBJECT…

- It should be high on the Accessibility Hierarchy (Keenan & Comrie 1977)
- *the cat* [*that* ___ *chased the dog*]

  subject gap
- *the cat* [*that the dog chased* ___]

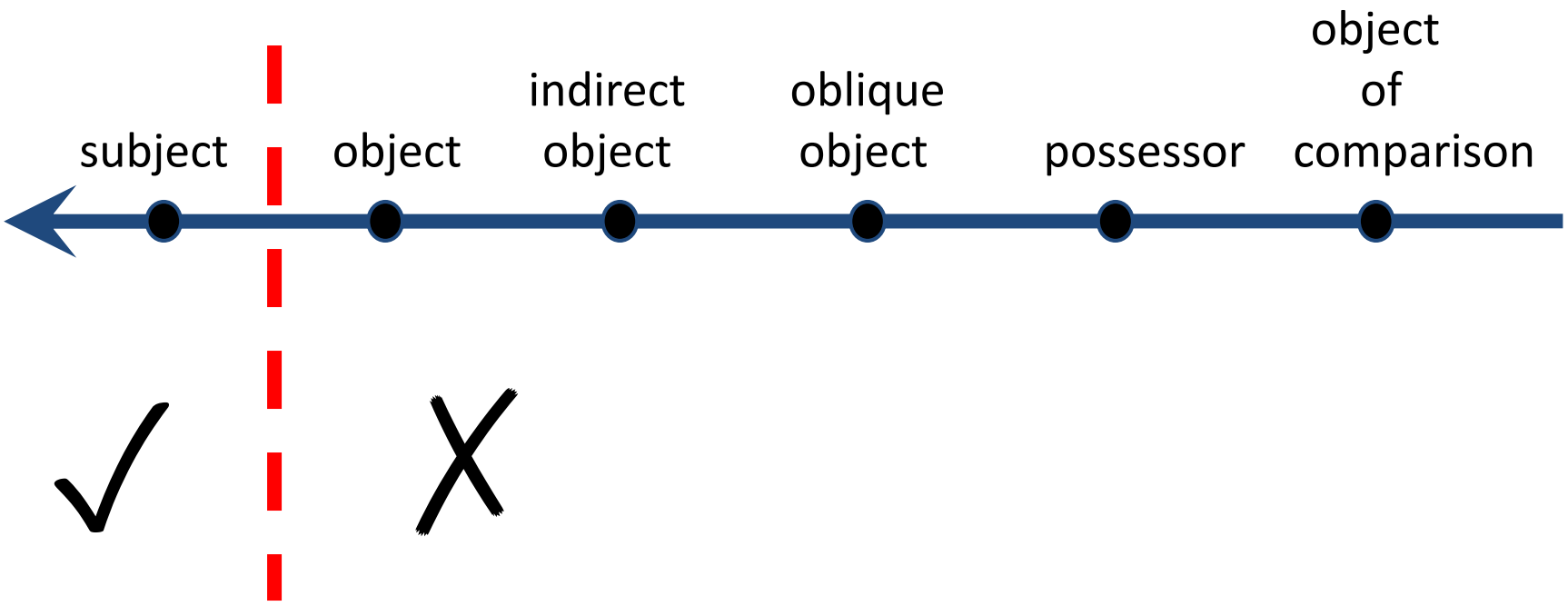
  object gap

The Accessibility Hierarchy



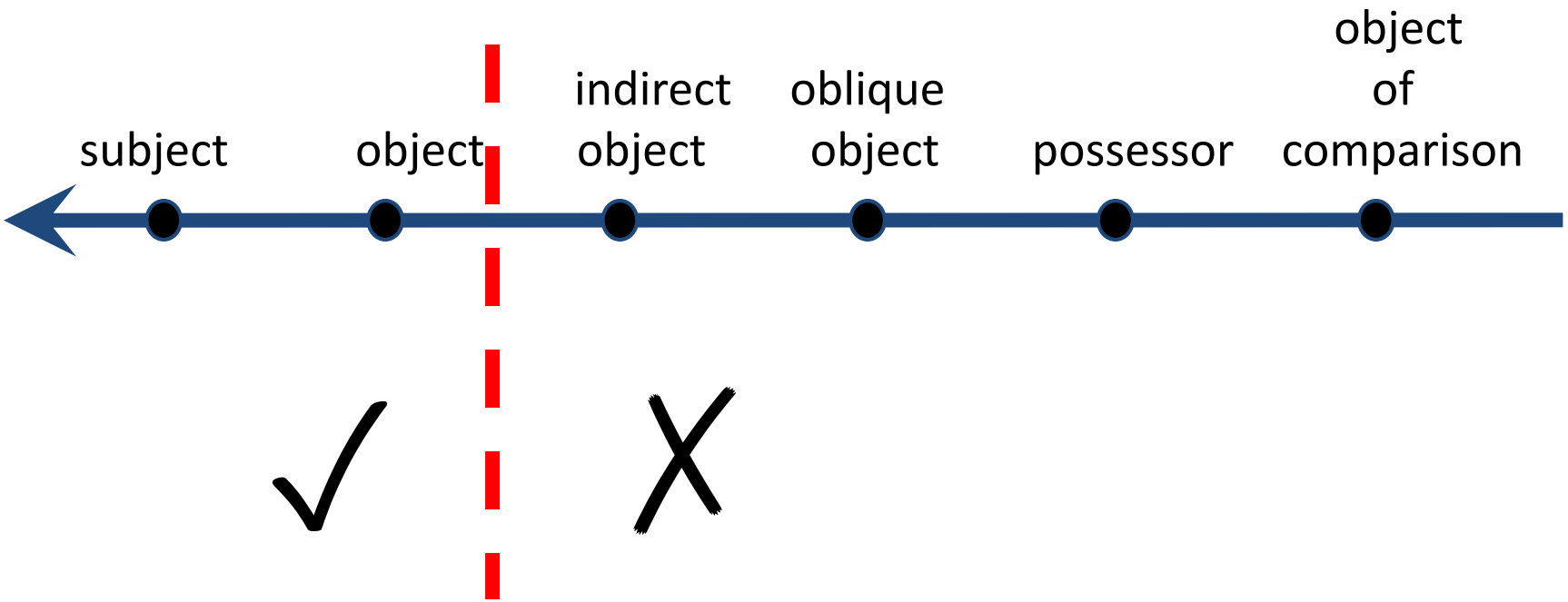
Keenan and Comrie (1977, 1979)

The Accessibility Hierarchy: Relativization



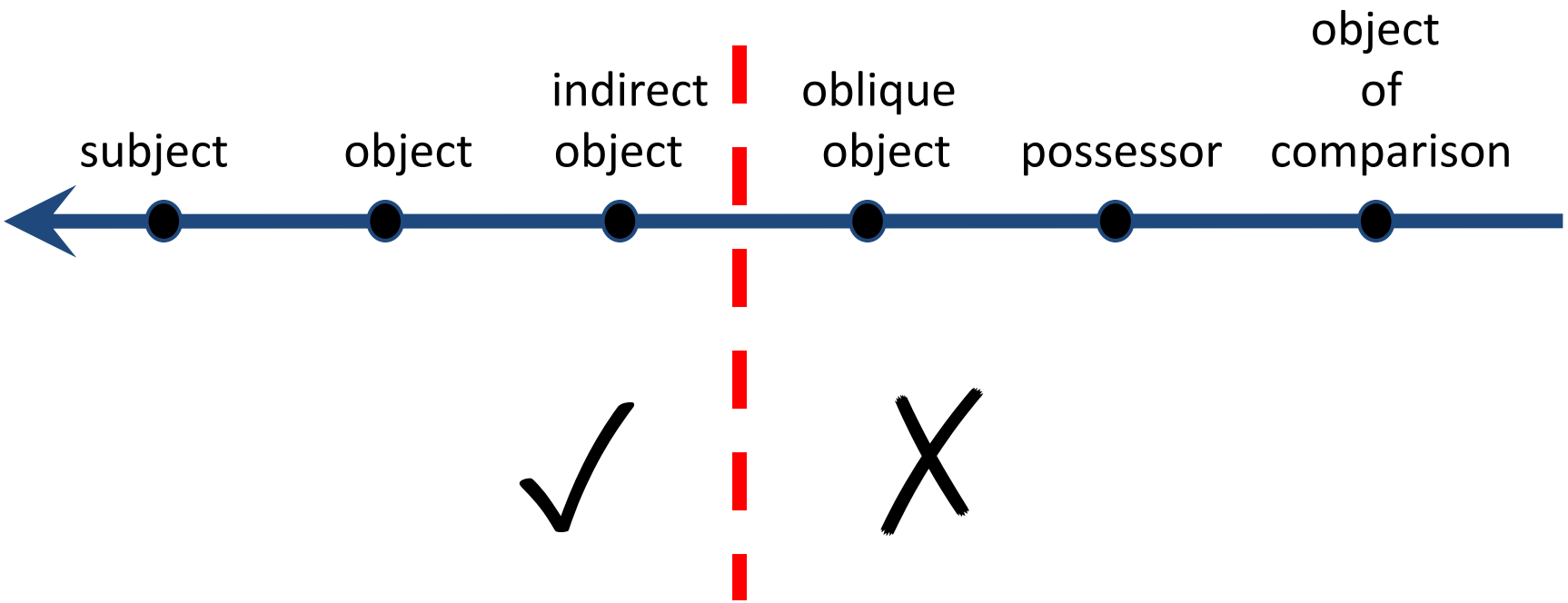
Malagasy

The Accessibility Hierarchy: Relativization



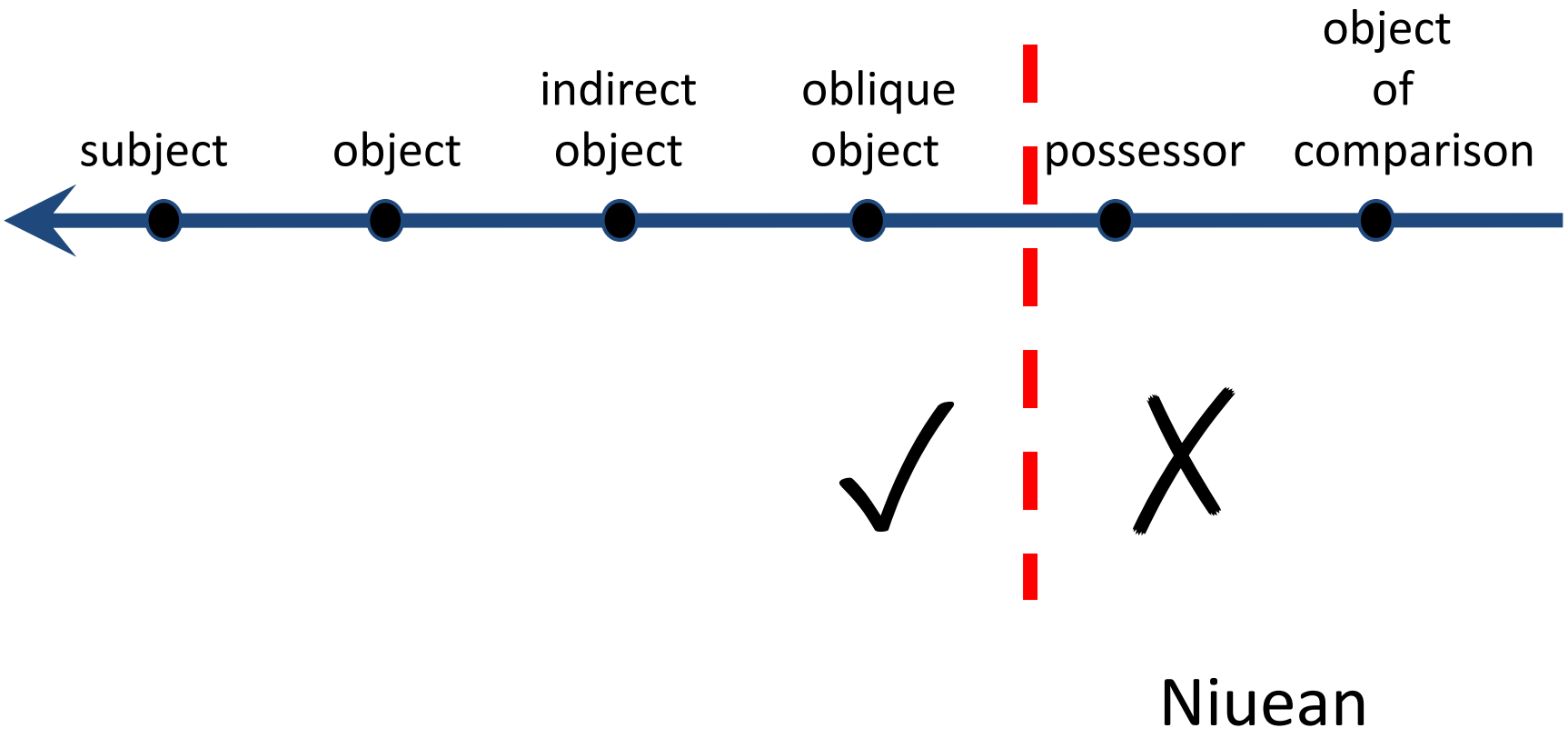
Kinyarwanda, Welsh

The Accessibility Hierarchy: Relativization



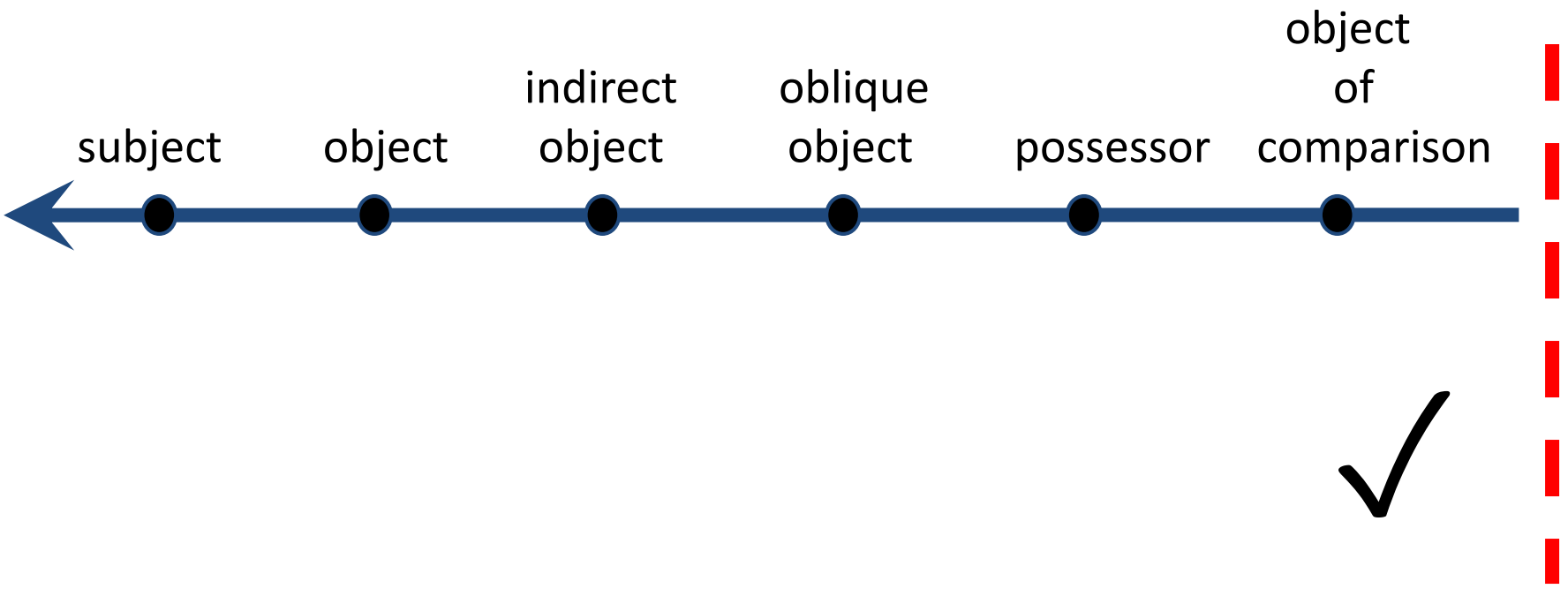
North Frisian

The Accessibility Hierarchy: Relativization



Niuean

The Accessibility Hierarchy: Relativization



English, Russian, Avar

HOWEVER…

- Unlike subjects in nominative-accusative languages, the ergative DP is often inaccessible to relativization, topicalization, and wh-question formation (A-bar movement)
- The inaccessibility of the ergative NP to A-bar movement is known as *syntactic ergativity*
- Syntactic ergativity is found in a large number of ergative languages

EXAMPLE: TONGAN

EXAMPLE: TONGAN

Na'e	feinga	'e	Sione	[ke	alu	__	ki	ai]
PAST	try	ERG	S	COMP	go		there	

'Sione tried to go there.'

Na'e	feinga	'e	Sione	[ke	'ave	__	'a	Mele	ki ai]
PAST	try	ERG	S	COMP	take		ABS	M	there

'Sione tried to take Mele there.'

*Na'e	feinga	'e	Sione	[ke	'ave	'e	Mele	__	ki ai]
PAST	try	ERG	S	COMP	take	ERG	M		there

('Sione tried to be taken there by Mele.')

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PAST	try	ERG	S	COMP	take	ERG	M		there

('Sione tried to be taken there by Mele.')

Ergative has the properties of grammatical subject

HOWEVER…

- Relativization of S:

e fefine [na'e alu GAP ki Tonga]
DET woman PAST go to Tonga
'the woman who went to Tonga'

e fefine ['oku 'ofa'i 'e Sione GAP]
DET woman PRES love ERG S
'the woman whom Sione loves'

e fefine ['oku *(ne) 'ofa'i 'a Sione]
DET woman PRES RP love ABS S
'the woman who loves Sione'

HOWEVER…

- Relativization of S:

e DET fefine woman [na'e PAST alu go GAP ki Tonga] to Tonga

'the woman who went to Tonga'

e DET fefine woman [ʻoku PRES ʻofa'i love ʻe ERG Sione S GAP]

'the woman whom Sione loves'

e DET fefine woman [ʻoku PRES *(ne) RP ʻofa'i love ʻa ABS Sione S]

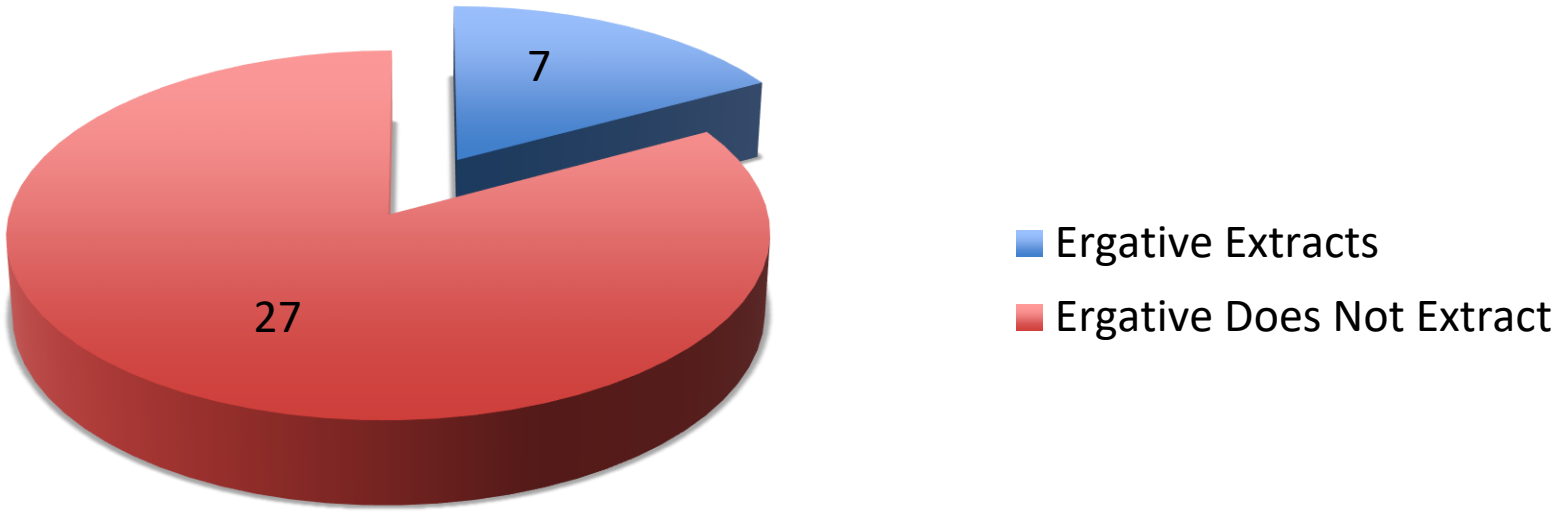
'the woman who loves Sione'

Ergative does not relativize the way subject do—it requires a resumptive pronoun in the relative clause

SYNTACTIC ERGATIVITY

- WALS: 32 ergative languages, of which 5 allow the relativization of the ergative NP; they belong to two language families:
  - Nakh-Dagestanian: Hunzib, Ingush, Lezgian
  - Pama-Nyungan: Ngiyambaa, Pitjantjatjara
- If we add Basque and Georgian, we get 7 languages (out of 34) that have the relativization of the ergative NP

ERGATIVE LANGUAGES WITH AND WITHOUT EXTRACTION OF THE ERGATIVE



A PARADOX

- Structural dominance: the ergative argument is structurally superior to the absolutive

- Syntactic ergativity: the ergative argument cannot undergo A-bar movement leaving a gap at the base position

WHY?

- Maybe ERG gaps are more difficult to process…

THE LOGIC OF THE ARGUMENT

- If languages without syntactic ergativity show difficulty in the processing of ergative gaps

  syntactic ergativity could be considered an extension of the otherwise soft constraint

OUTLINE OF THE TALK

- Subject preference vs. case effects
- Processing study: Avar
- A syntactic alternative
- Conclusions and outstanding questions

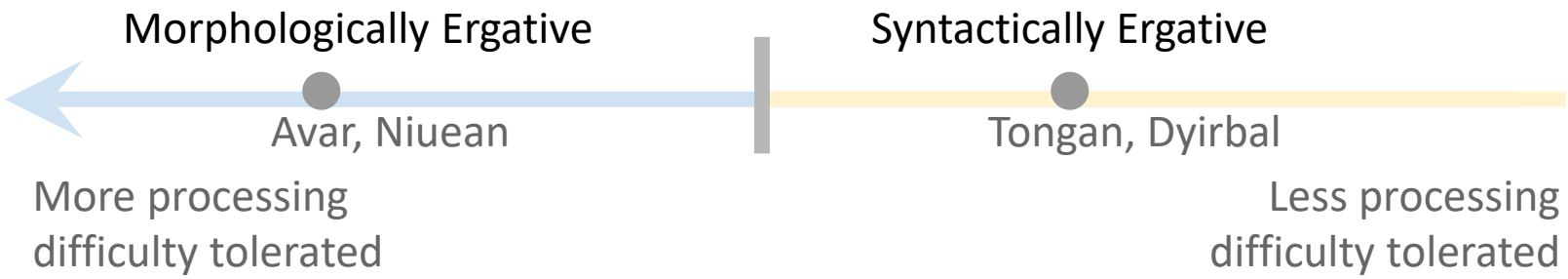
SUBJECT PREFERENCE AND CASE EFFECTS

Exceptions to subject preference: Syntactic ergativity

- Most morphologically ergative languages in WALS prohibit A-bar movement of ergatives

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

Syntactic ergativity is the grammaticalization of a gradient processing constraint



HOW TO DETERMINE WHAT IS EASY AND WHAT IS DIFFICULT

- Experimental work on the processing of extracted DPs
  - If a particular structure is more difficult it imposes a heavier processing load
  - The processing load can be measured by reaction time, time of response, or neuroimaging

RELATIVE CLAUSES

- Universal preference for subject relatives over object relatives

- The reporter
  [***who*** (__) attacked the senator] SR
  admitted the error.

  IS PREFERRED OVER

- The reporter
  [***who*** the senator attacked __] OR
  admitted the error.

PROCESSING: SUBJECTS ARE EASIER TO EXTRACT THAN OBJECTS

- English (King and Kutas 1995; Traxler et al. 2002, a.o.)
- German (Hemforth 1993; Mecklinger et al. 1995; Schlesewsky et al. 2000; Schwartz 2007, a.o.)
- Dutch (Frazier 1987, 1989)
- Spanish (Betancort et al. 2009)
- Japanese (Miyamoto & Nakamura 2003; Ishizuka et al. 2003)
- Korean (Kwon et al. 2006, 2010)
- Russian (Levy et al. 2007; Fedorova 2006; Polinsky 2008, 2011, Clemens et al. 2015)
- Turkish (Demiral & Schlesewsky 2008; Özge et al. 2009)

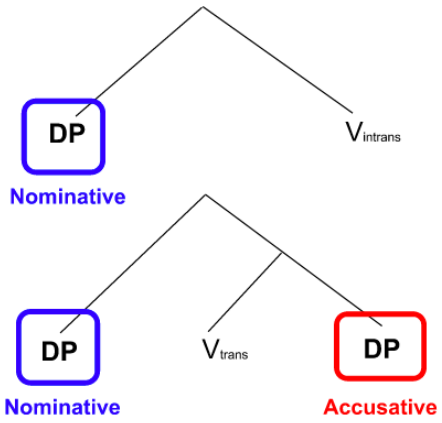
Subject preference in acquisition

- Acquired 2;0-2;6
- Universal preference for subject relatives
  - English (multiple studies)
  - German (Behrens 2001)
  - Turkish (Slobin 1998; Özcan 1997; Özge 2010)
  - Indonesian (Tjung 2006)
  - Russian (Polinsky 2008, 2011)
  - Chinese (Hsu et al. 2006)
  - Irish (Goodluck et al. 2001)
  - Hebrew (Arnon 2006, Friedmann & Novogrodsky 2005)

THE NOMINATIVE TRAP

- All these languages are nominative-accusative
- In such languages, Subject ~ Nominative, and Object ~ Accusative
- Is the extraction is sensitive to grammatical function or to case form?

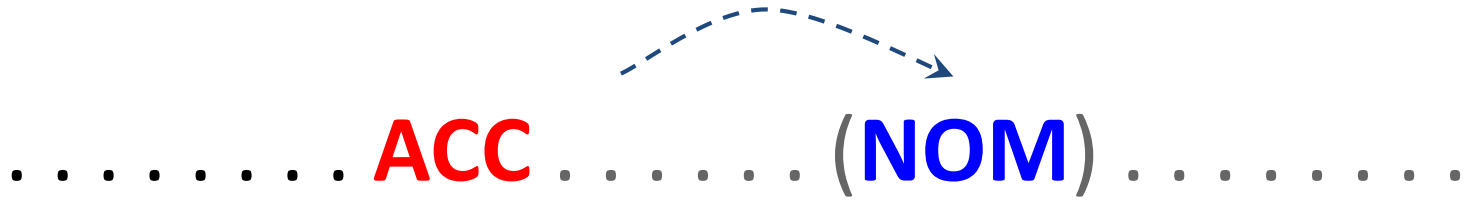
Dependent and Independent Cases



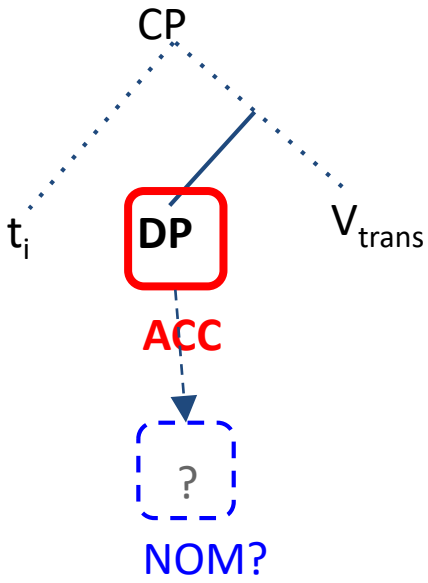
Accusative → Nominative

DEPENDENT INDEPENDENT

. . . . . **ACC** . . . . . ?

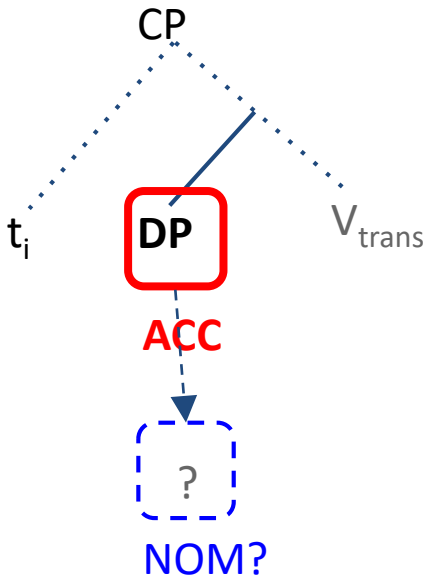

. . . . . ACC . . . . . (NOM) . . . . . .

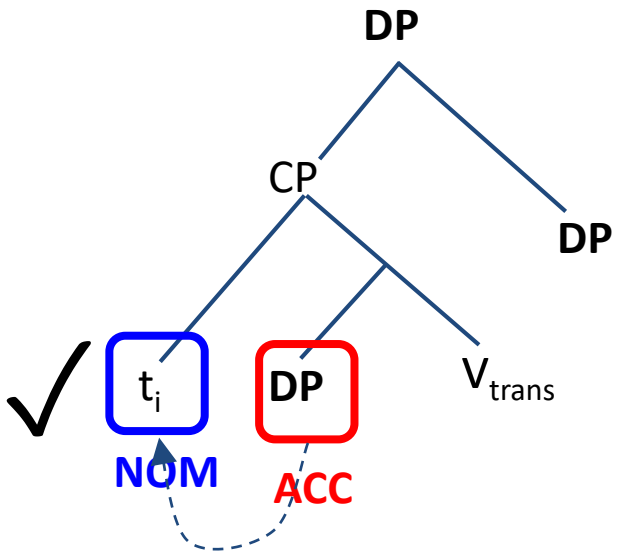
MORPHOLOGICAL CUEING



e.g., Japanese, Korean

MORPHOLOGICAL CUEING



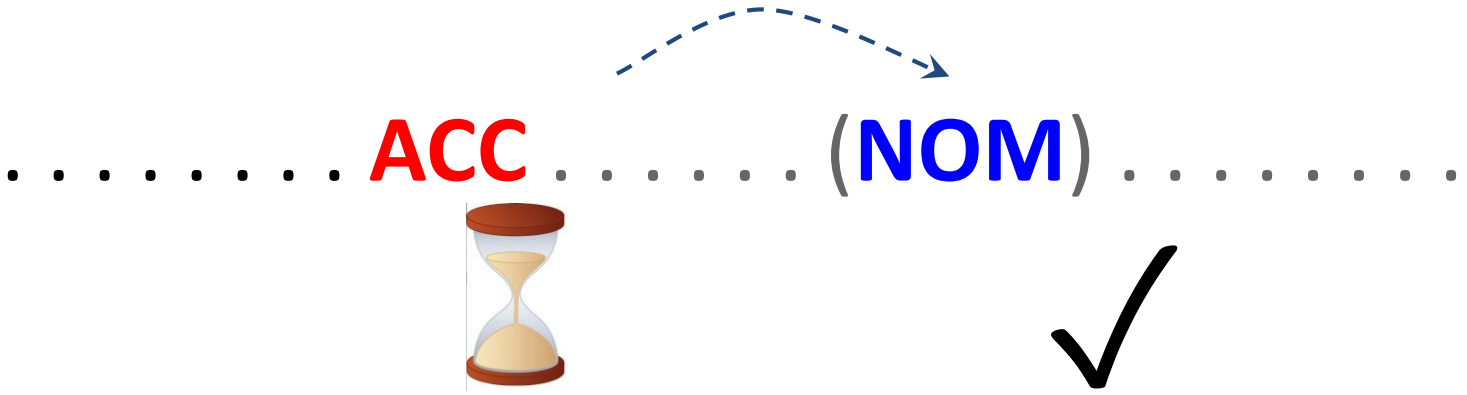


e.g., Japanese, Korean

PREDICTION

. . . . . **ACC** . . . . . ?

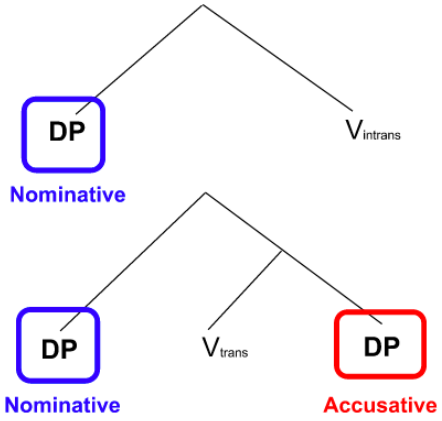
PREDICTION



The nominative trap: Grammatical function and case in nominative-accusative languages work in sync

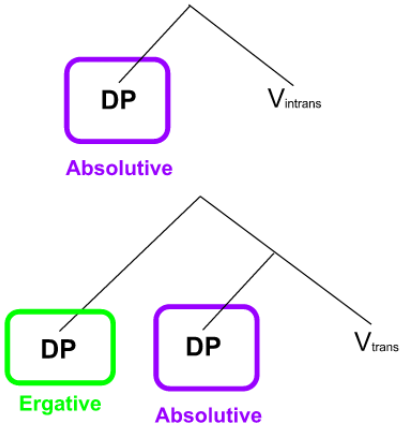
	NOM	ACC
SUB	✓	
OBJ		✓

Dependent and Independent Cases



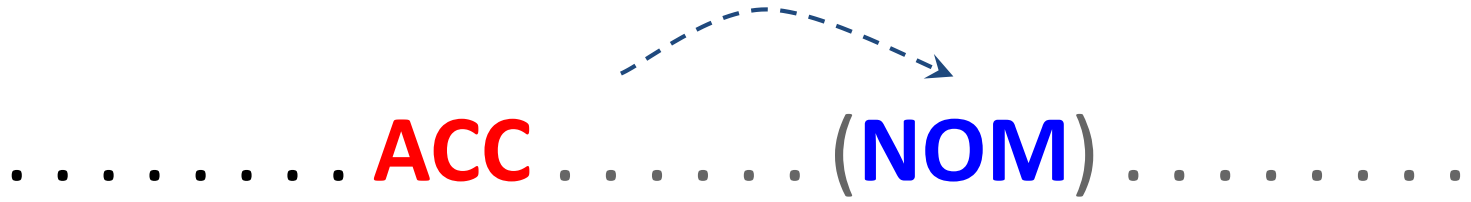
Accusative → Nominative

DEPENDENT INDEPENDENT

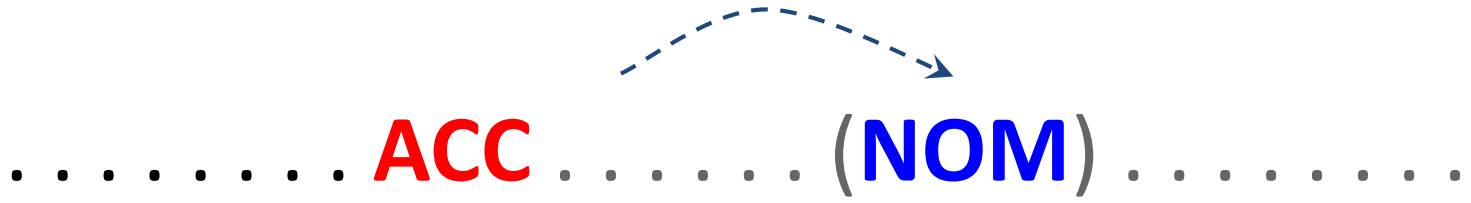


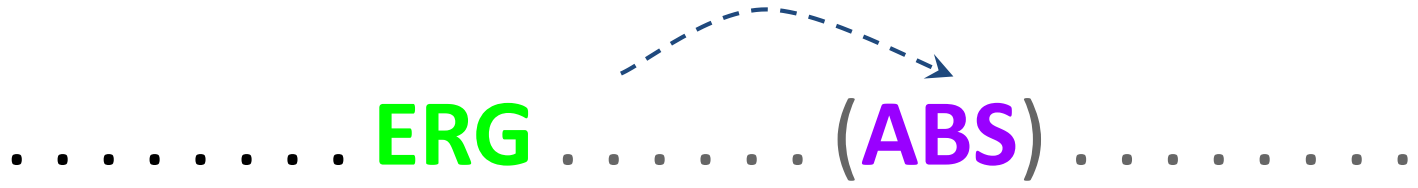
Ergative → Absolutive

DEPENDENT INDEPENDENT

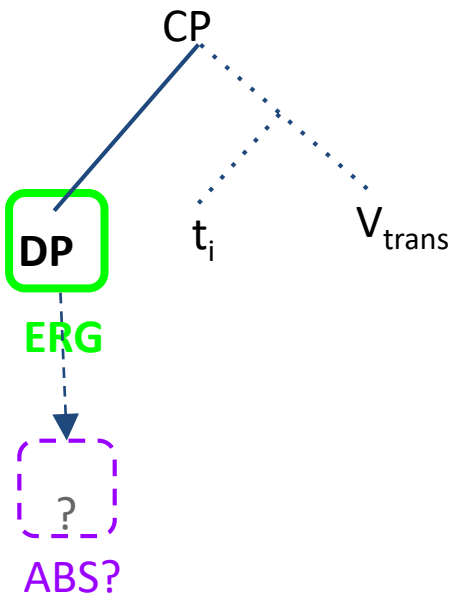


. . . . . ERG . . . . . ?


ACC
(NOM)


ERG
(ABS)

MORPHOLOGICAL CUEING



e.g., Basque, Avar, Tongan, Niuean, Georgian

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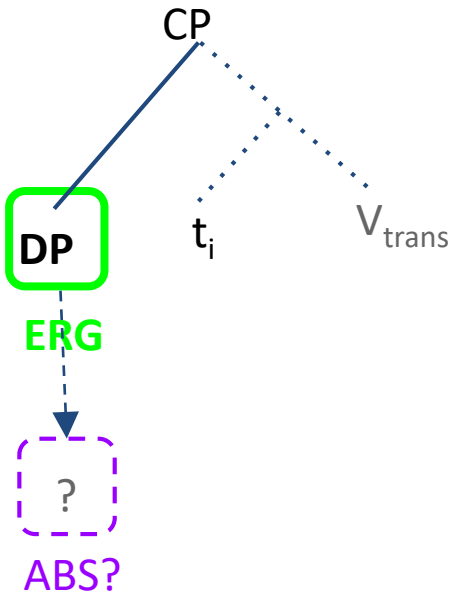

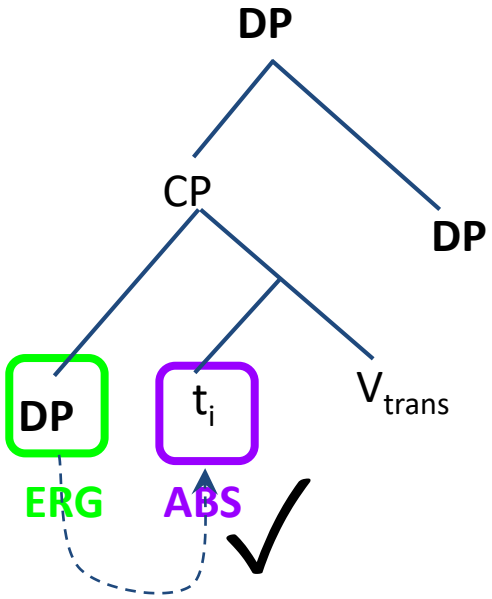

PREDICTION

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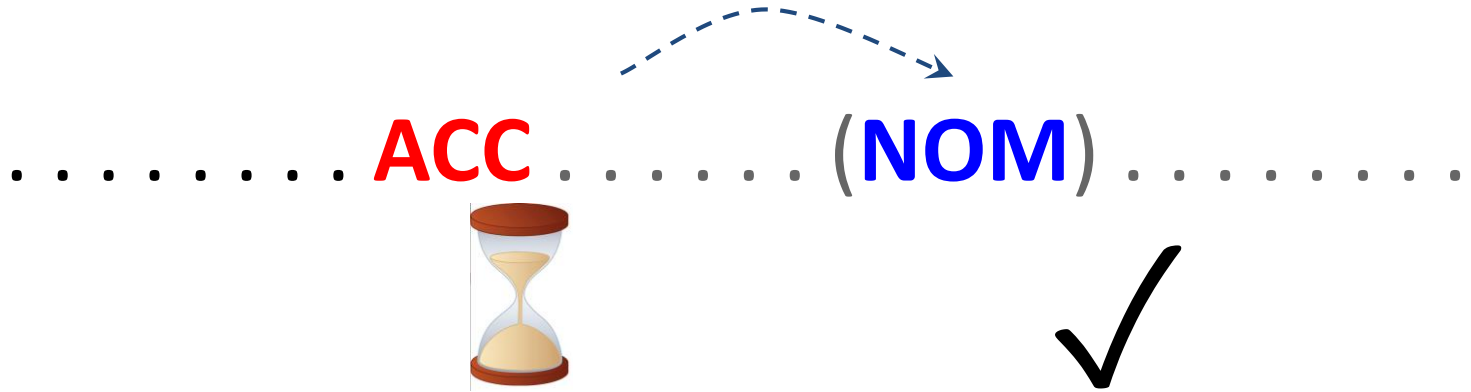
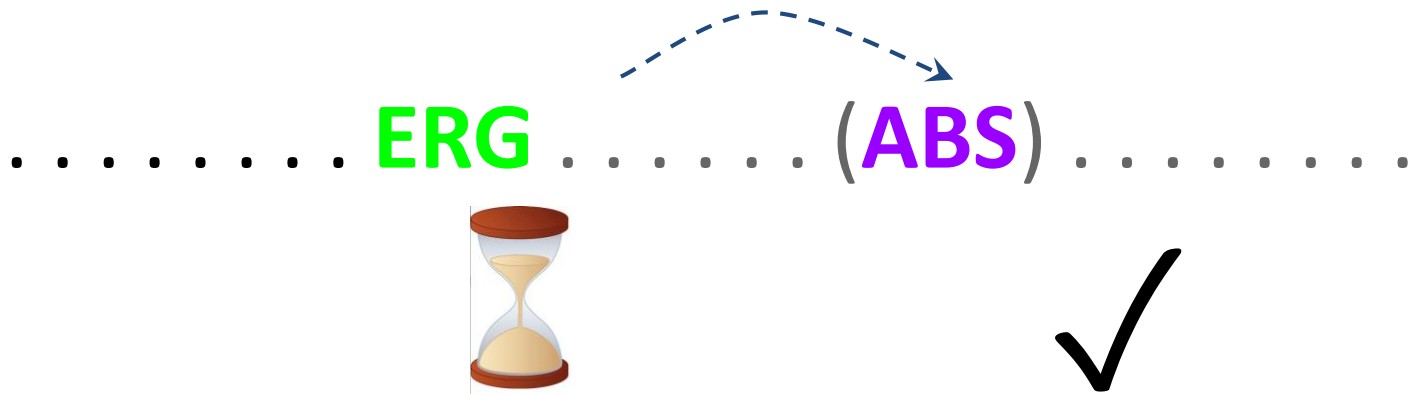
. . . . . ERG . . . . . ?

PREDICTION



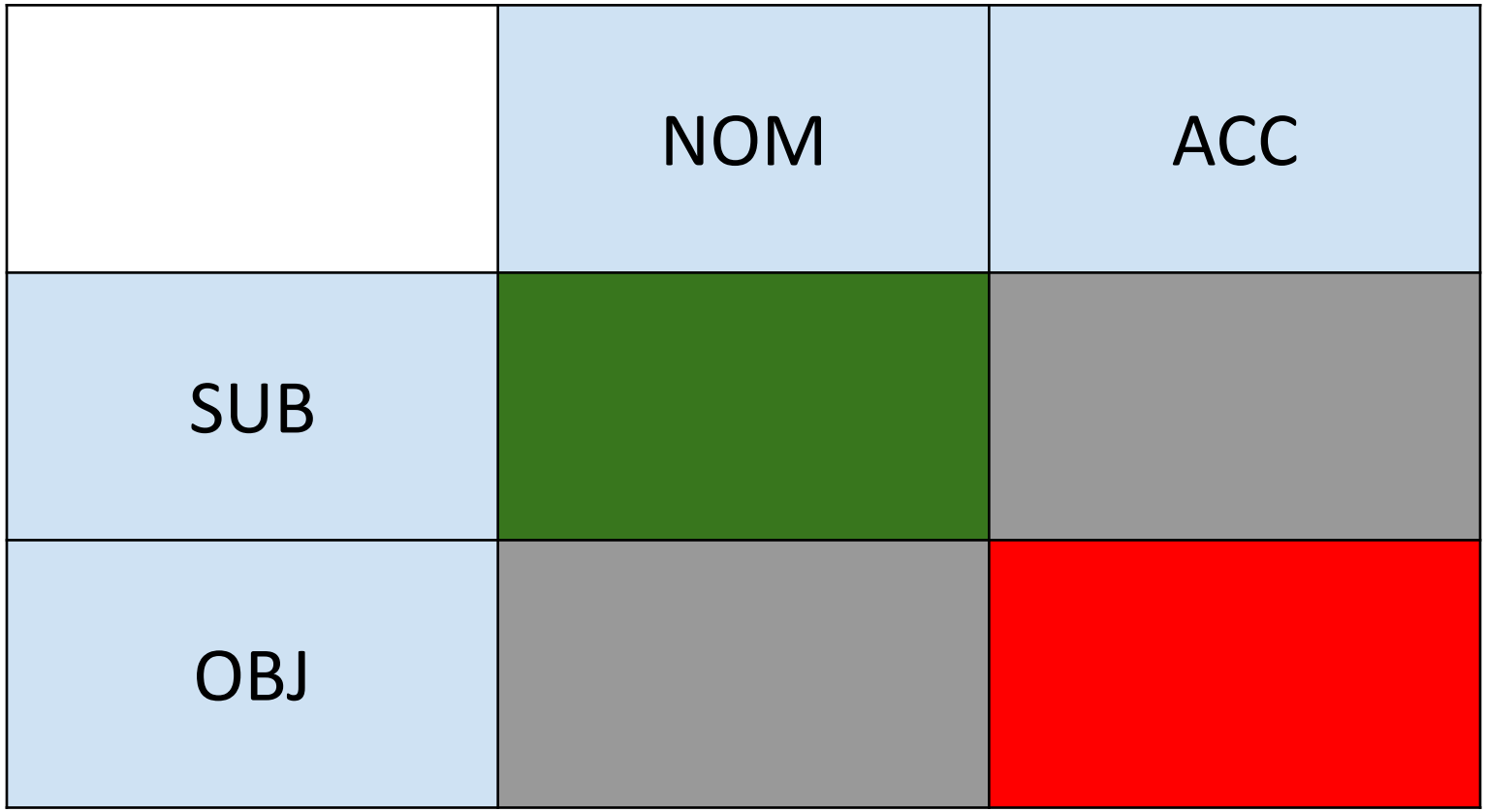


GRAMMATICAL FUNCTION AND CASE IN NOMINATIVE-ACCUSATIVE LANGUAGES

	NOM	ACC
SUB	✓	
OBJ		✓

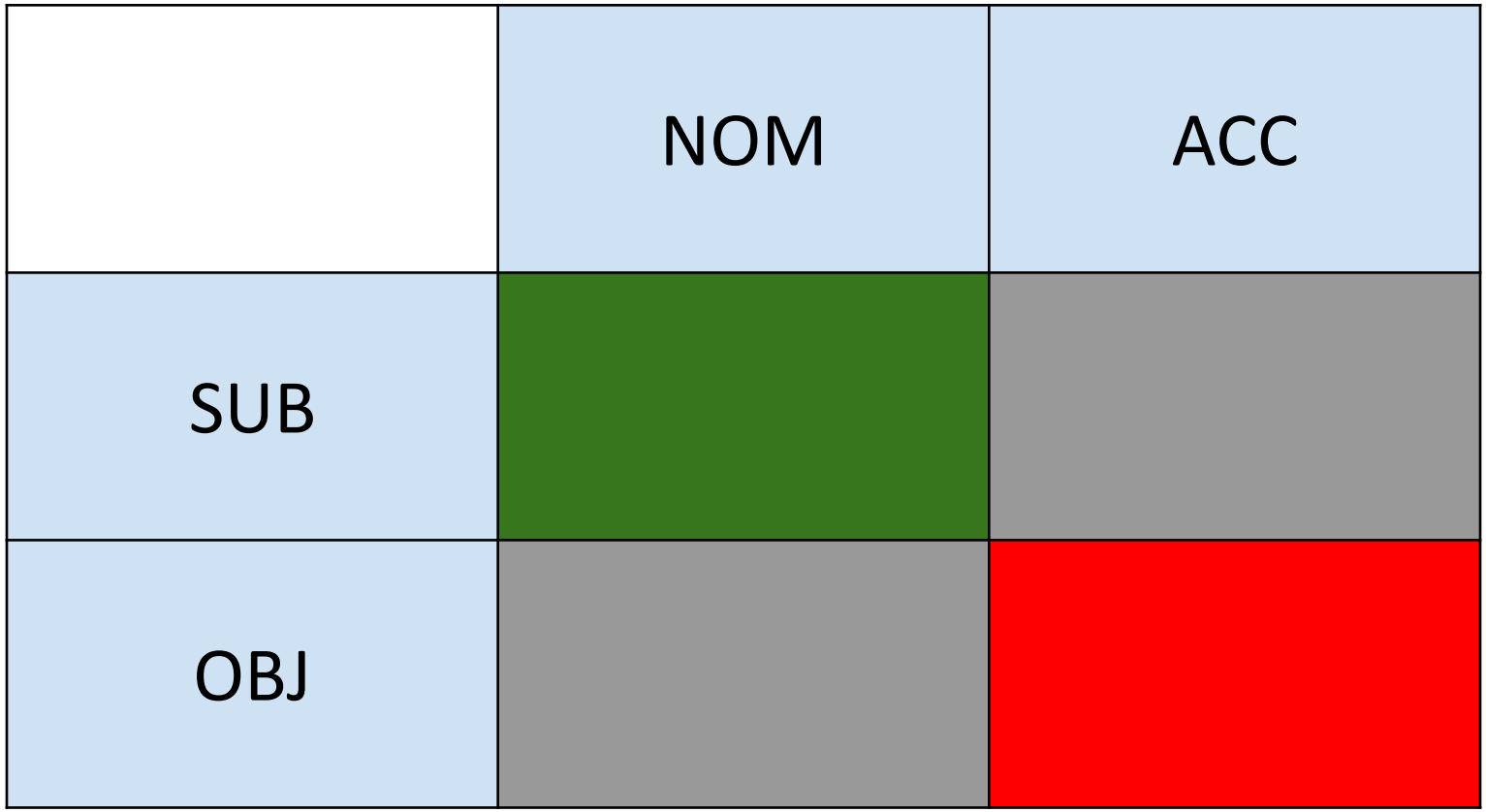
Effects of Grammatical Function and Morphological Cueing on Relativization in Nominative-Accusative Languages

Subject Preference:



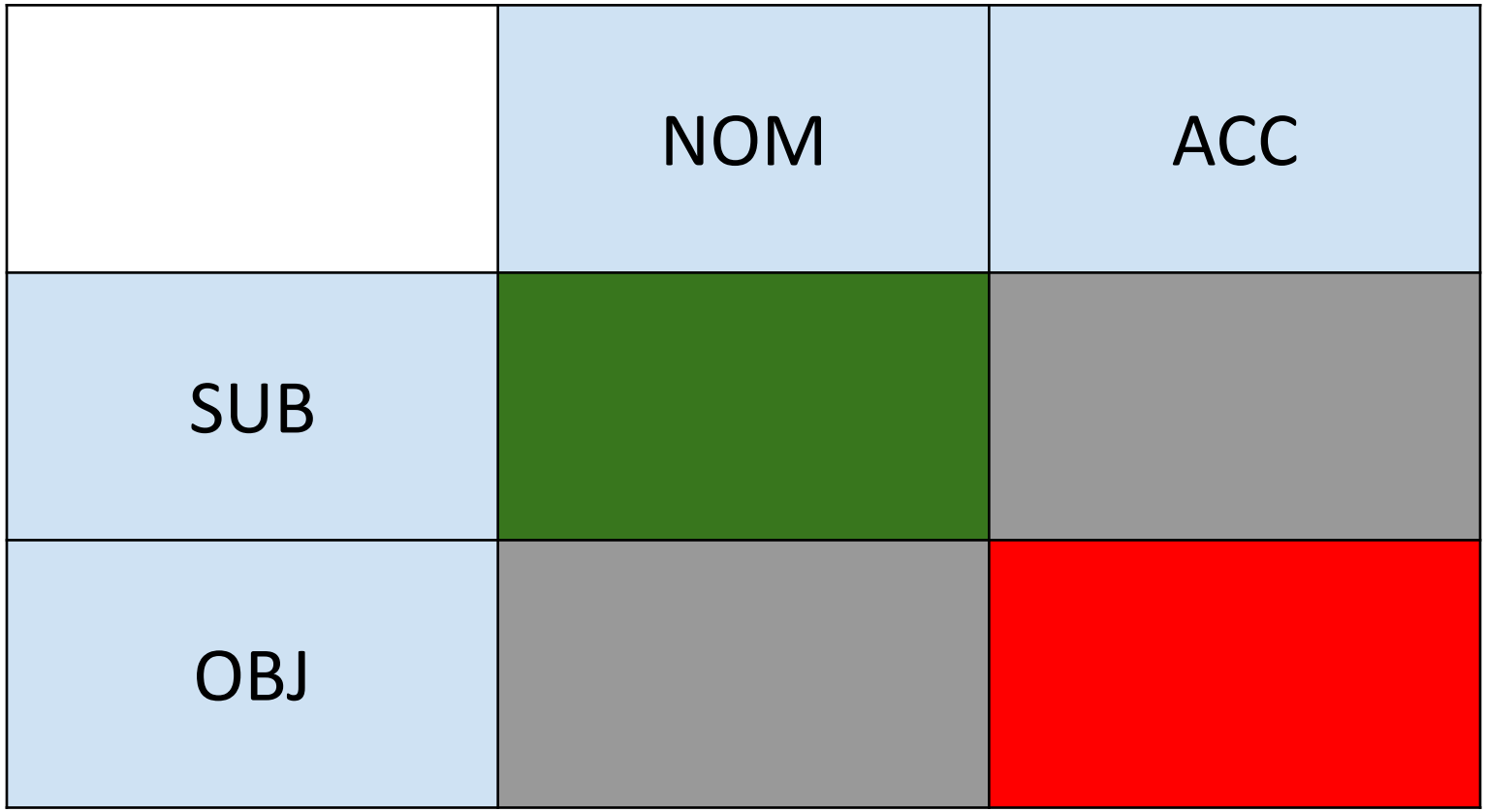
Effects of Grammatical Function and Morphological Cueing on Relativization in Nominative-Accusative Languages

Morphological Cueing:



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

Subject Preference + Morphological Cueing:



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:

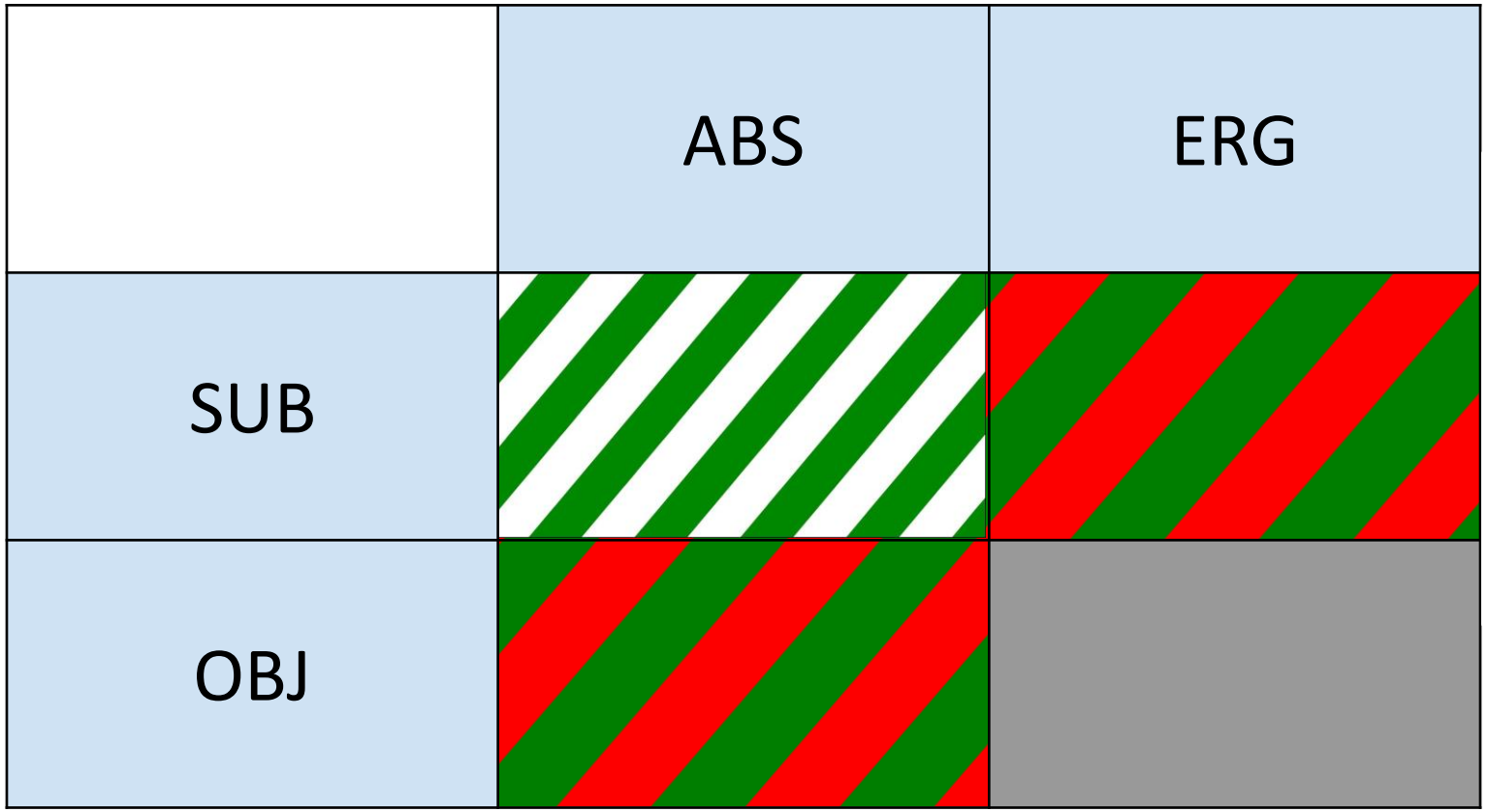
Effects of Grammatical Function and Morphological Cueing on Relativization in Ergative-Absolutive Languages

Morphological Cueing:

	ABS	ERG
SUB	?	
OBJ		

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

Subject Preference + Morphological Cueing:



THE VALUE OF ERGATIVE LANGUAGES

for processing studies:

Ergative languages allow us to dissociate the effect of grammatical function and surface case

Gain for a theoretical linguist: testing the psychological reality of grammatical functions

Gain for an experimentalist: determining relative contribution of different processing factors

PROCESSING IN AVAR

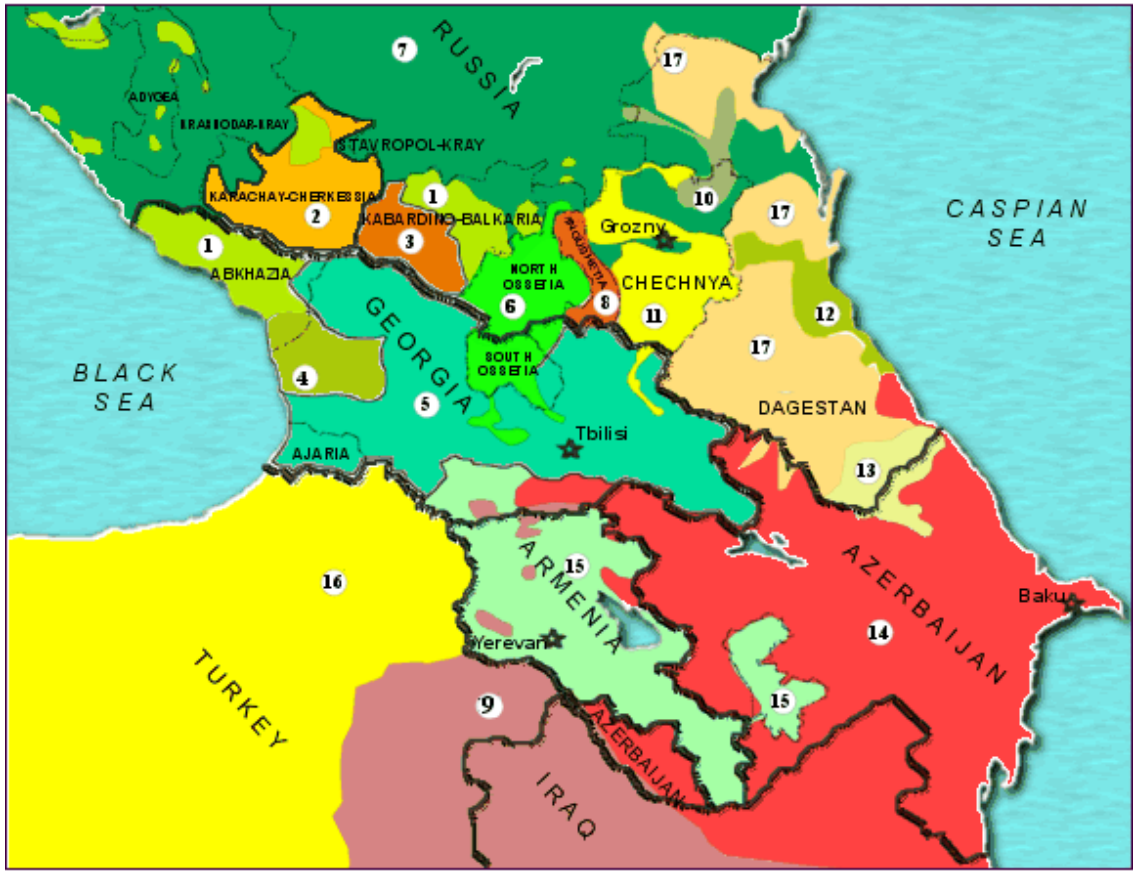
WHY AVAR?

- Initial question: Do ergative languages which allow the extraction of the ergative NP show any difficulty in that extraction?
- Needed to answer that question:
  - An ergative language without syntactic ergativity
  - Sufficient number of speakers to conduct an experimental study
  - A language with a reasonable reading tradition

  (to compare reading and picture-matching)

WHERE IS AVAR?

Transcaucasia Ethnic Groups



Avar

Nakh-Daghestanian (N.E. Caucasian) **>** Avar-Andic-Tsezic **>** Avar-Andic

- ~700,000--800,000 speakers
- Modest written tradition
- N.W. & Central Dagestan, Azerbaijan, Turkey
- ~30,000 in Moscow
- Gradually giving way to Russian, with a growing number of recessive bilinguals

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

AVAR RELATIVE CLAUSES

Ergative subject gap (transitive subject RC)

[___$_i$	ʕoloqana-y	yas	repetici-yal-de	y-acˇ:-un	y-acˇ’-ara-y]
ERG	unmarried-II	girl.ABS	rehearsal-OBL-LOC	II-bring-GER	II-come-PRTCP-II
	W1	**W2**	**W3**	**W4**	**W5 [RC PREDICATE]**

artistka$_i$	bercina-y	y-igo	
actress.ABS	beautiful-II	II-AUX	
W6 [HEAD NOUN]	**W7 [SPILL OVER]**	**W8**	

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

AVAR RELATIVE CLAUSES

Absolutive object gap (object RC)

[xalq'iya-y artistka-yał ___$_i$ repetici-yal-de y-acˇ:-un y-acˇ'-ara-y]

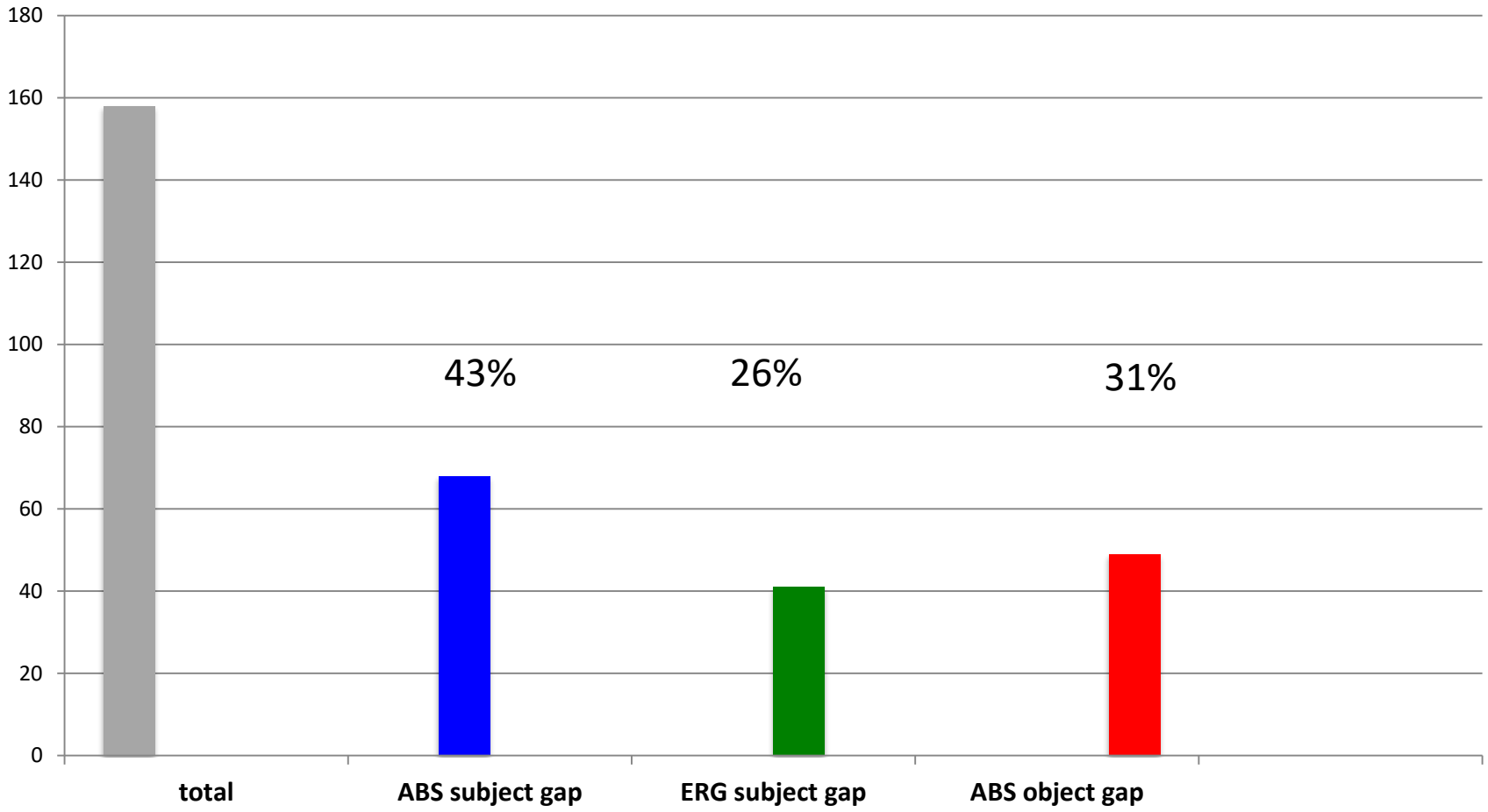
people's-II actress-ERG **ABS** rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II

yas$_i$ bercina-y y-igo

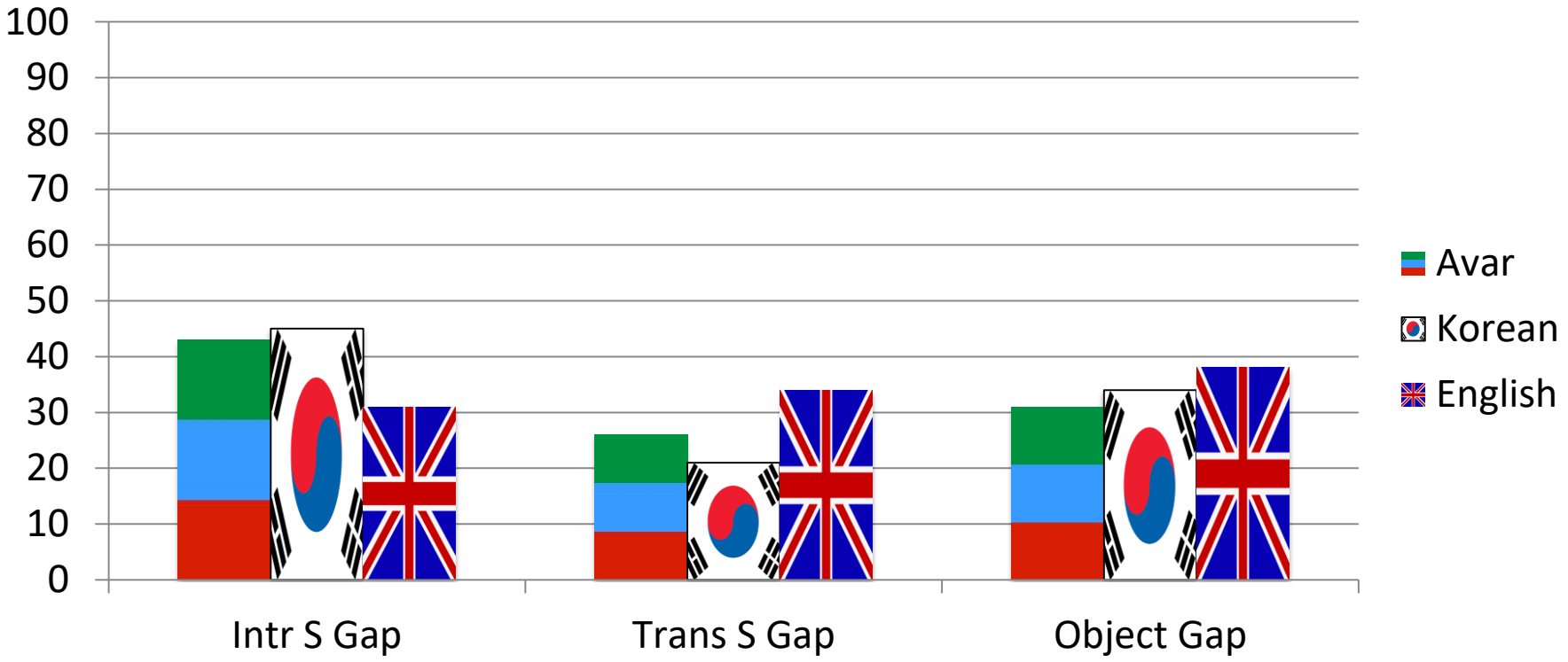
girl.ABS beautiful-II II-AUX

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

RC DISTRIBUTION



RC DISTRIBUTION: COMPARATIVE %



Avar: Polinsky et al. 2012; **Korean:** Sejong corpus counts;
English: Gordon & Hendrick 2005 (avg. over three corpora)

METHODS

- Used the standard dialect of Avar
- Self-paced reading methodology and sentence-picture matching
- Conducted in Moscow (SPR) and Maxachkala (SPM)
- 46/52 participants, 21/27 female; average age 31/35
- Average accuracy rate on comprehension questions in SPR set at 80% (to allow for a population unfamiliar with test-taking)

Self-paced reading

The quick brown fox jumps over the lazy dog.

The

_____quick _____ _____ _____ _____ _____ _____ _____

_____ _____ brown_____ _____ _____ _____ _____ _____

_____ _____ _____ fox _____ _____ _____ _____ _____

_____ _____ _____ ____ jumps _____ _____ _____ _____

_____ _____ _____ _____ _____ over_____ _____ _____

_____ _____ _____ _____ _____ _____ the _____ _____

___ ___ ___ ___ ___ ___ ___ lazy ___

_____ _____ _____ _____ _____ _____ _____ _____dog.

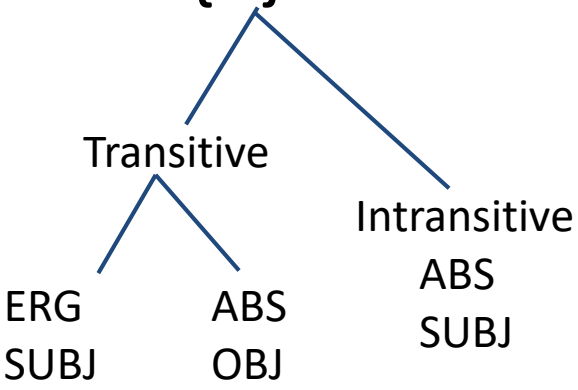
ANALYSIS

The quick brown fox jumps over the lazy dog.

W1 W2 W3 W4 W5 W6 W7 W8 W9

MATERIALS

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



- 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 **absolutive** case half the time, **ergative** case half the time

Absolutive subject gap

Absolutive subject gap

(9) *Absolutive 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	

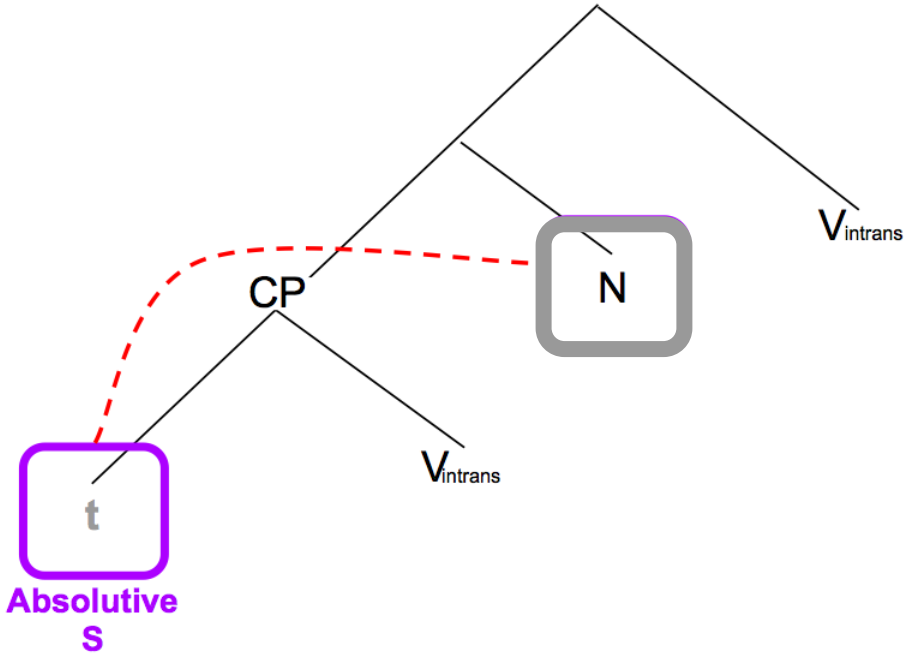
'The girl that stood next to the distinguished actress at the rehearsal is an orphan.'

Absolutive subject gap

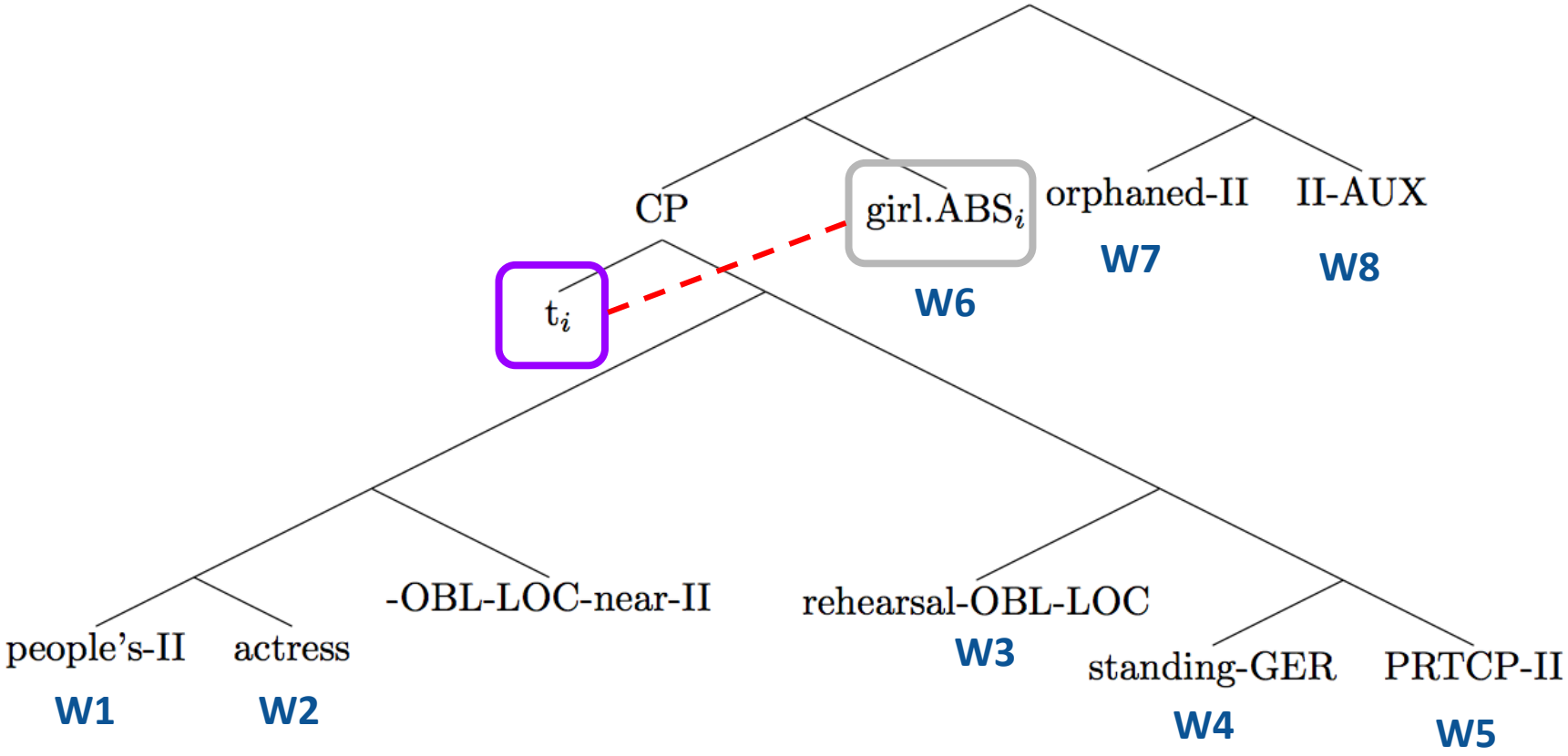
(9) *Absolutive subject gap (intransitive subject RC)*

[____$_i$	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.'



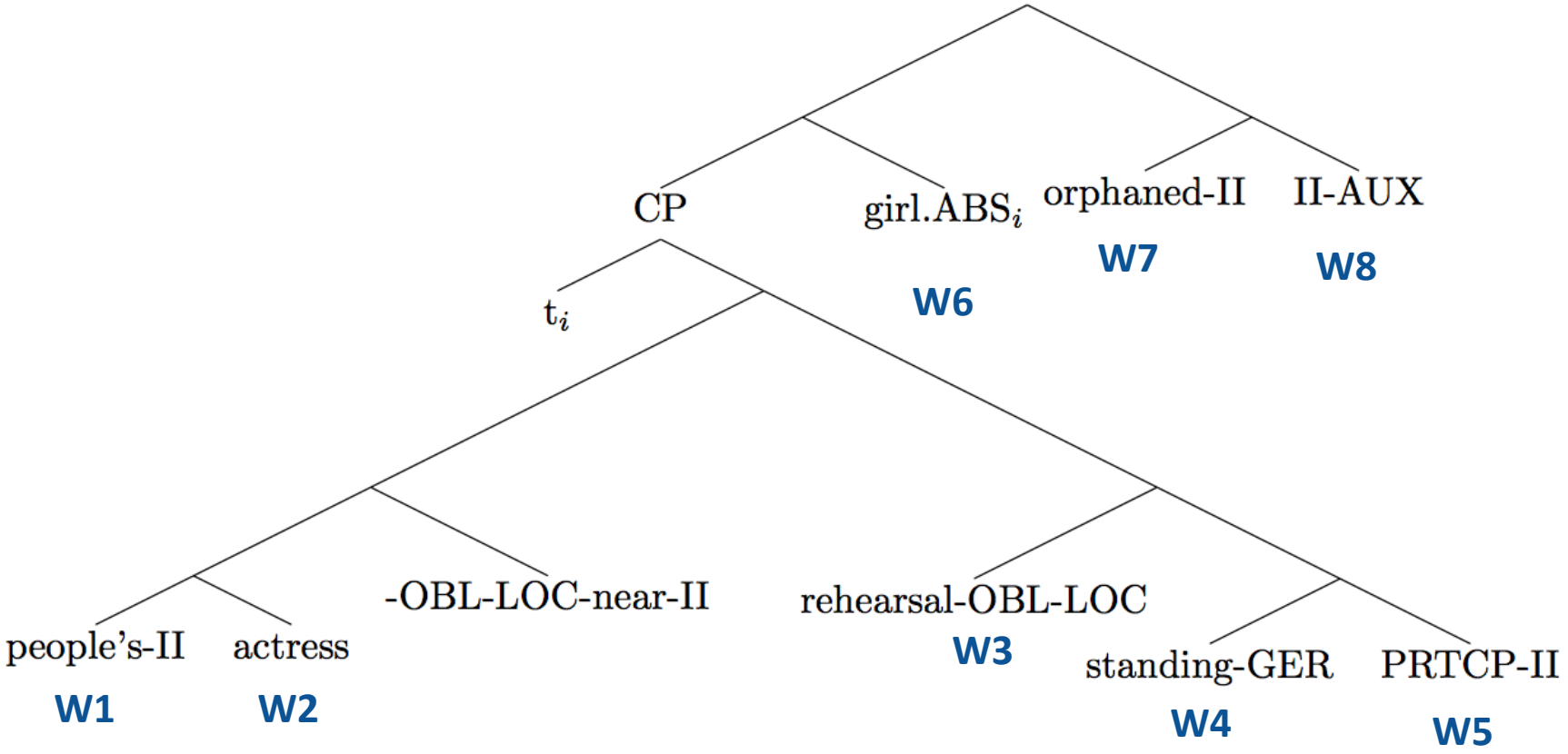
Absolutive subject gap



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

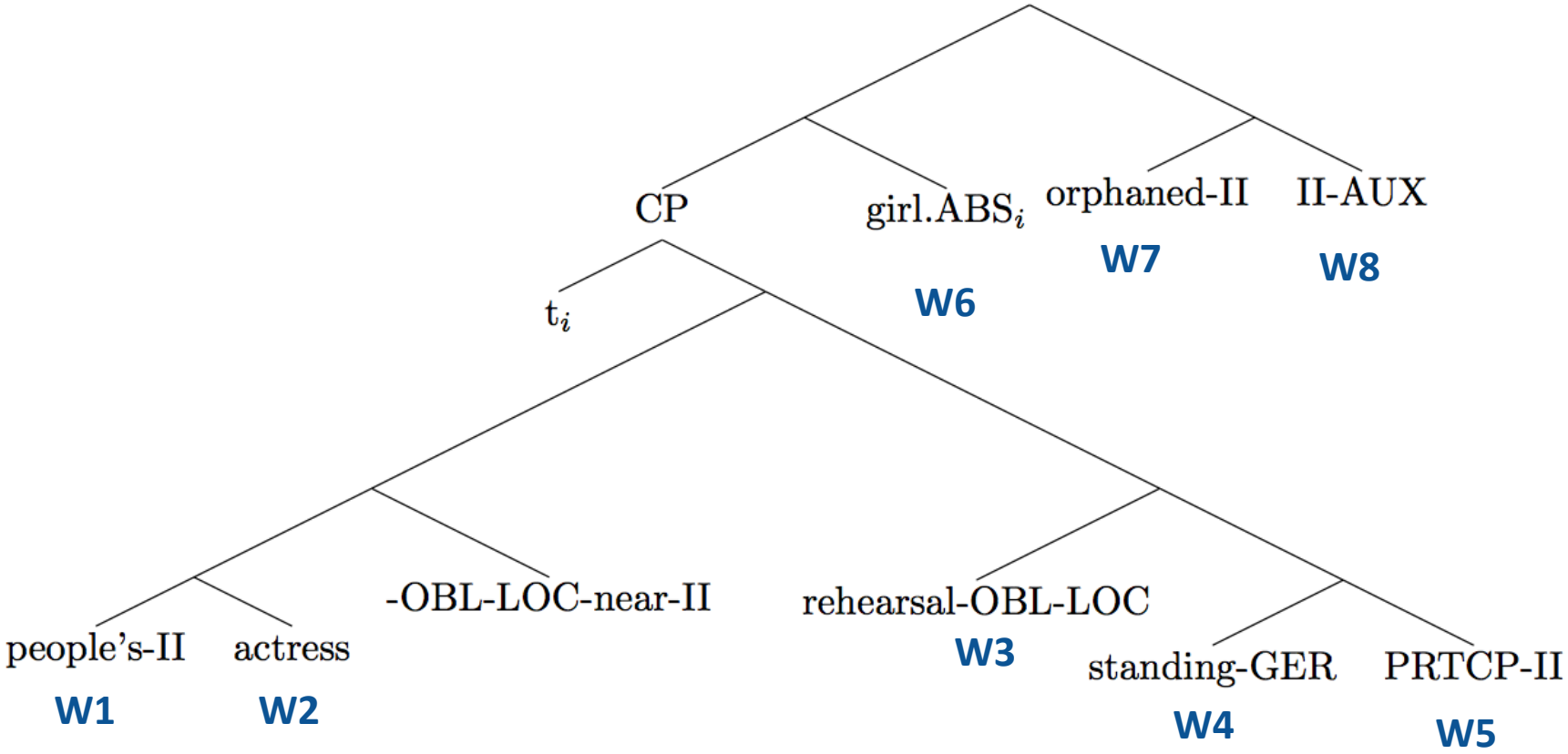
Morphological cueing



t$_i$ people's-I 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

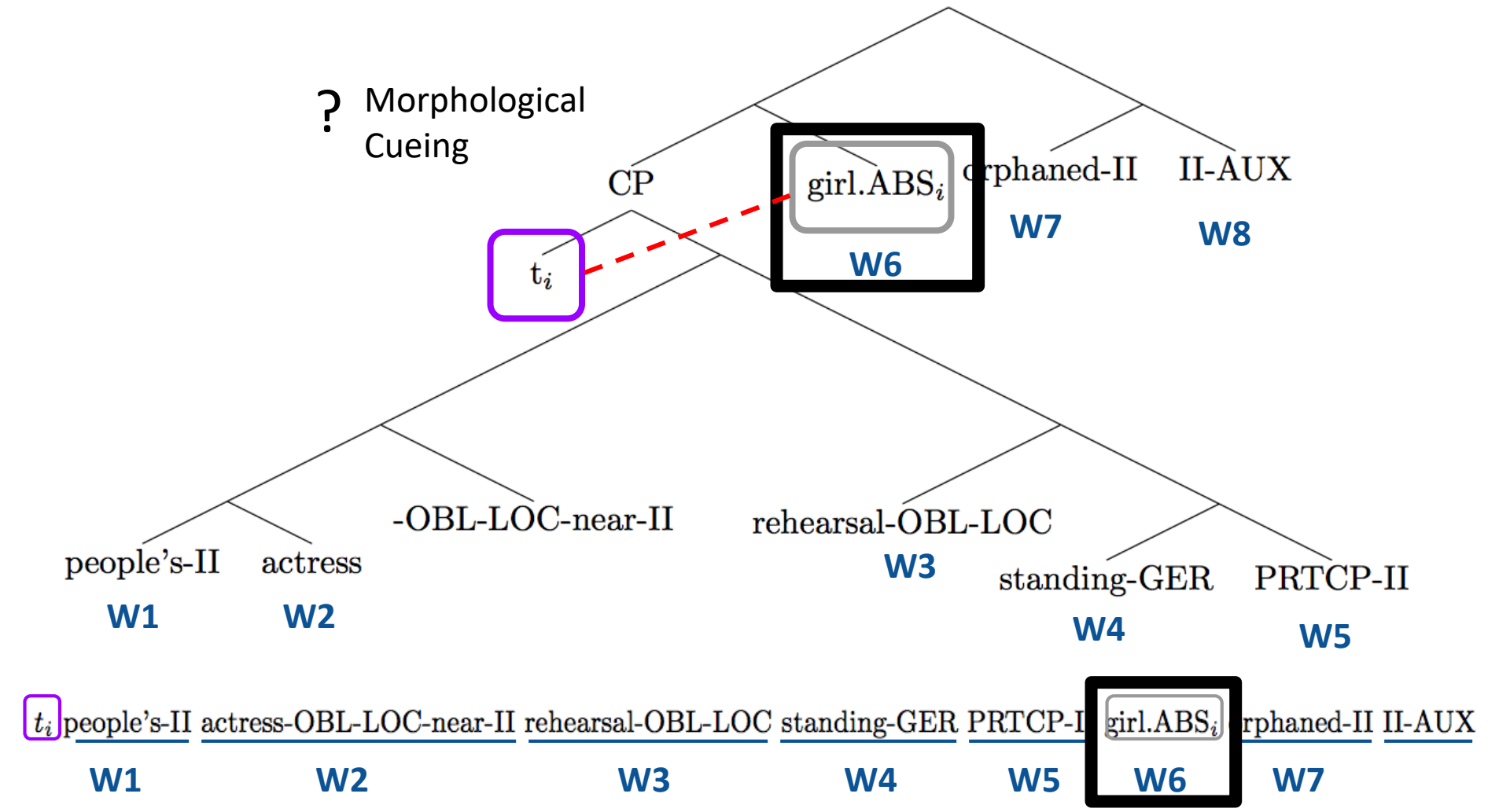
Morphological cueing



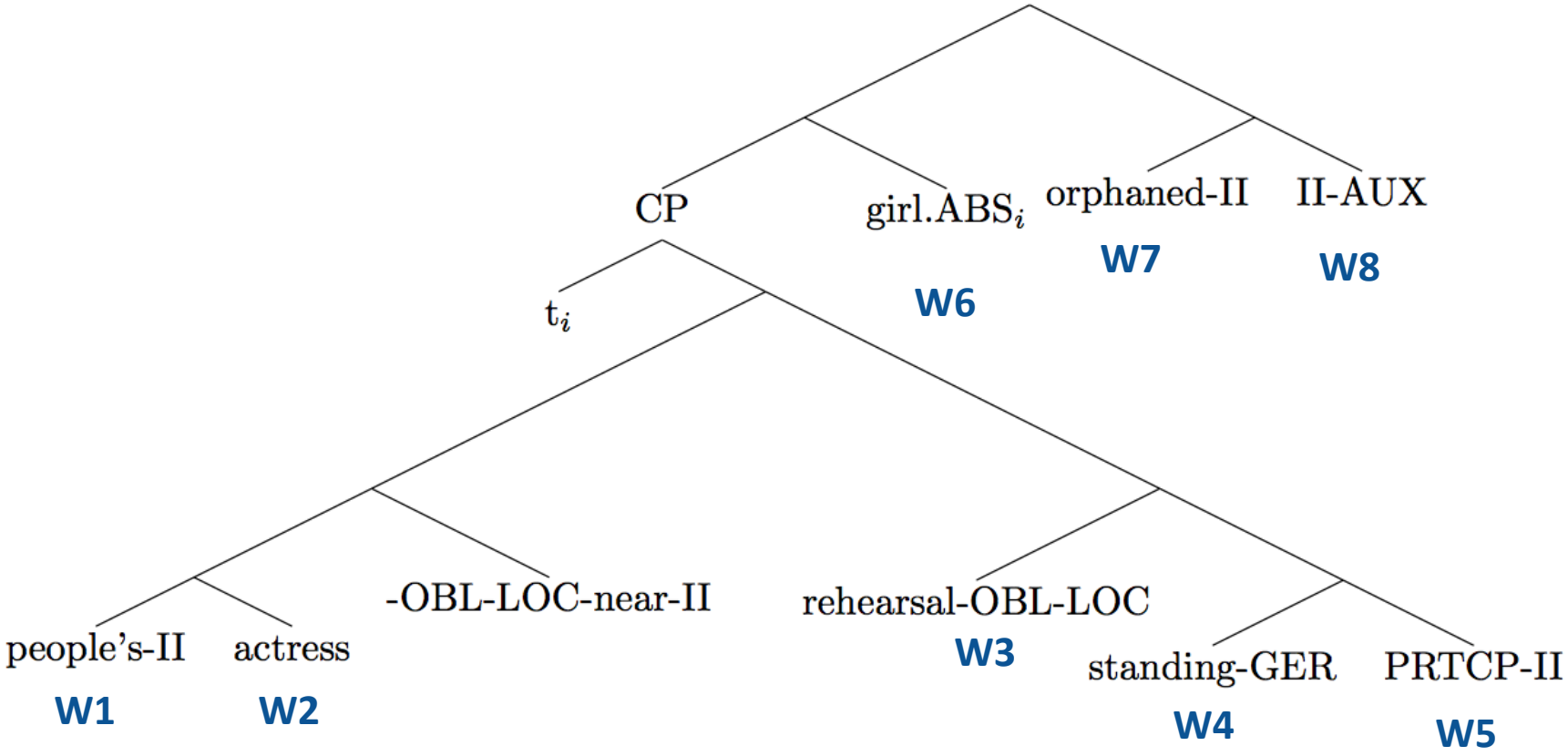
t$_i$ people's-II actress-OBL-LOC-near-II rehearsal-OBL-LOC standing-GER PRTCP-II girl.ABS$_i$ orphaned-II II-AUX

W1 W2 W3 W4 W5 W6 W7

Morphological cueing



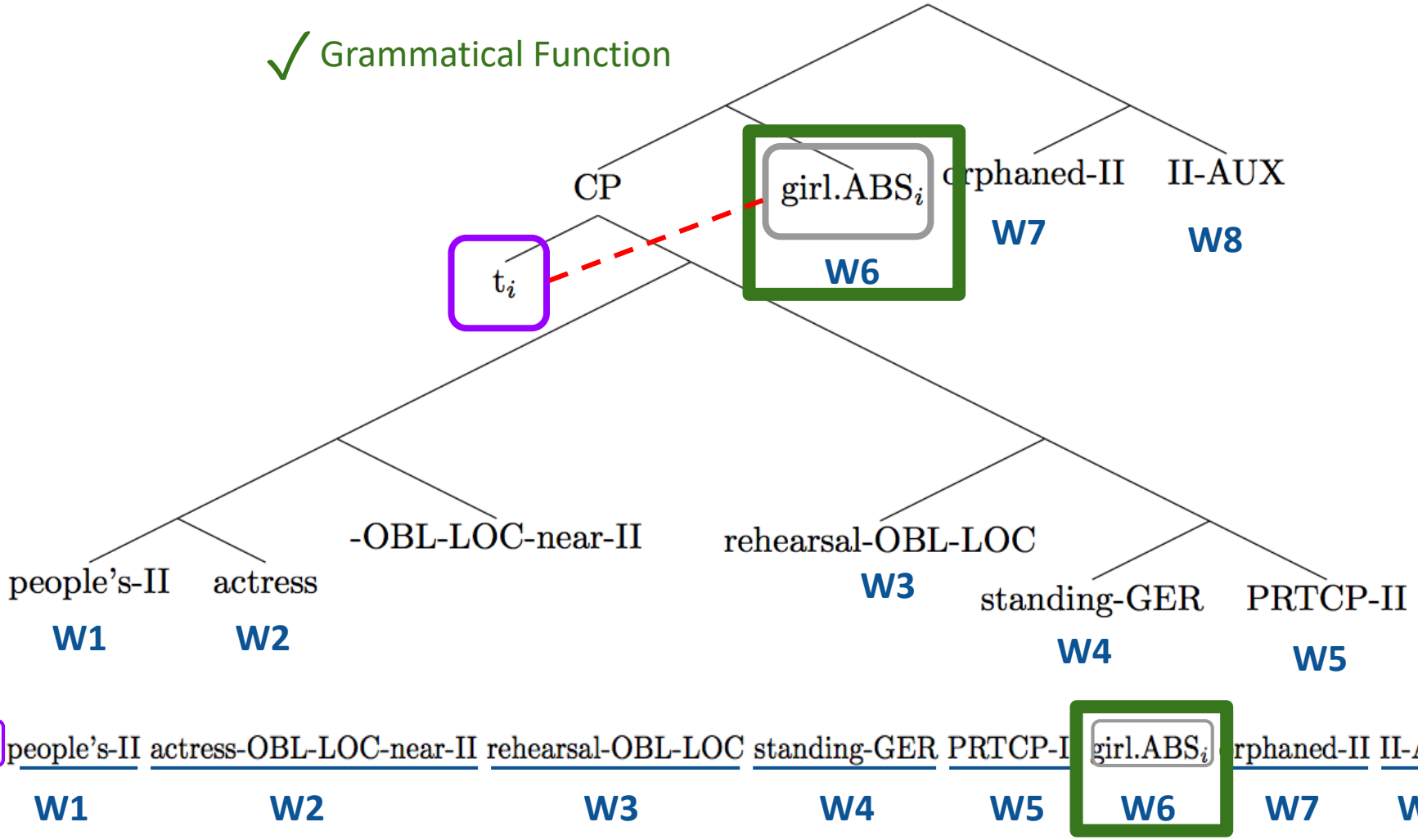
Grammatical function



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



Absolutive object gap

Absolutive object gap

(8) *Absolutive 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		

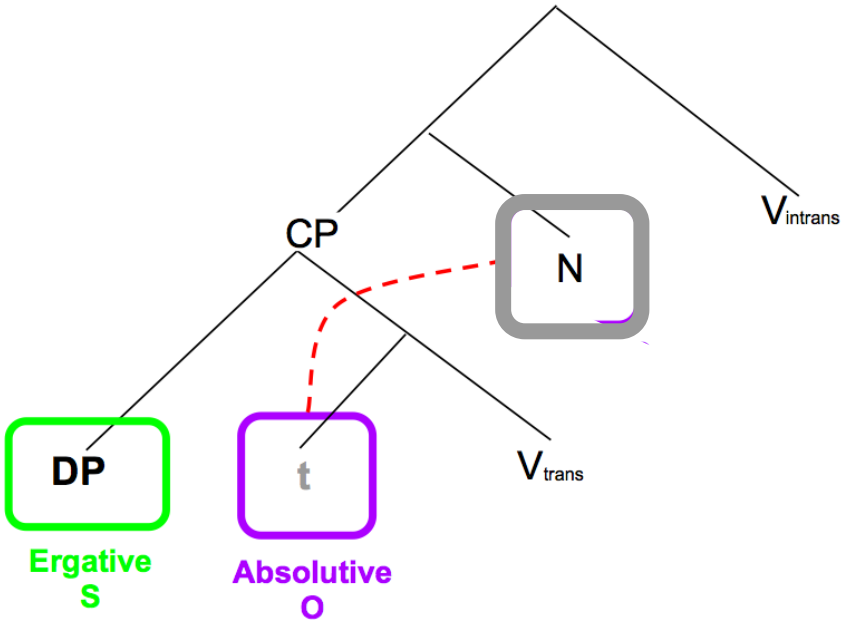
'The girl that the distinguished actress brought to the rehearsal is pretty.'

Absolutive object gap

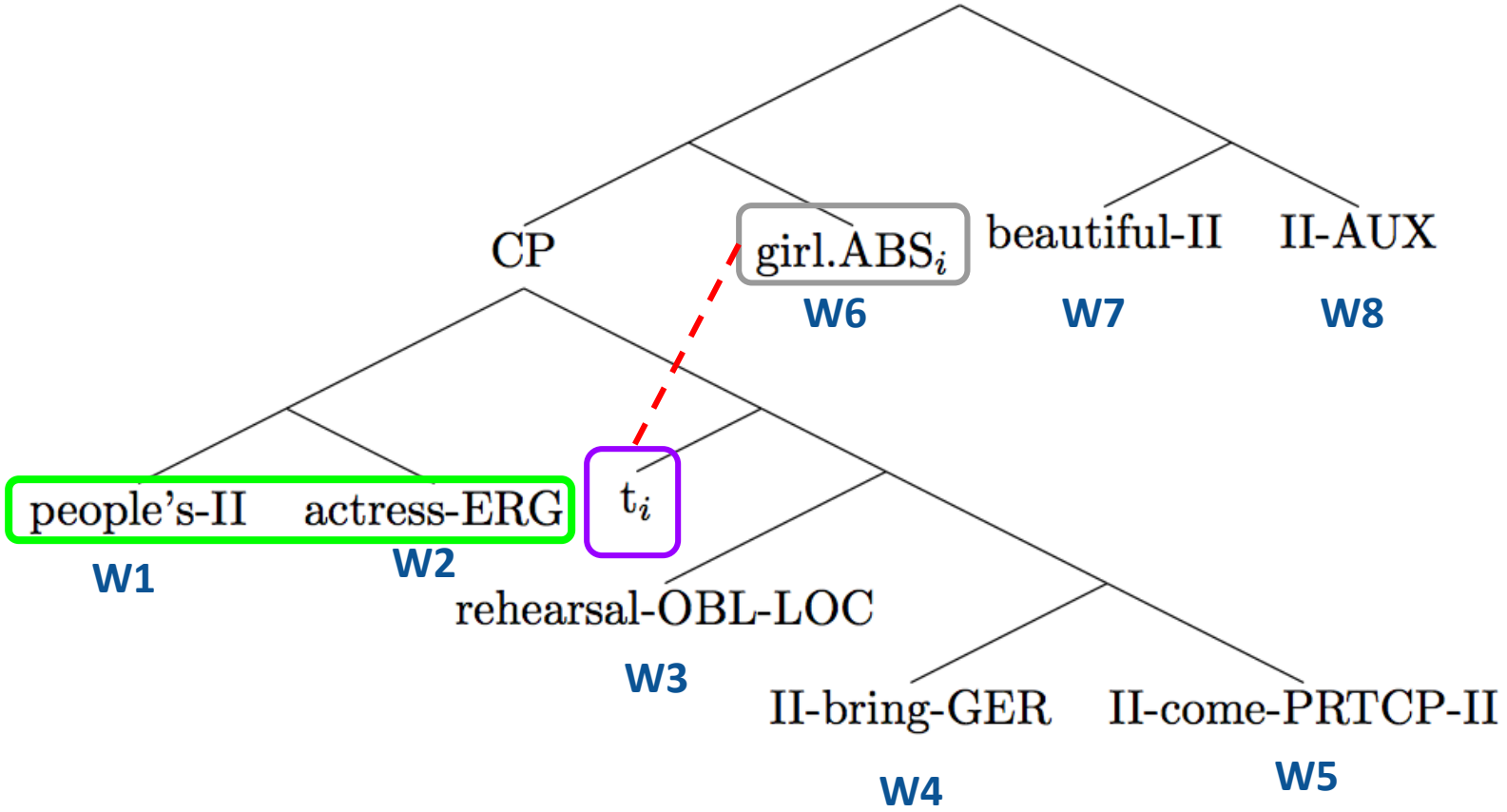
(8) *Absolutive object gap (object RC)*

[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.'



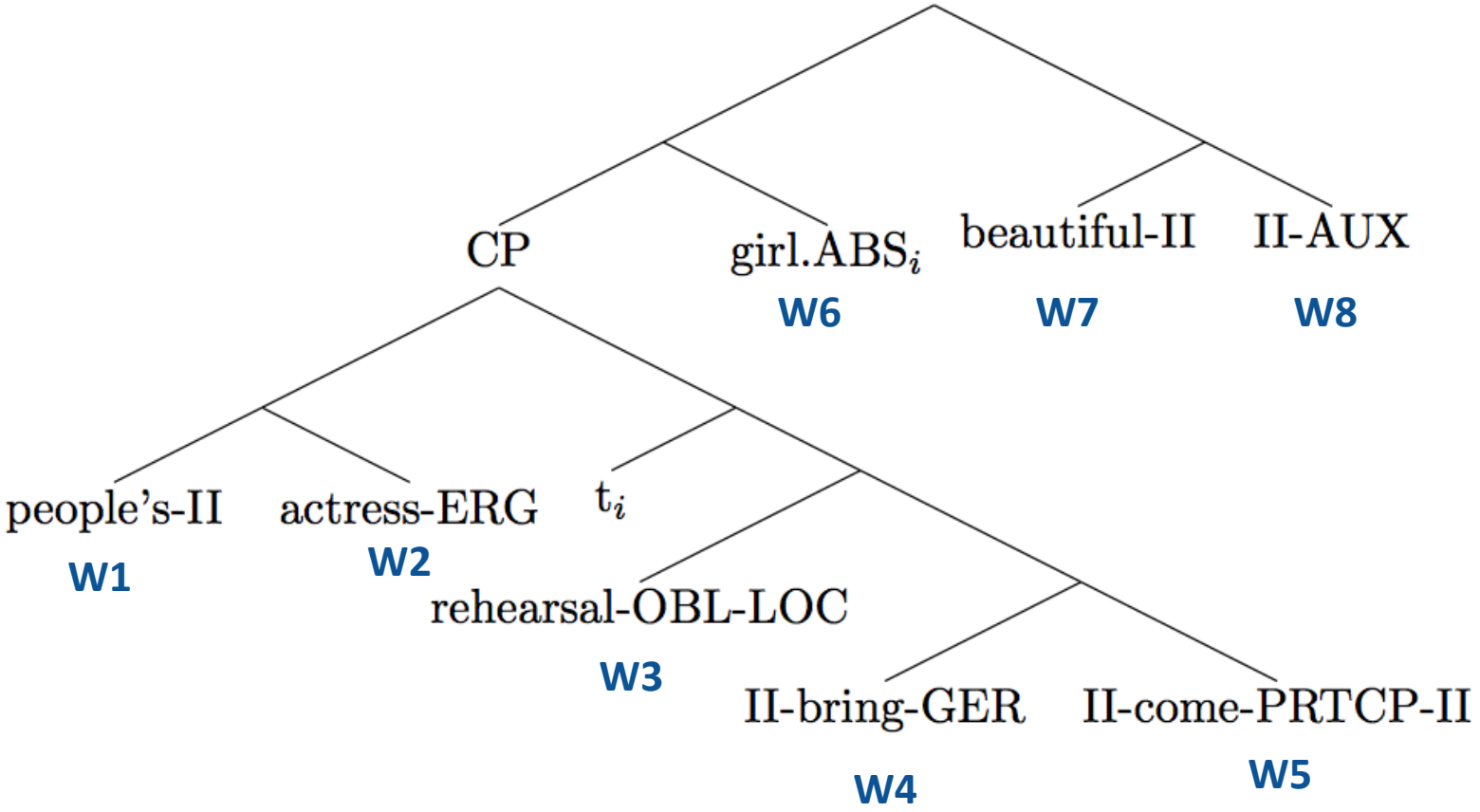
Absolutive object gap



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

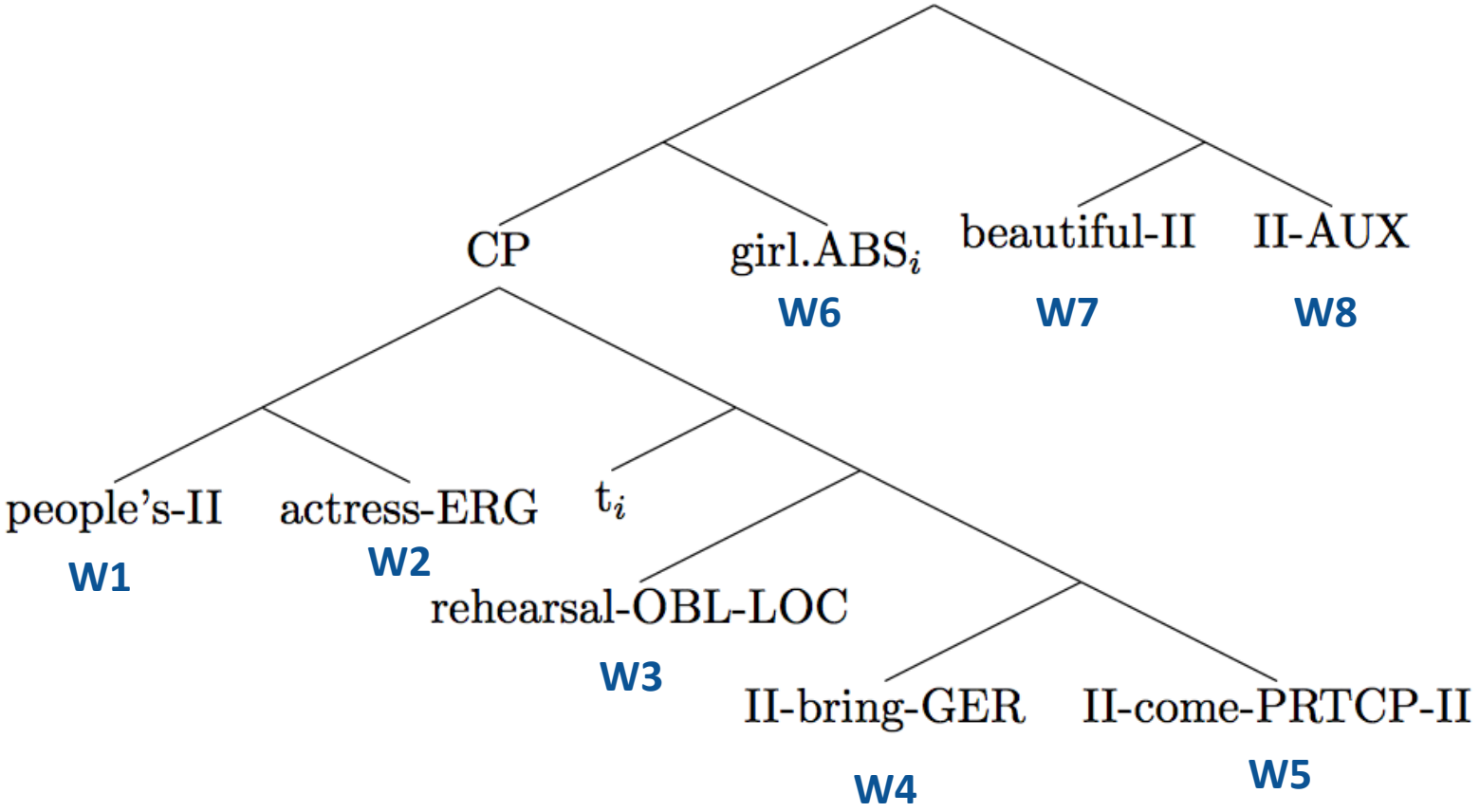
Morphological cueing



people's-II actress-ERG *t* 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

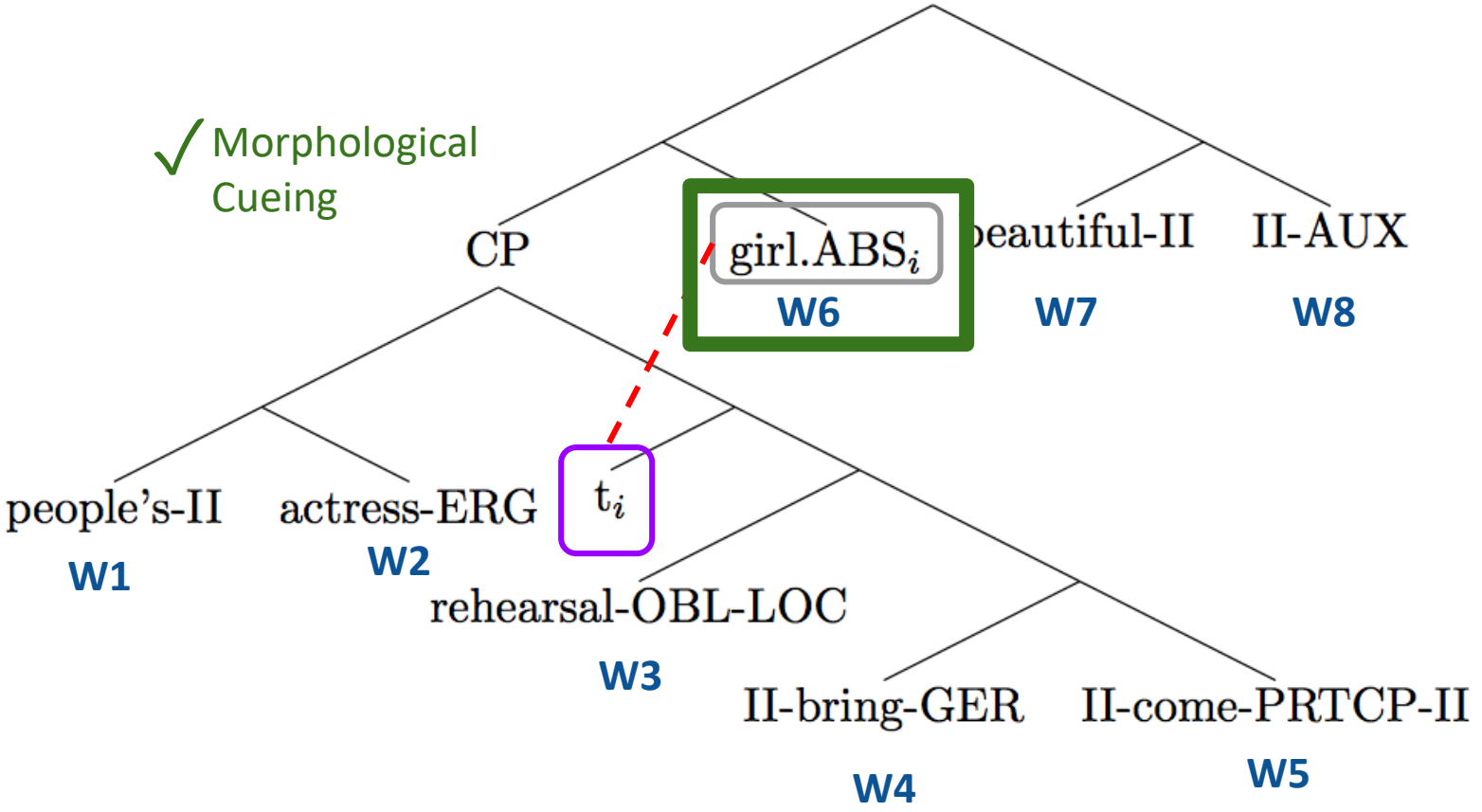
Morphological cueing

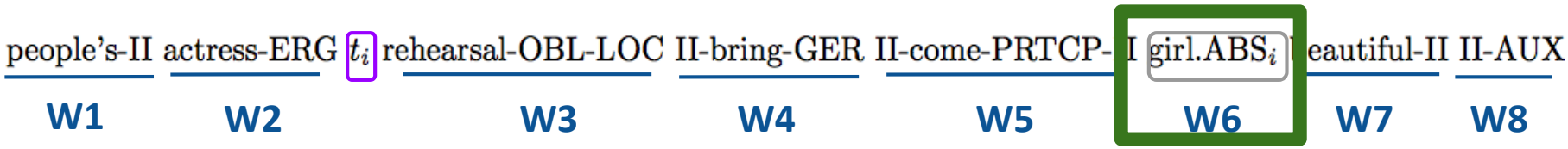


people's-II actress-ERG t_i rehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II girl.ABS$_i$ beautiful-II II-AUX

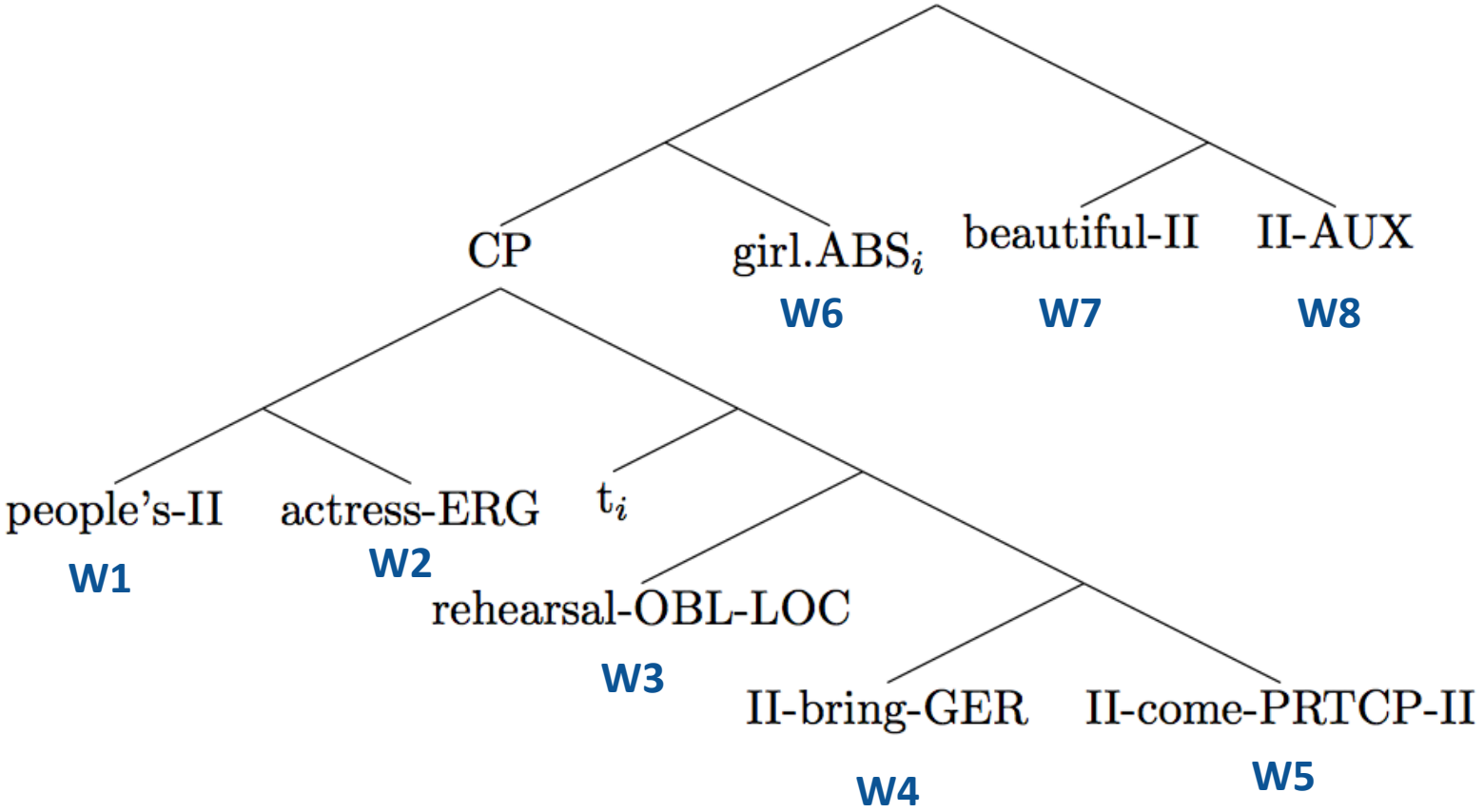
W1 W2 W3 W4 W5 W6 W7 W8

Morphological cueing





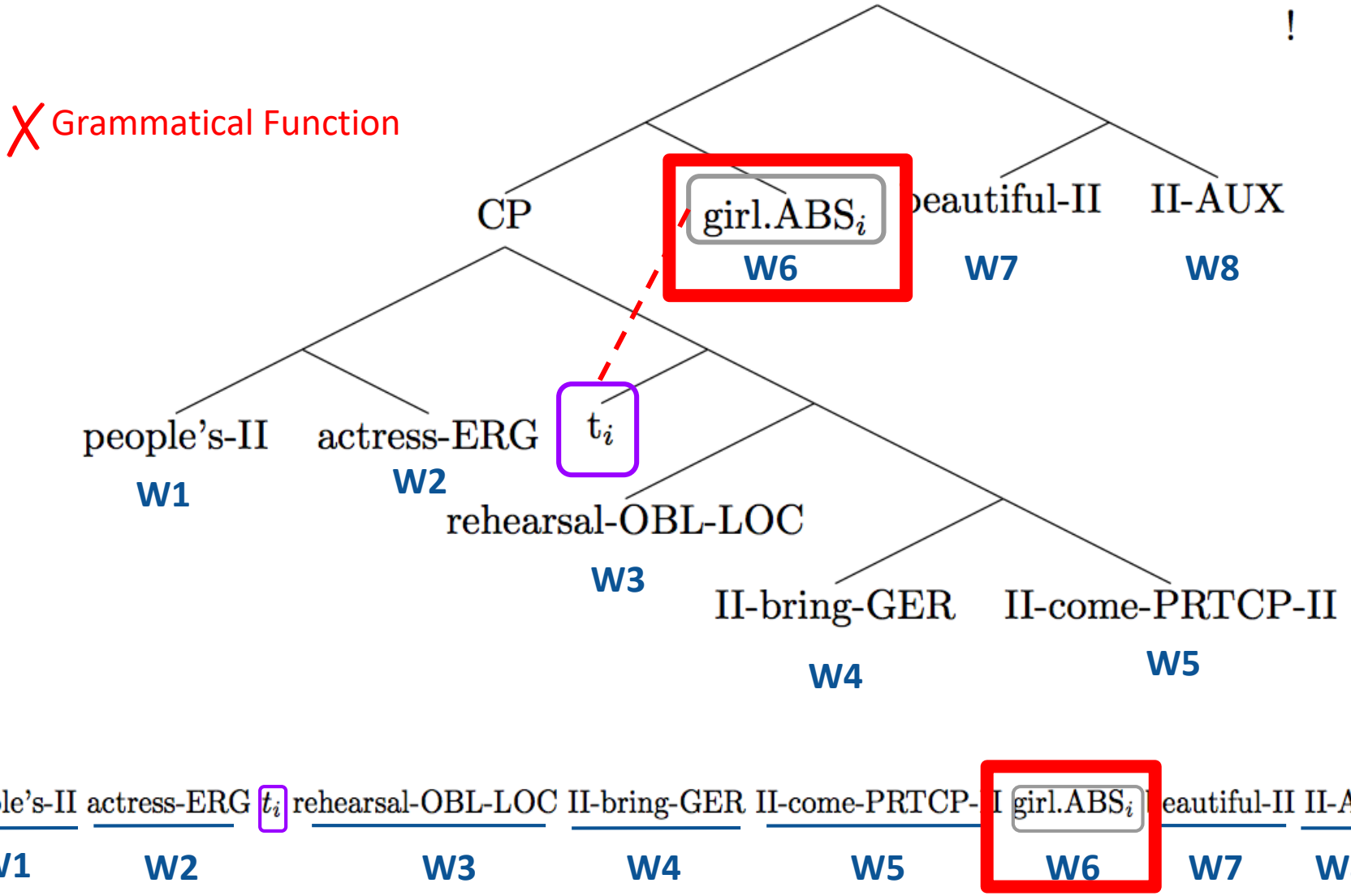
Grammatical function



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



Ergative subject gap

Ergative subject gap

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

[___$_i$	ʕoloqana-y	yas	repetici-yal-de	y-ač:-un	y-ač'-ara-y]
	unmarried-II	girl.ABS	rehearsal-OBL-LOC	II-bring-GER	II-come-PRTCP-II
	W1	**W2**	**W3**	**W4**	**W5 [RC PREDICATE]**

artistka$_i$	bercina-y	y-igo
actress.ABS	beautiful-II	II-AUX
W6 [HEAD NOUN]	**W7 [SPILL OVER]**	**W8**

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

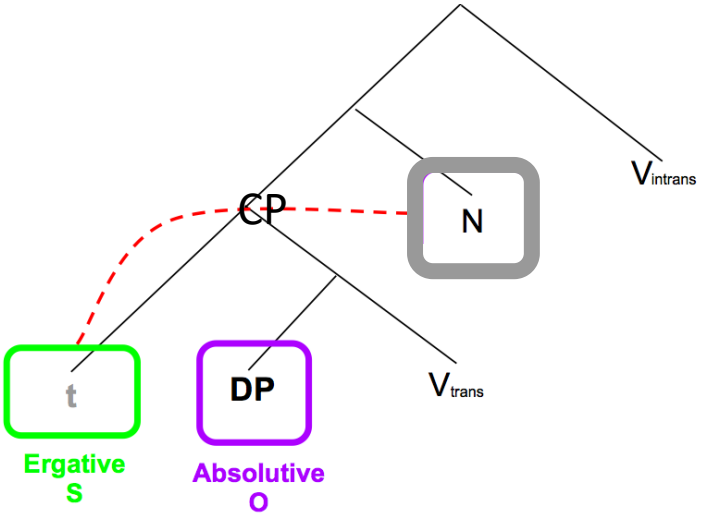
Ergative subject gap

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

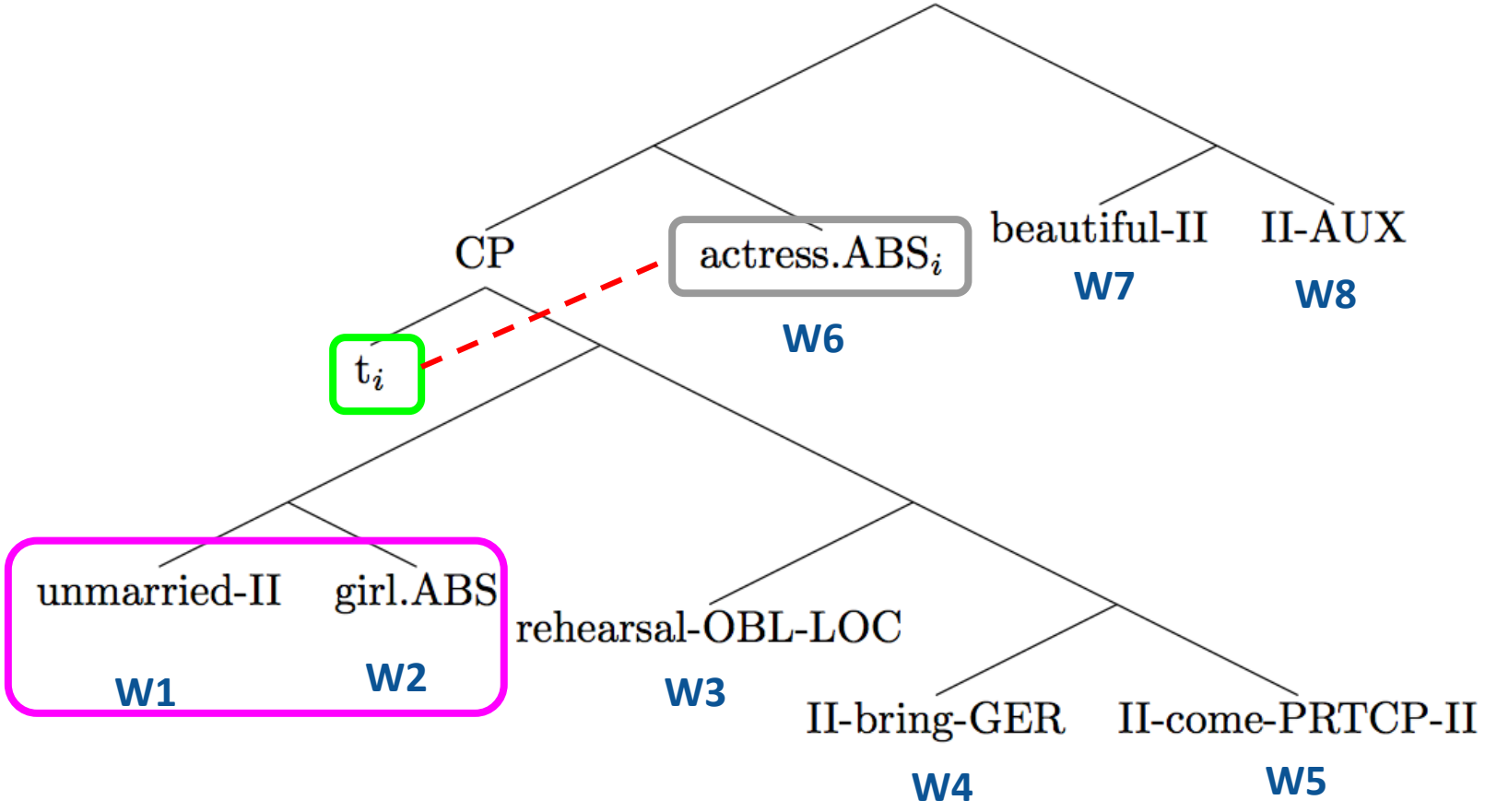
[___$_i$	ʕoloqana-y	yas	repetici-yal-de	y-ač:-un	y-ač'-ara-y]
	unmarried-II	girl.ABS	rehearsal-OBL-LOC	II-bring-GER	II-come-PRTCP-II
	W1	**W2**	**W3**	**W4**	**W5 [RC PREDICATE]**

artistka$_i$	bercina-y	y-igo
actress.ABS	beautiful-II	II-AUX
W6 [HEAD NOUN]	**W7 [SPILL OVER]**	**W8**

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



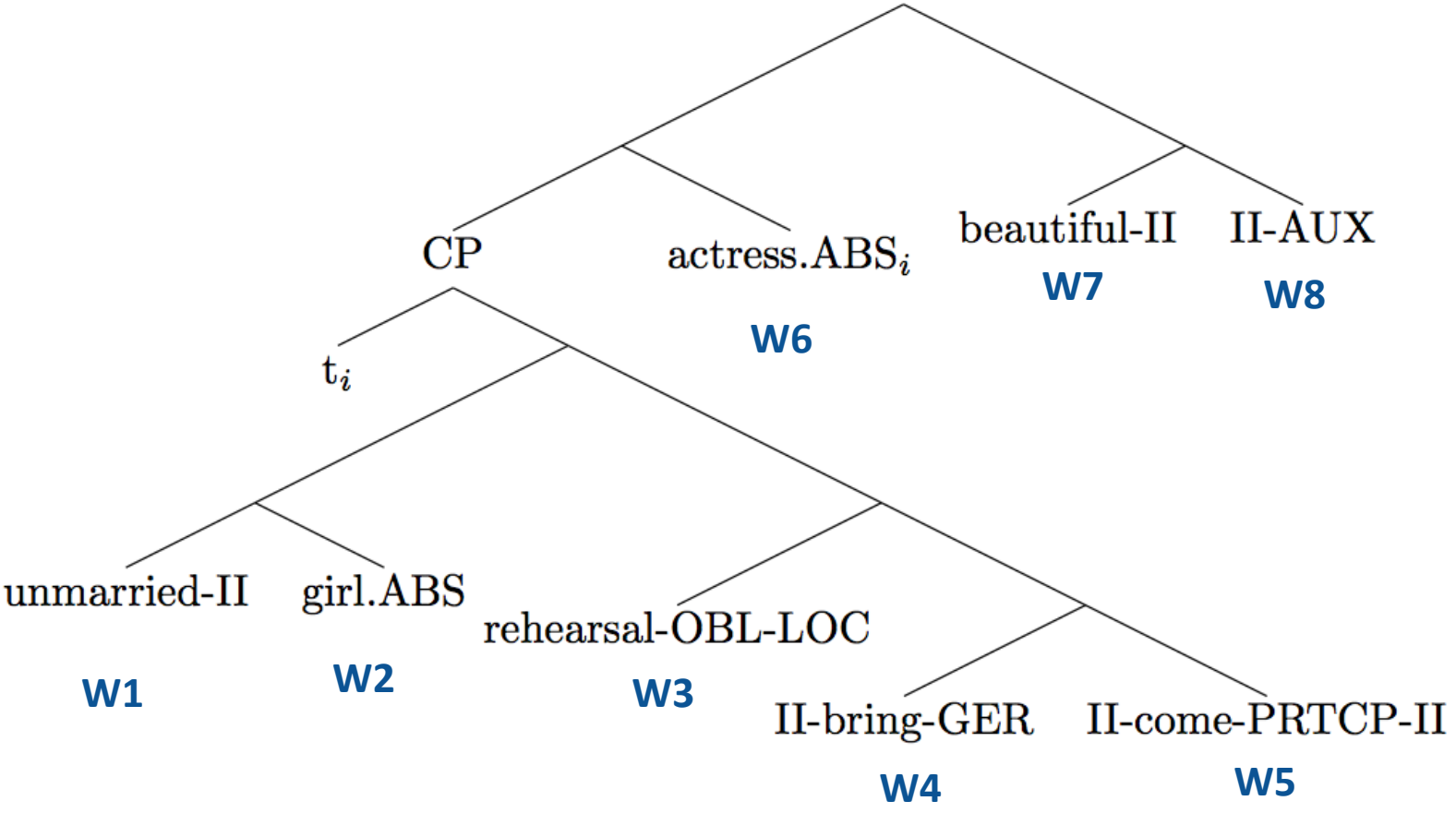
Ergative subject gap



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

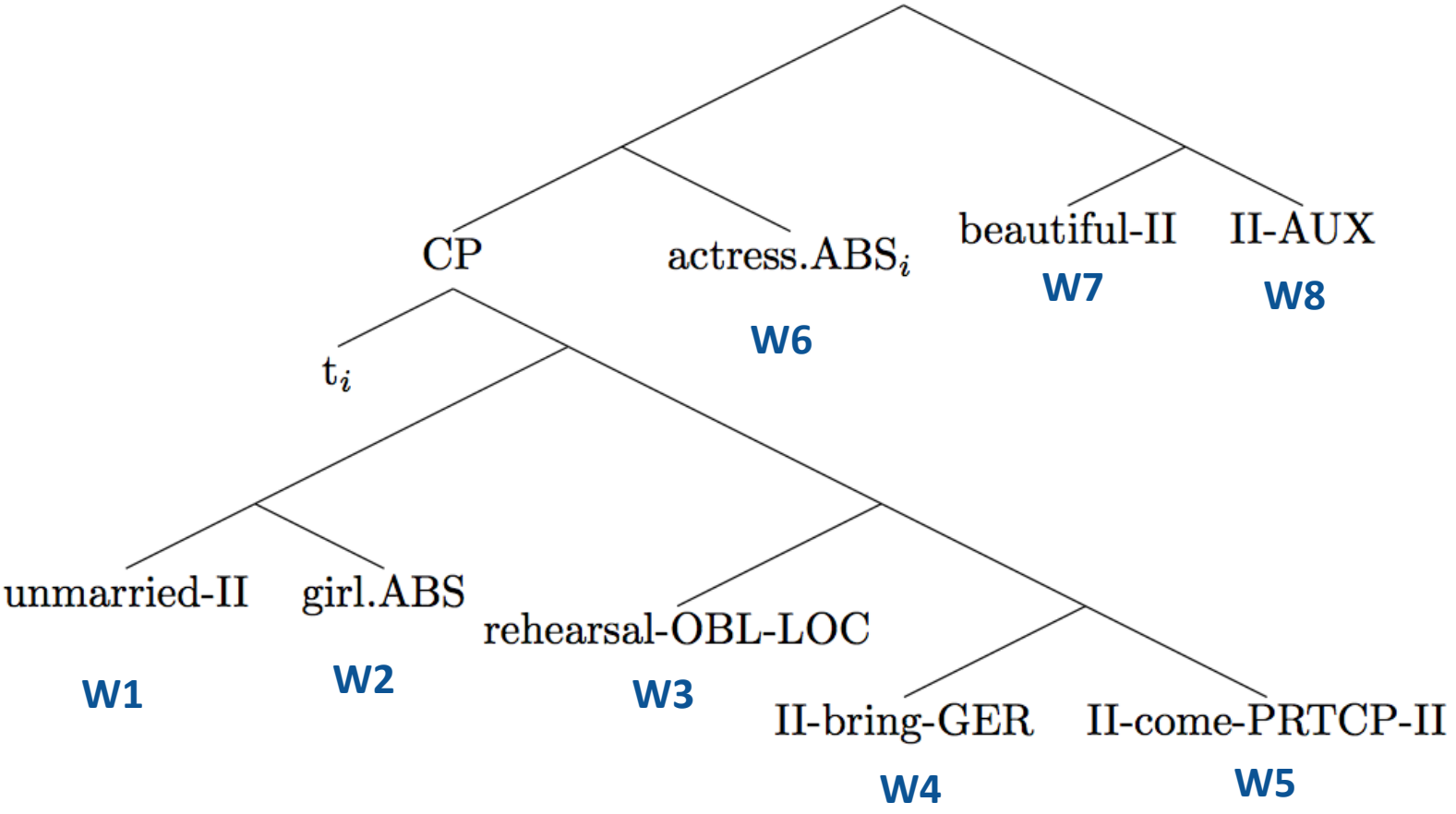
Morphological cueing



t_i unmarried-I girl.ABS ehearsal-OBL-LOC II-bring-GER II-come-PRTCP-II actress.ABS$_i$ beautiful-II II-AUX

W1 W2 W3 W4 W5 W6 W7 W8

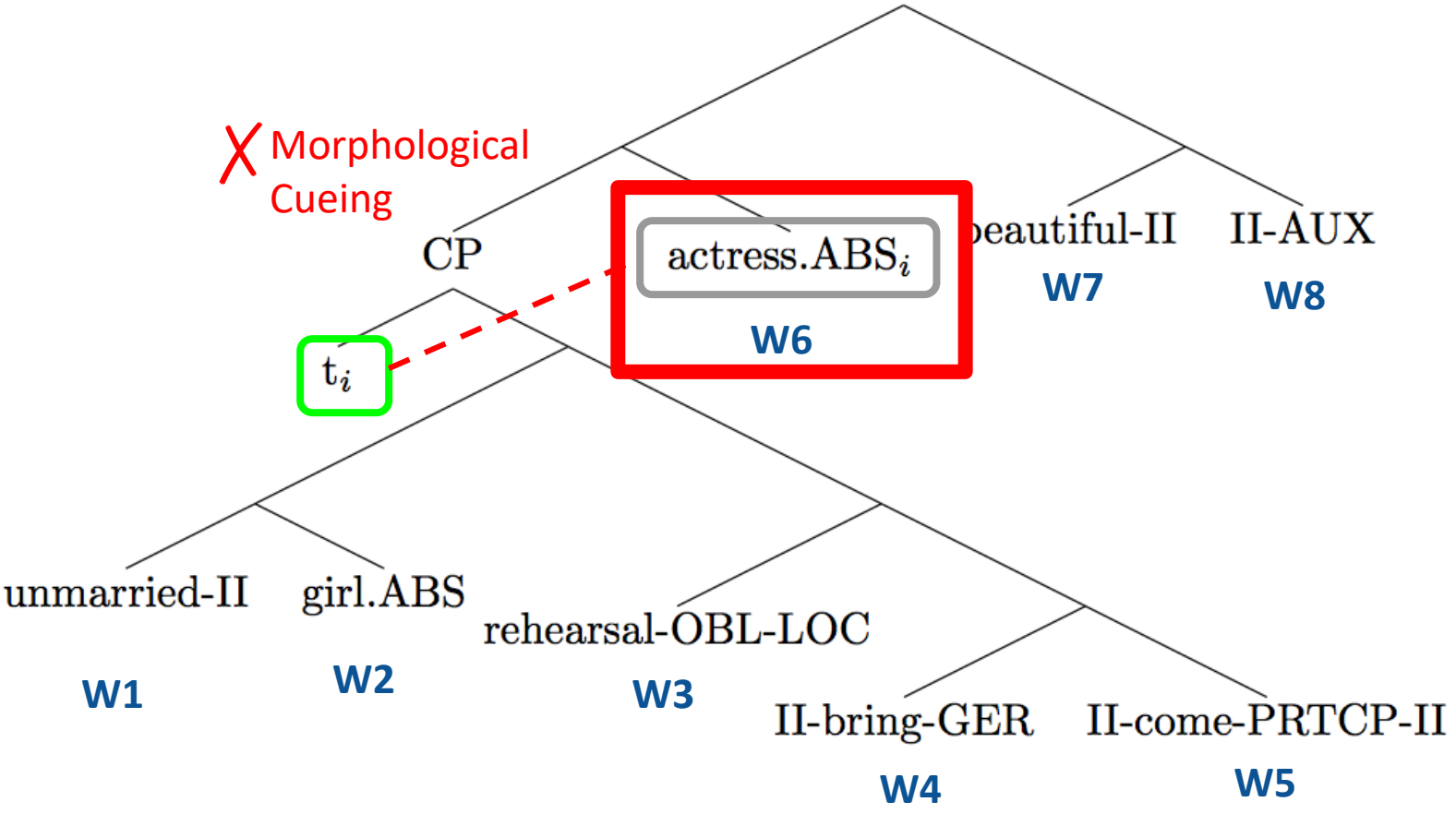
Morphological cueing

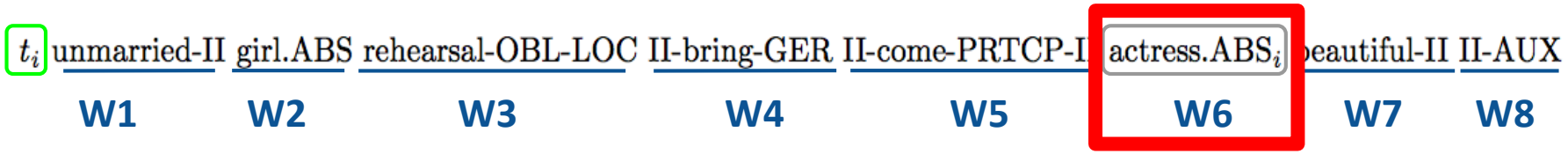


t$_i$ unmarried-II girl.ABS rehearsal-OBL-LOC II-bring-GER II-come-PRTCP- I actress.ABS$_i$ beautiful-II II-AUX

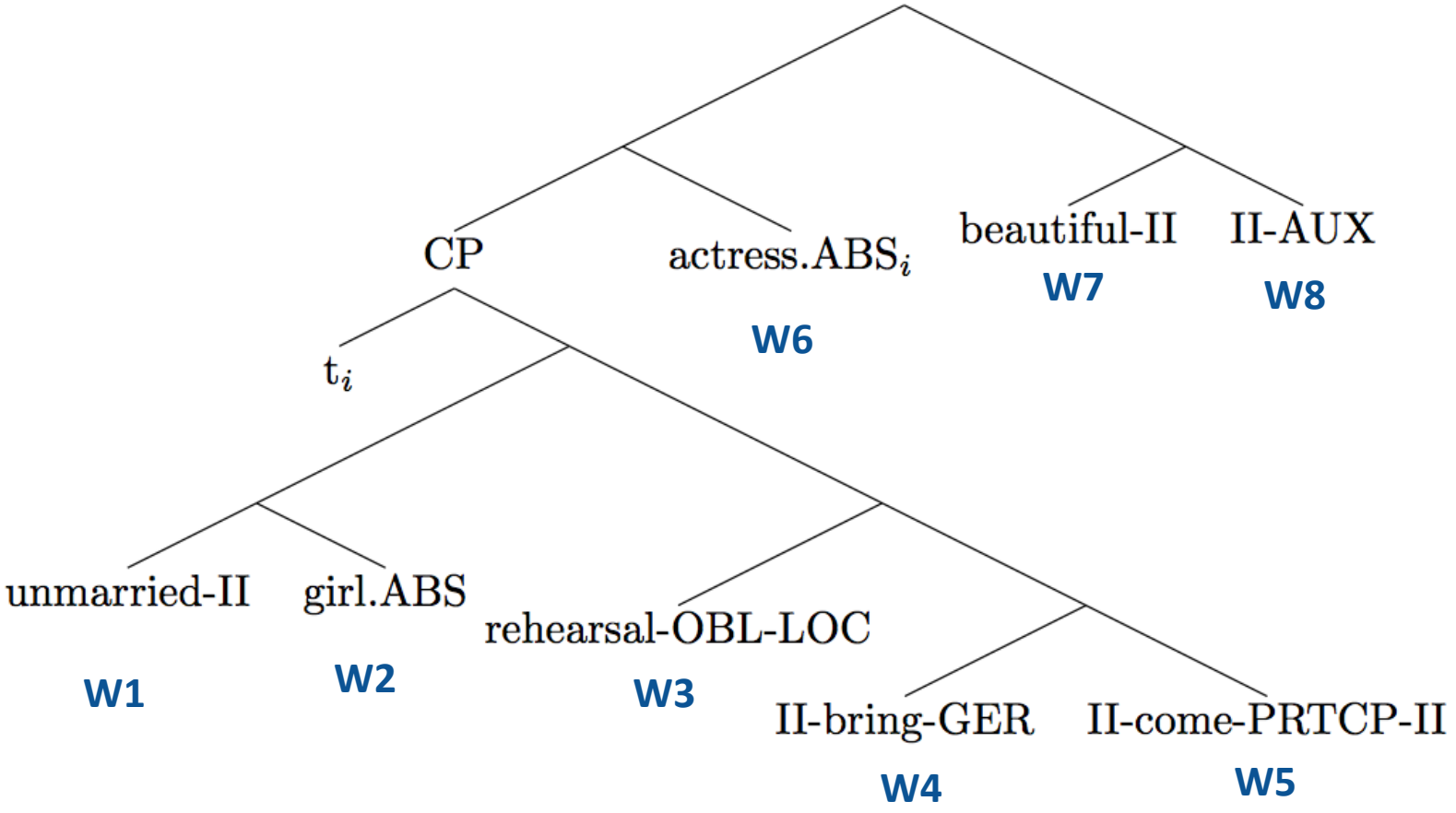
W1 W2 W3 W4 W5 W6 W7 W8

Morphological cueing





Grammatical function

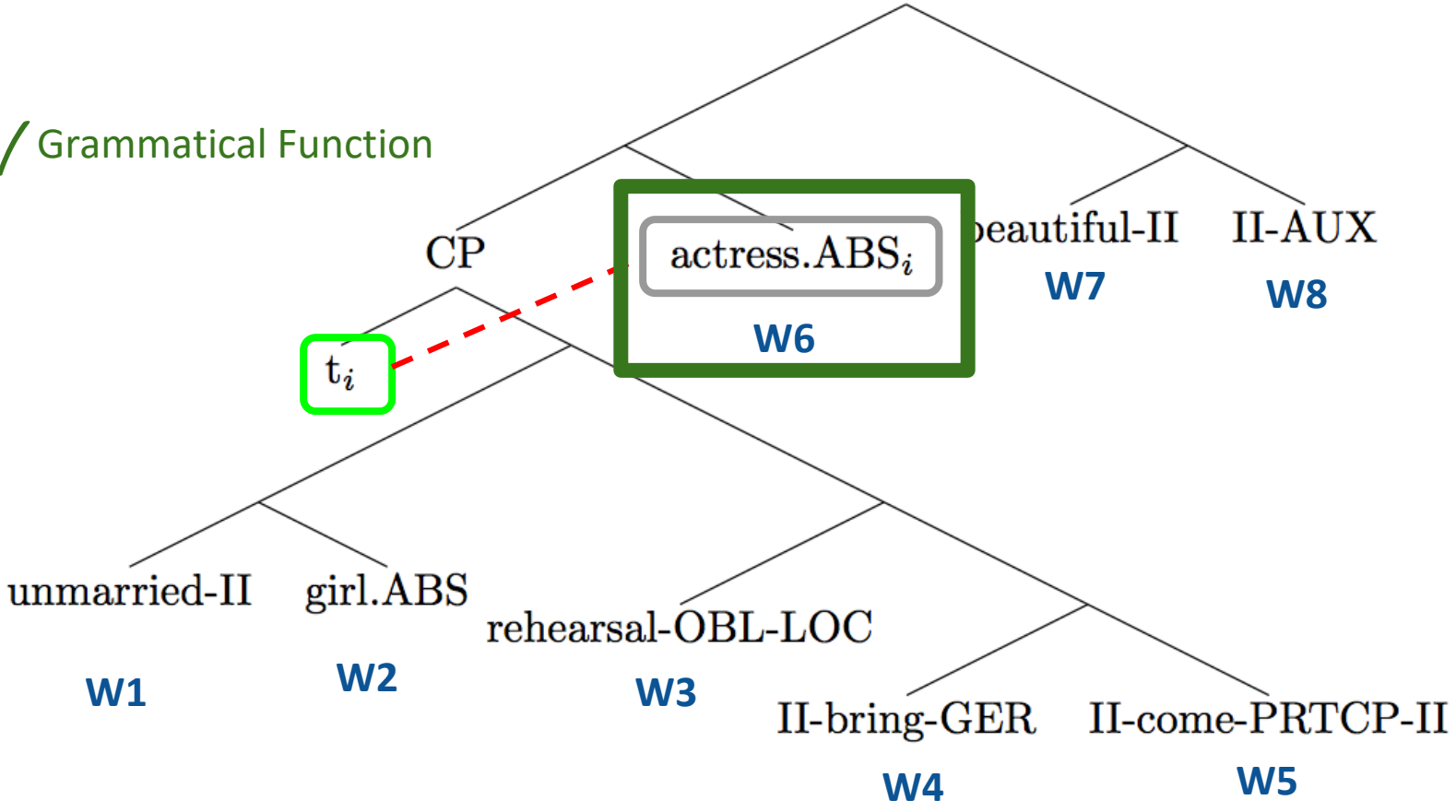


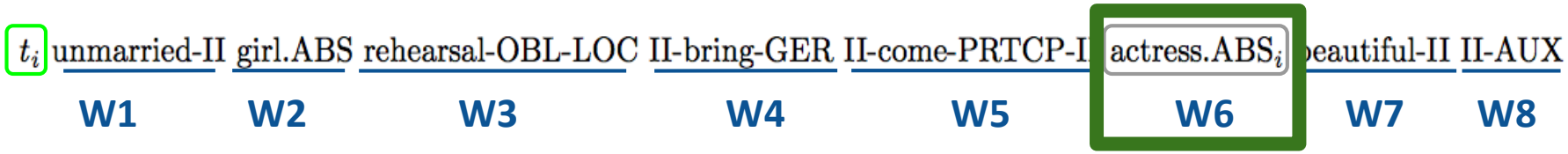
t$_i$ unmarried-II girl.ABS rehearsal-OBL-LOC II-bring-GER II-come-PRTCP- I actress.ABS$_i$ beautiful-II II-AUX

W1 W2 W3 W4 W5 W6 W7 W8

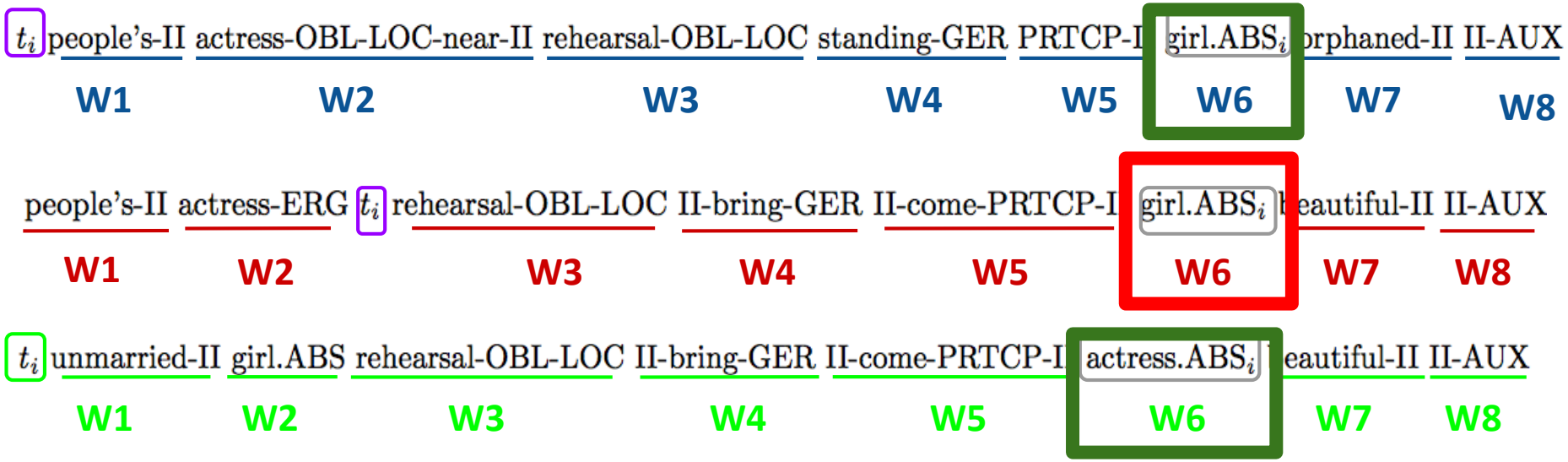
Grammatical function

✓ Grammatical Function

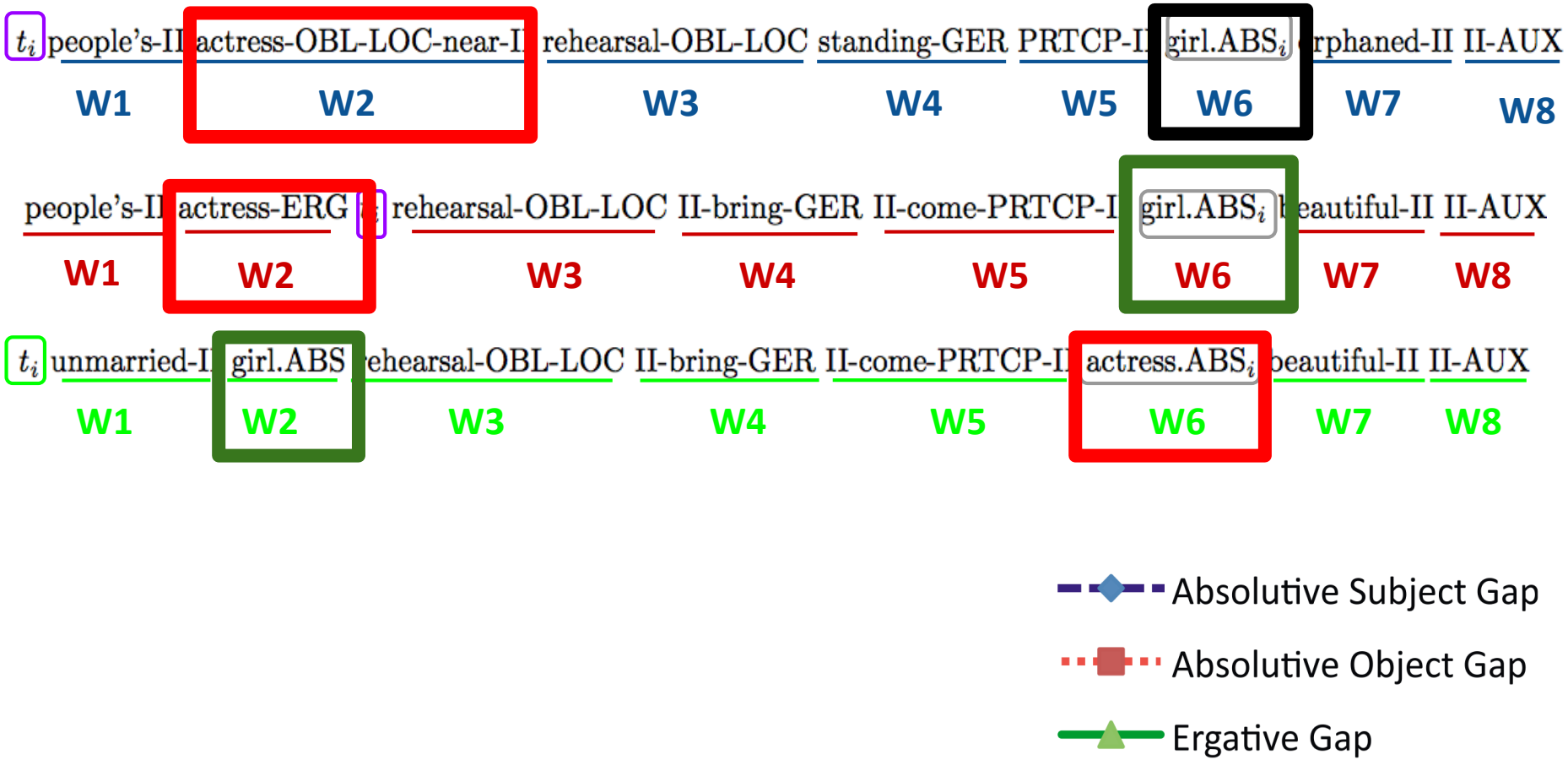




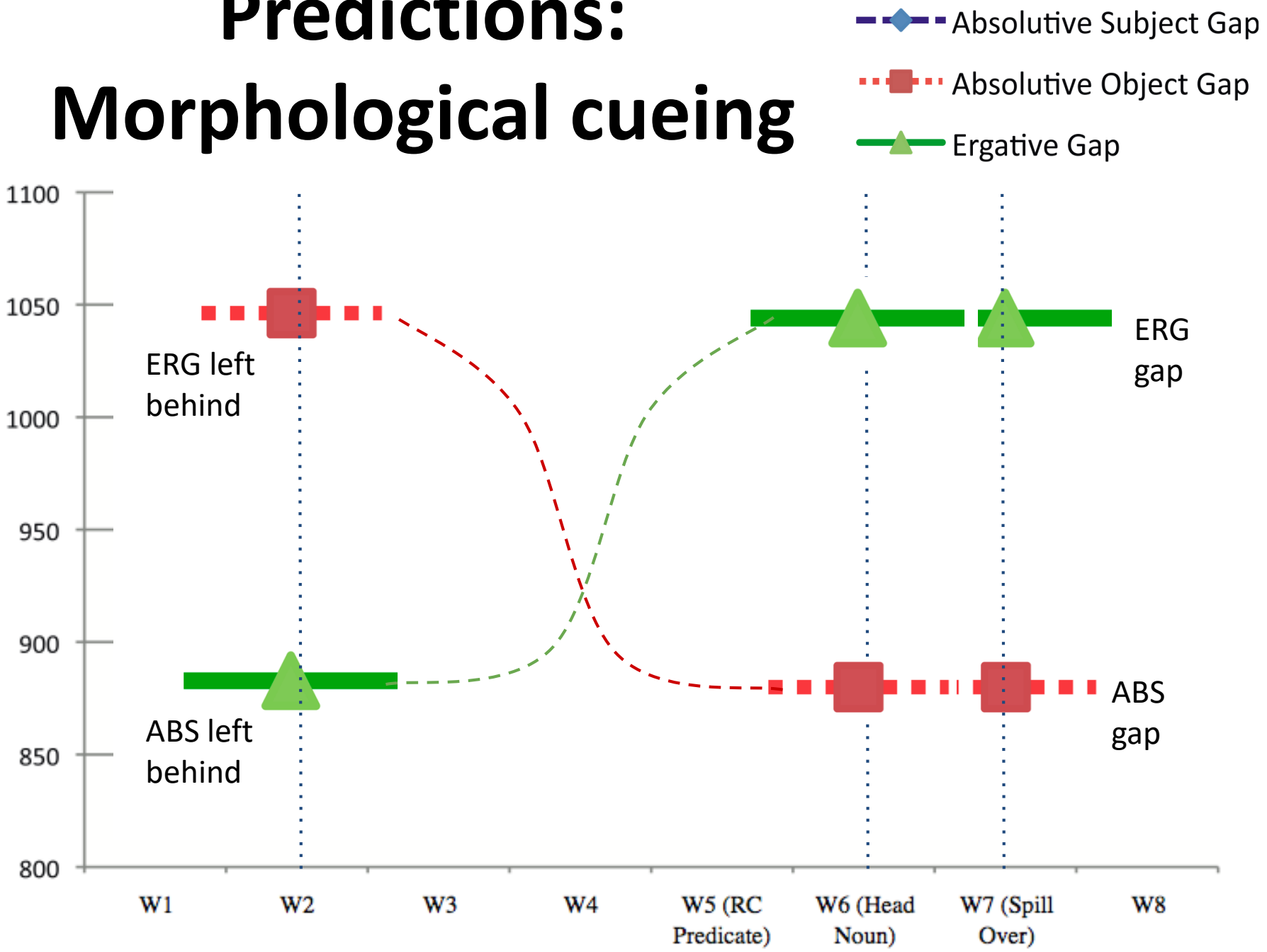
GRAMMATICAL FUNCTION PREDICTIONS



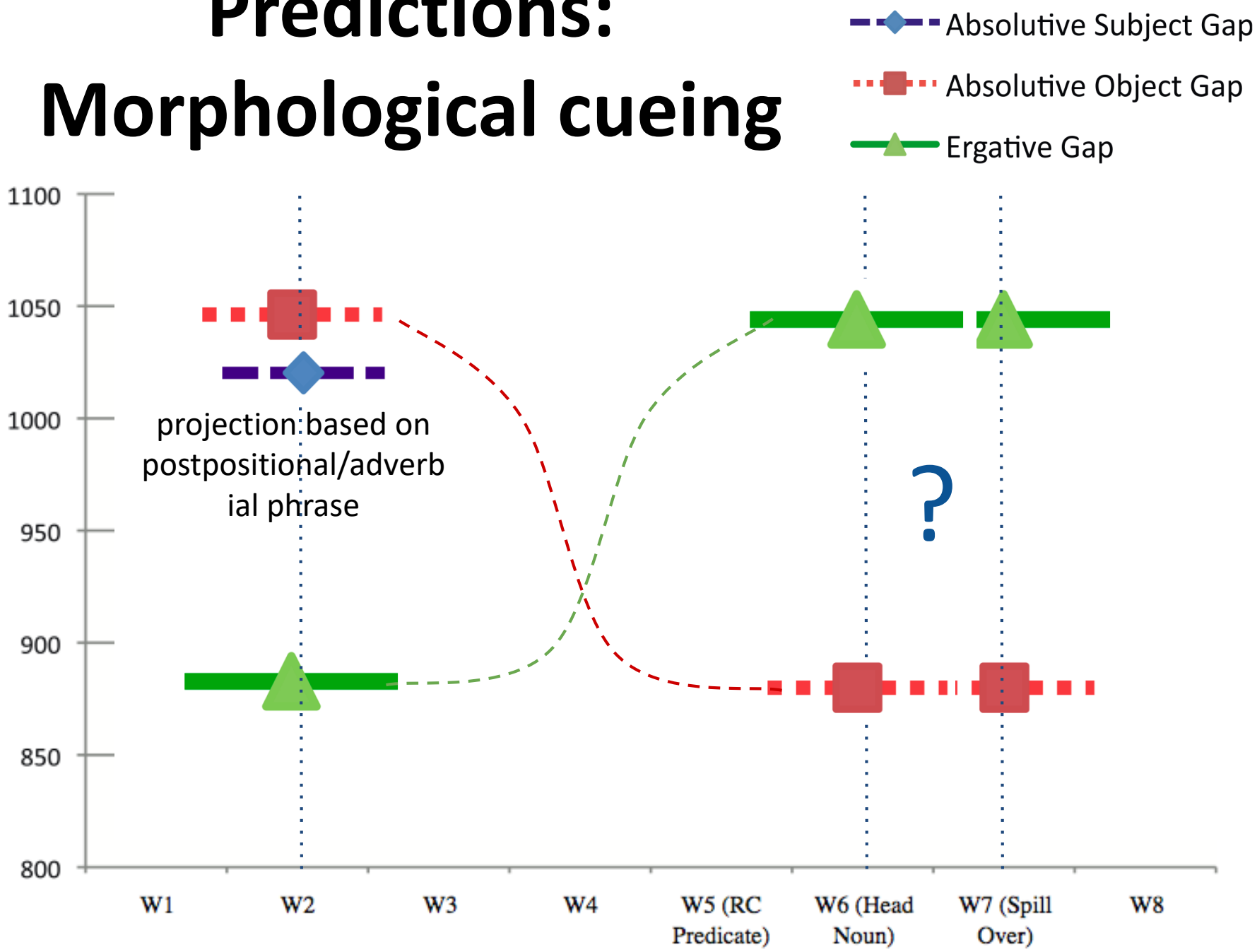
MORPHOLOGICAL CUEING PREDICTIONS



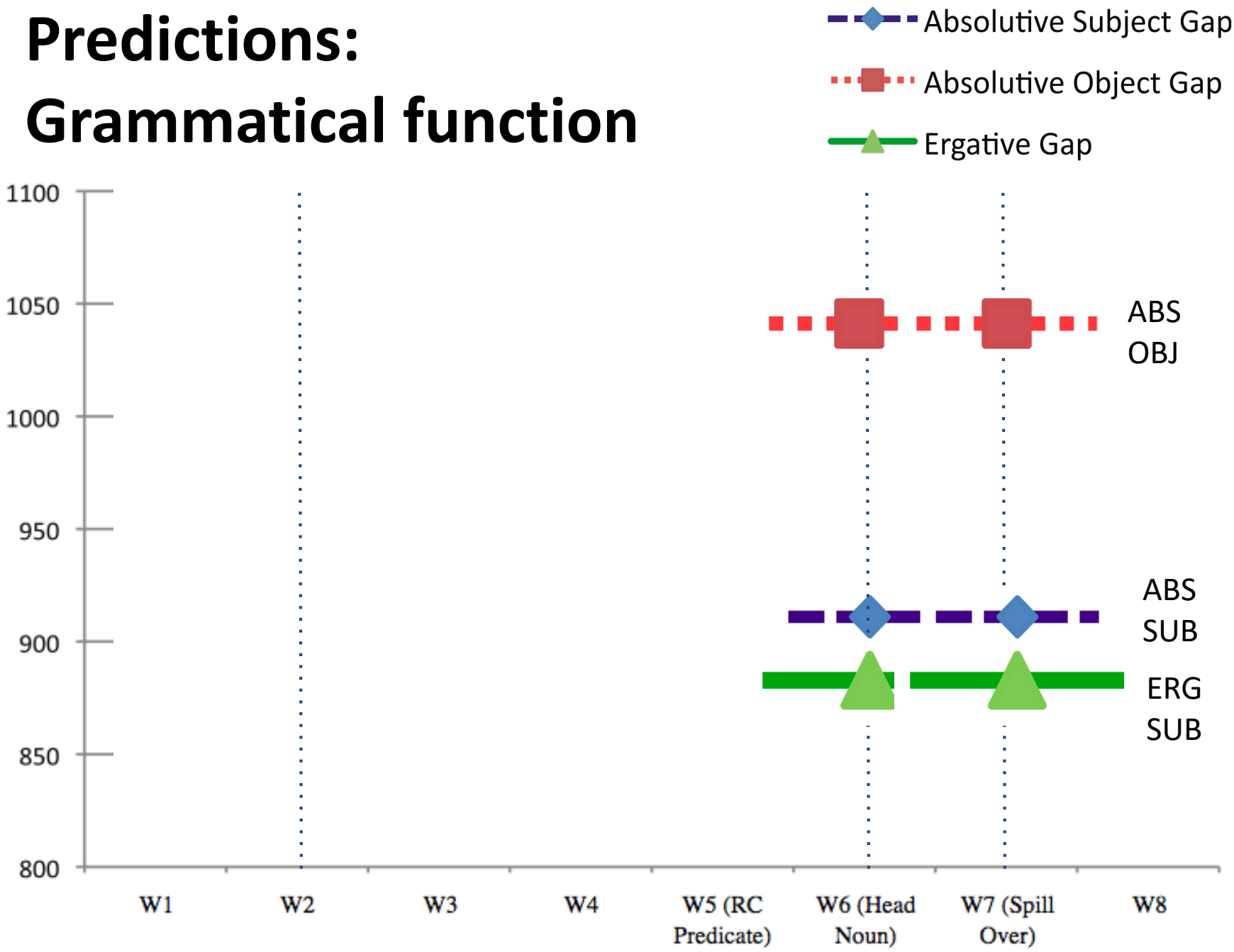
Predictions: Morphological cueing



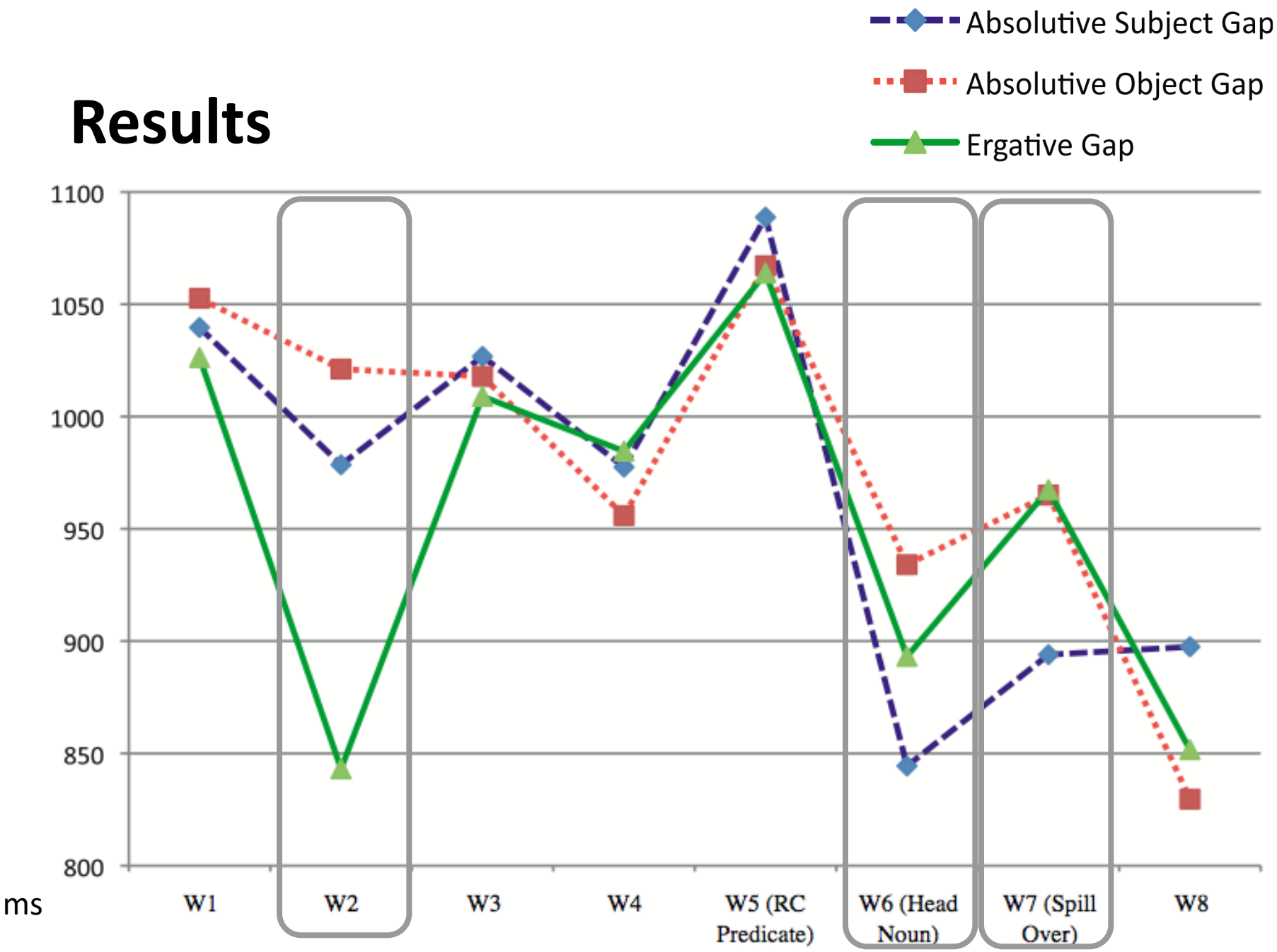
Predictions: Morphological cueing



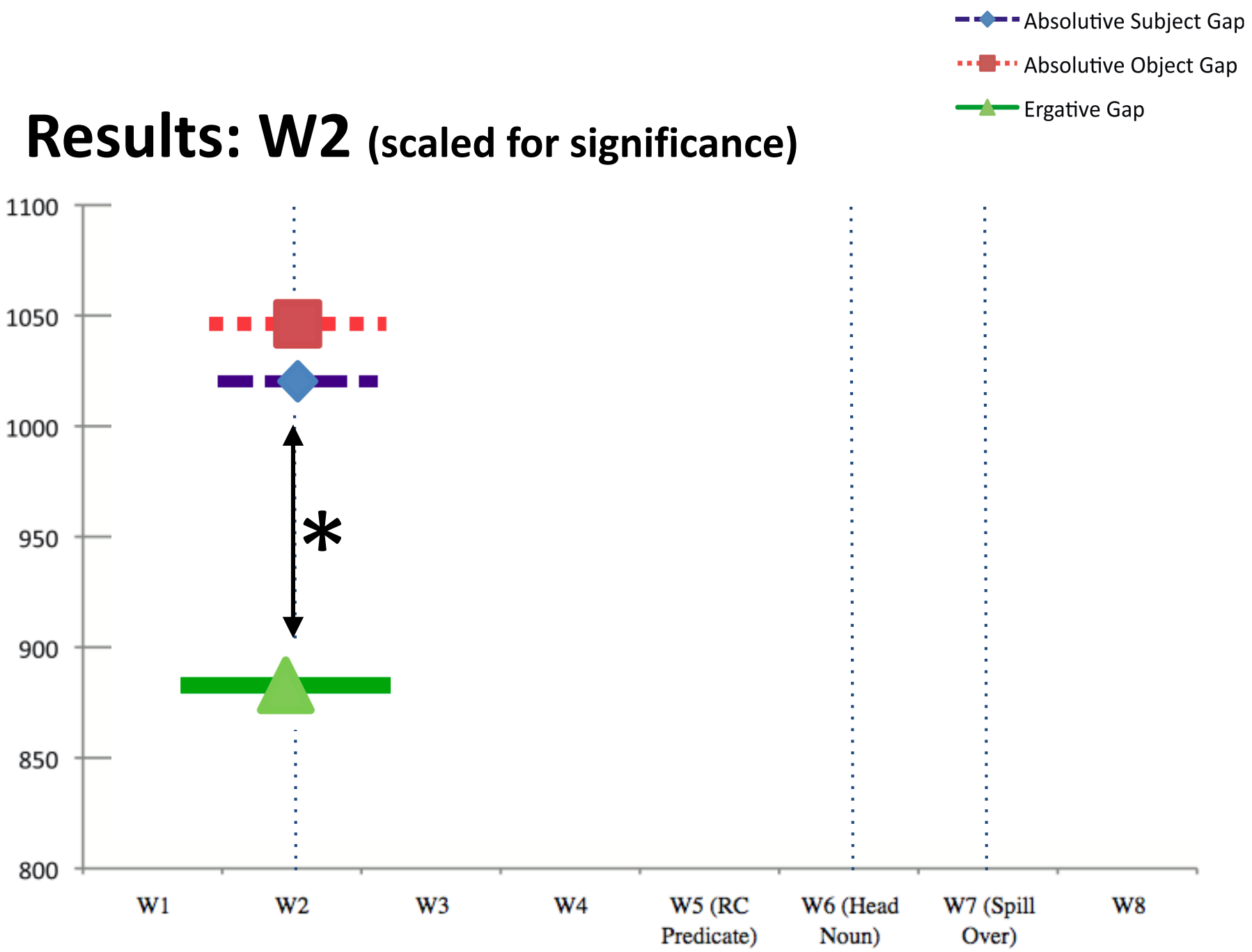
Predictions: Grammatical function



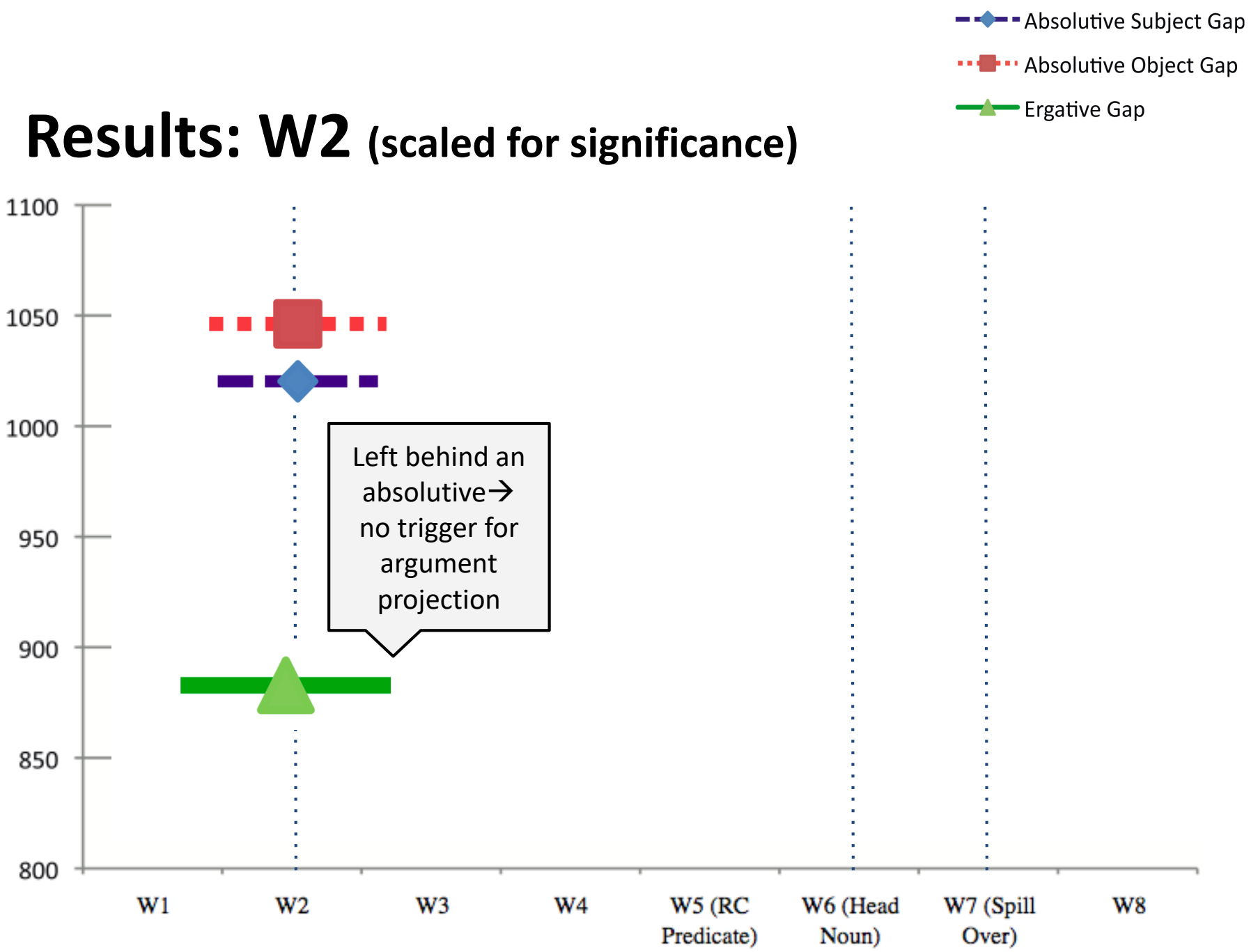
Results


Absolutive Subject Gap
Absolutive Object Gap
Ergative Gap
1100
1050
1000
950
900
850
800
ms
W1
W2
W3
W4
W5 (RC Predicate)
W6 (Head Noun)
W7 (Spill Over)
W8

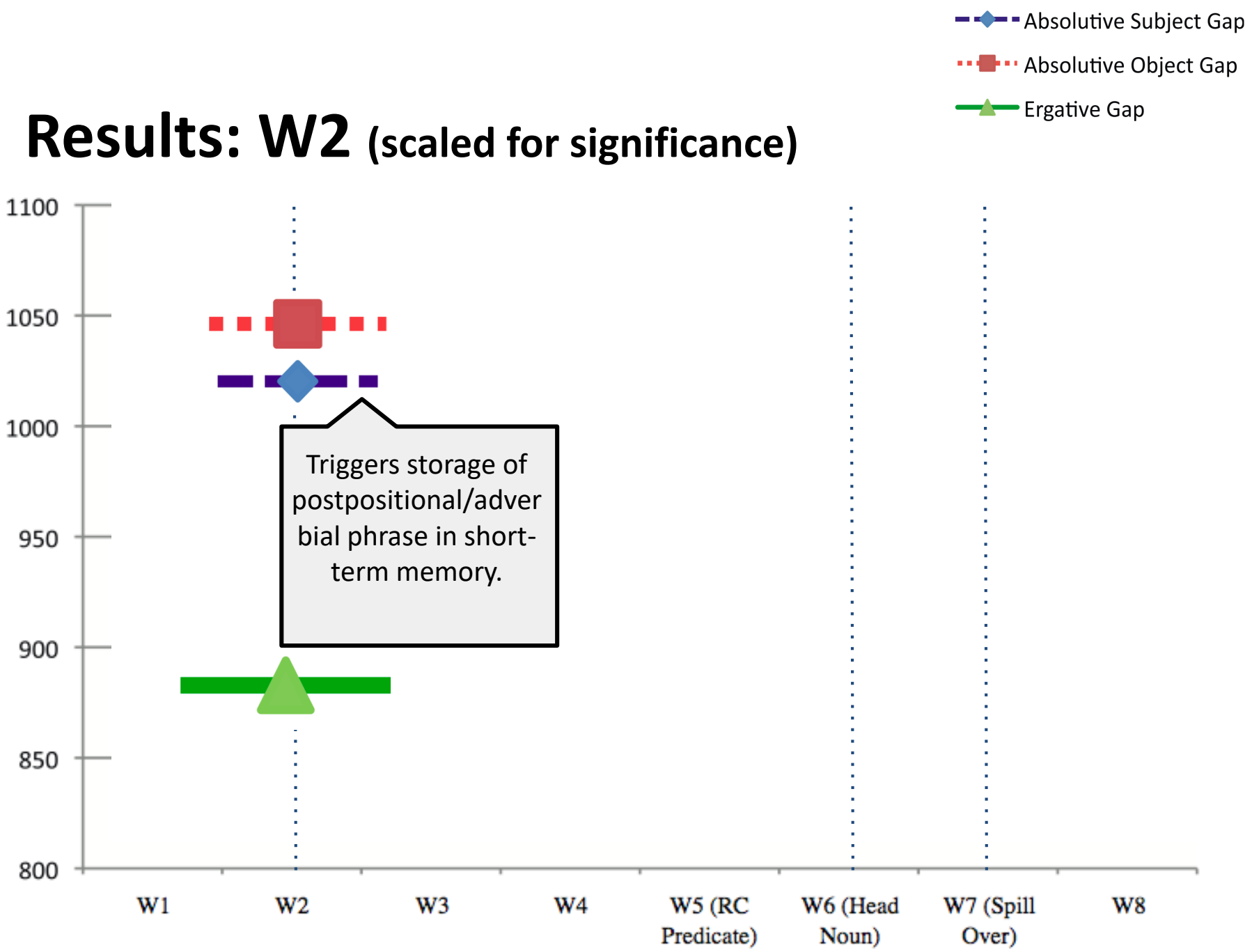
Results: W2 (scaled for significance)



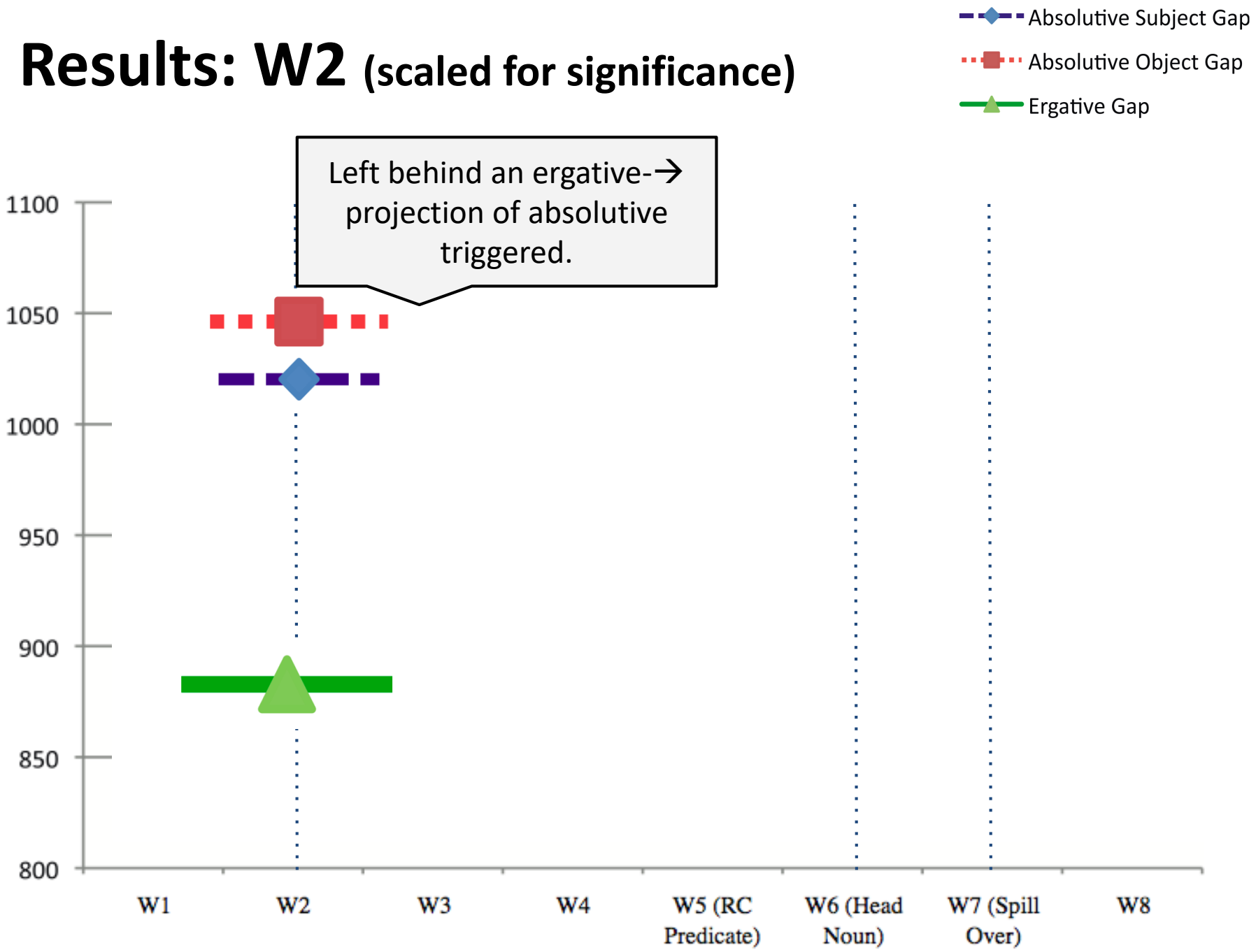
Results: W2 (scaled for significance)



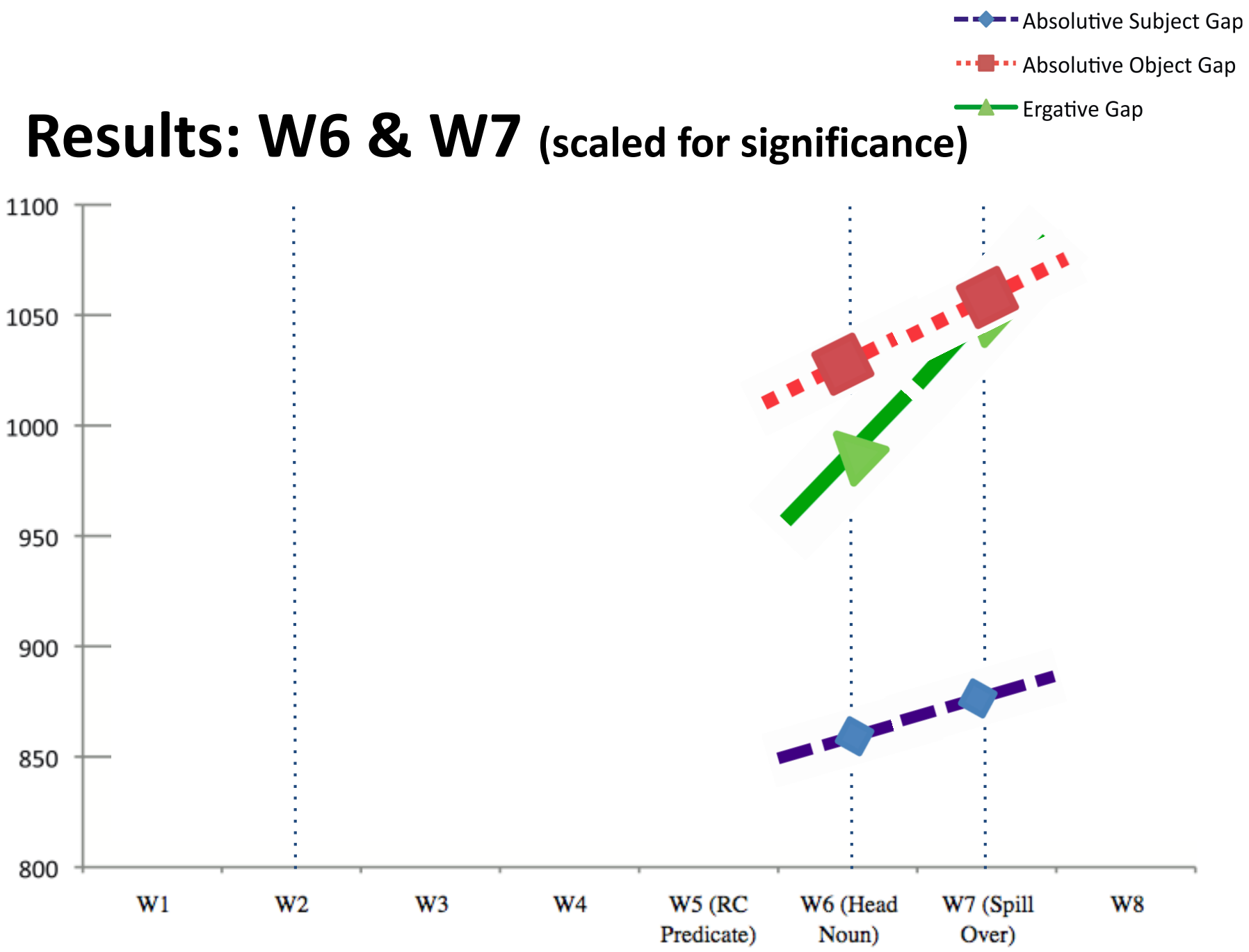
Results: W2 (scaled for significance)



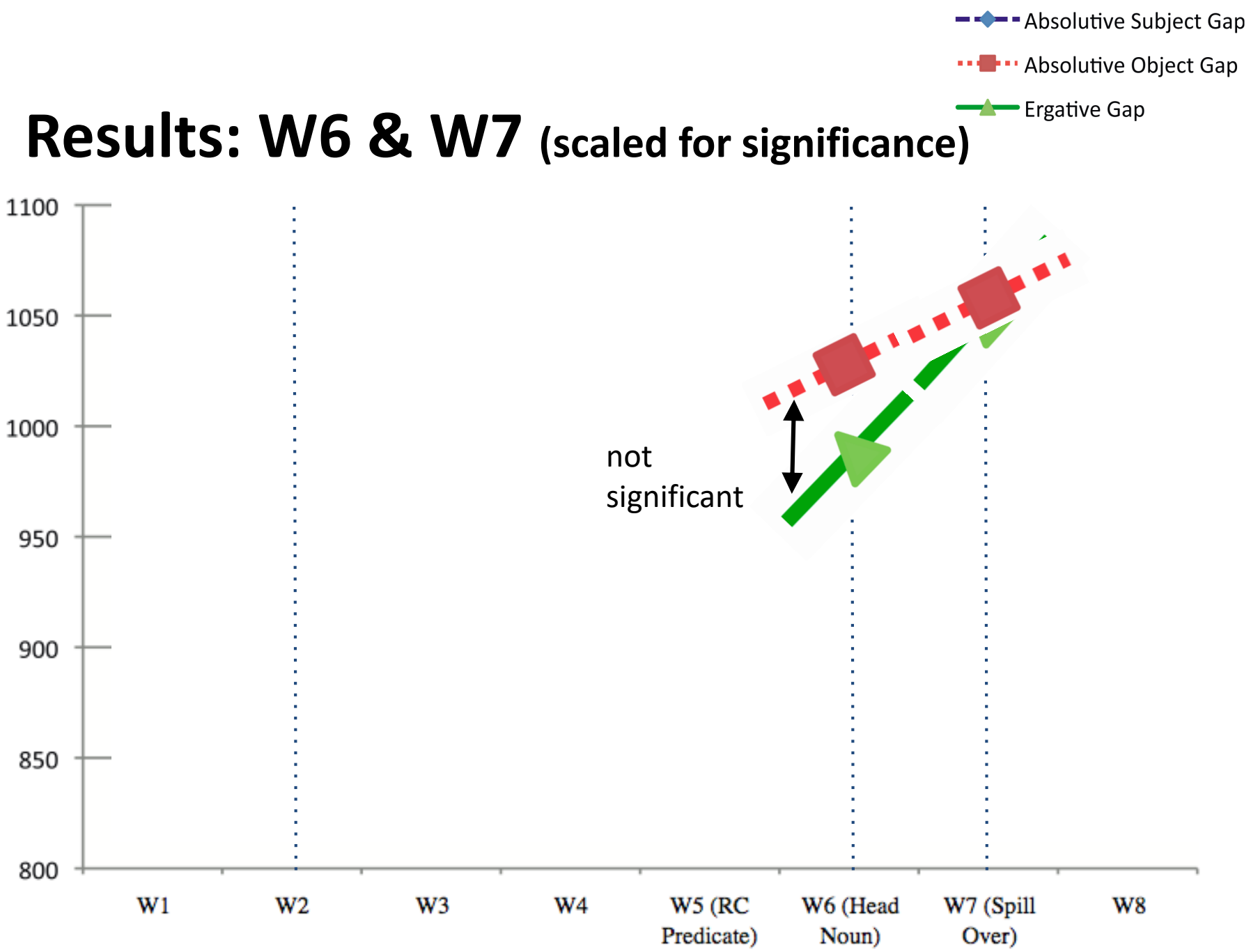
Results: W2 (scaled for significance)



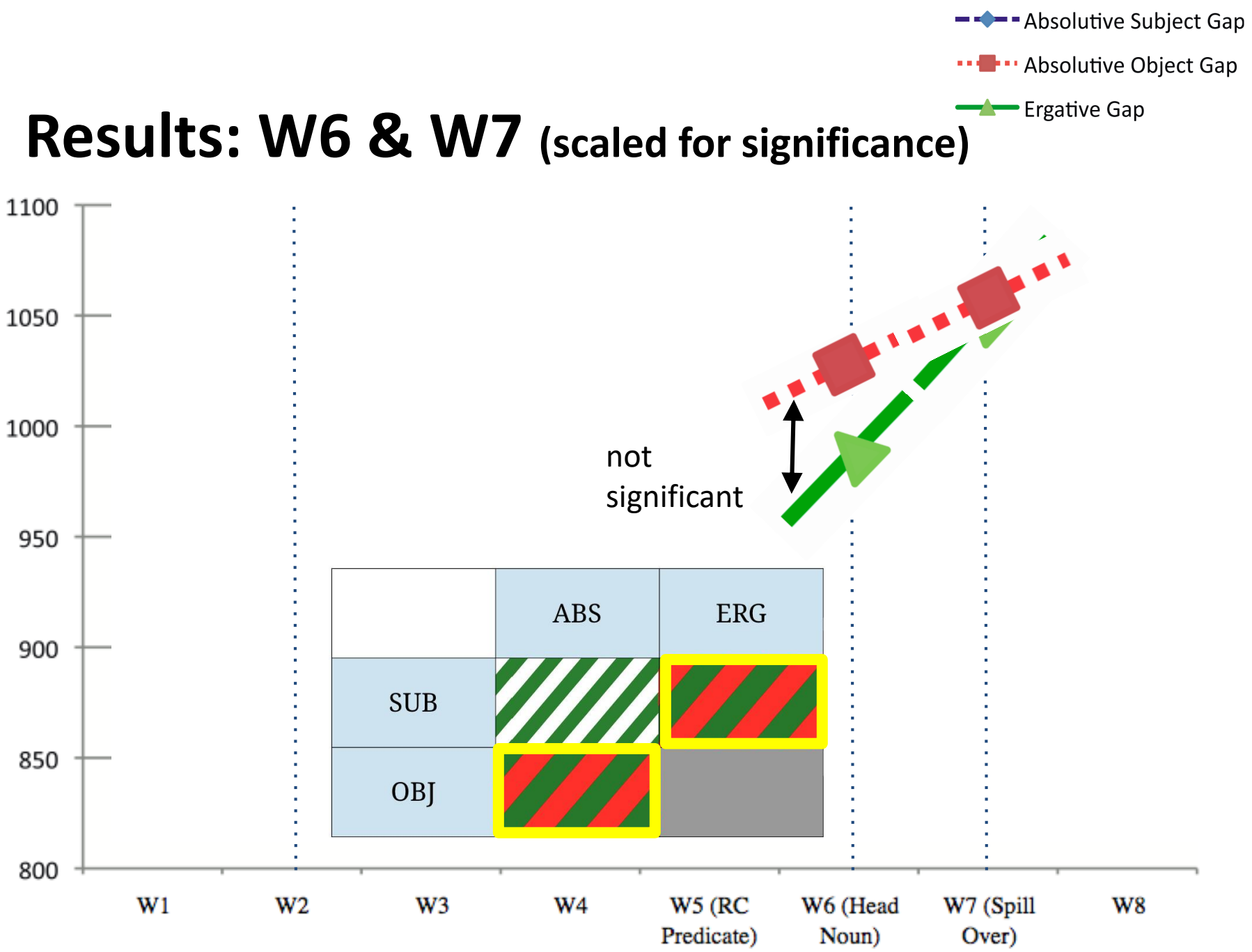
Results: W6 & W7 (scaled for significance)



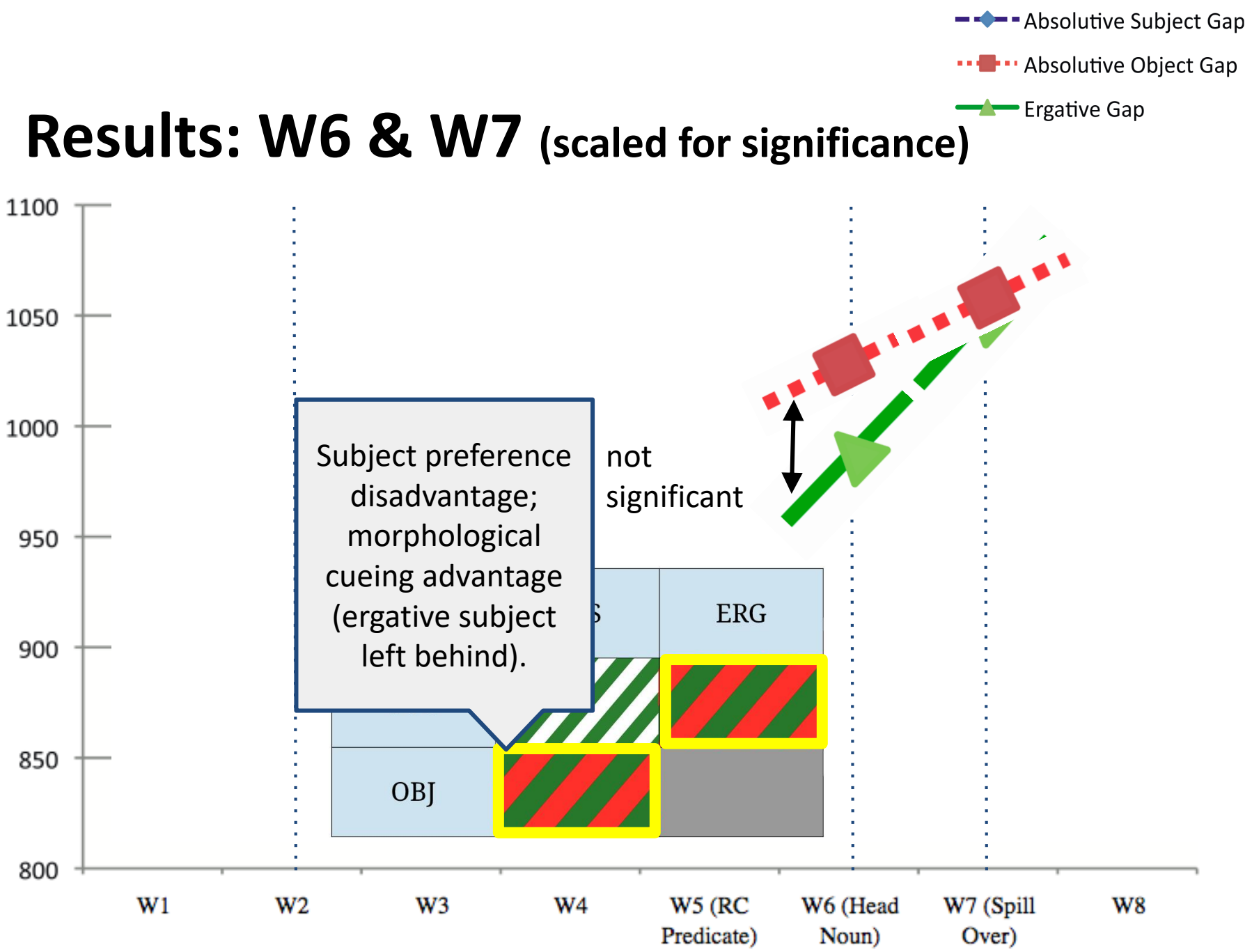
Results: W6 & W7 (scaled for significance)



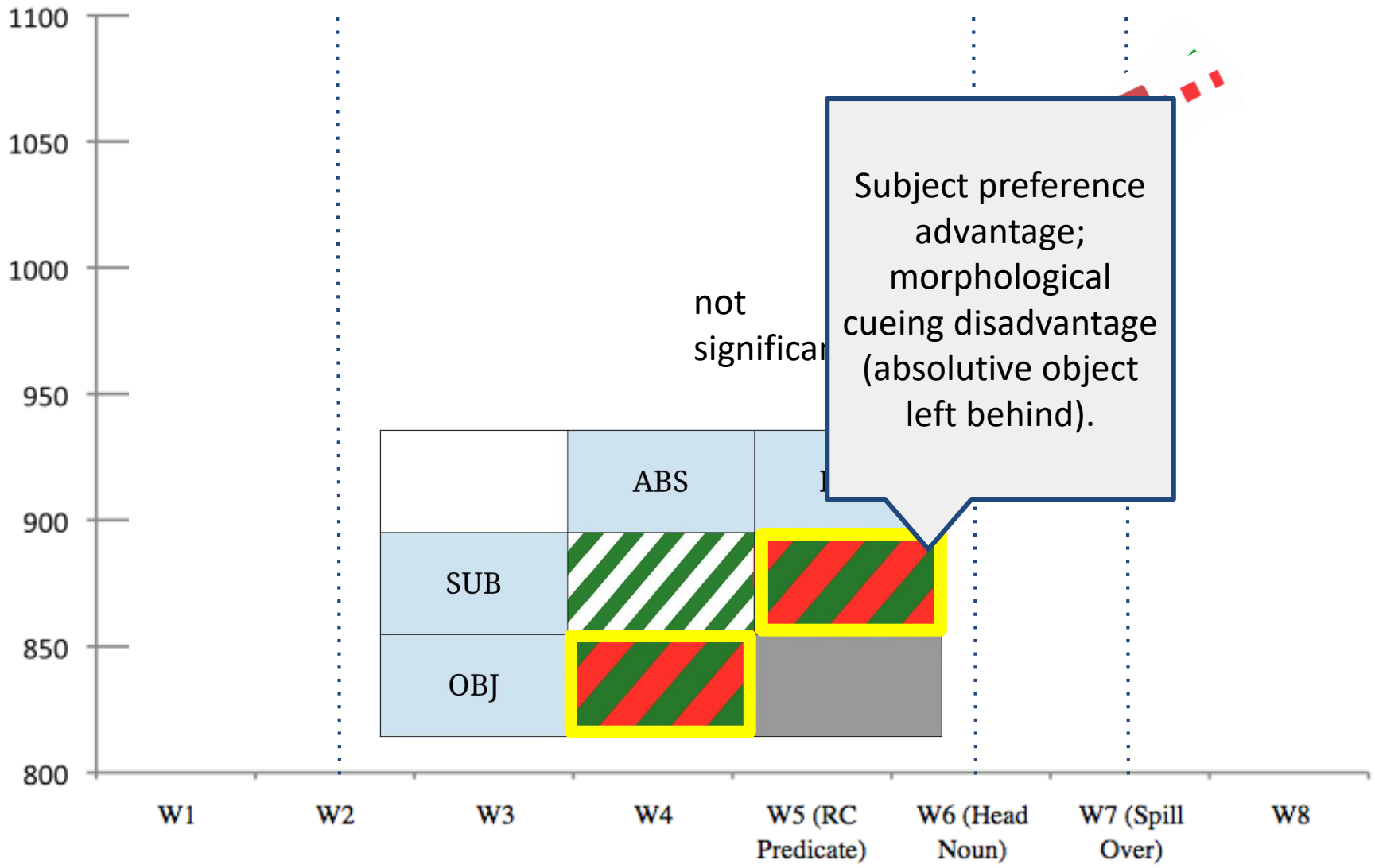
Results: W6 & W7 (scaled for significance)



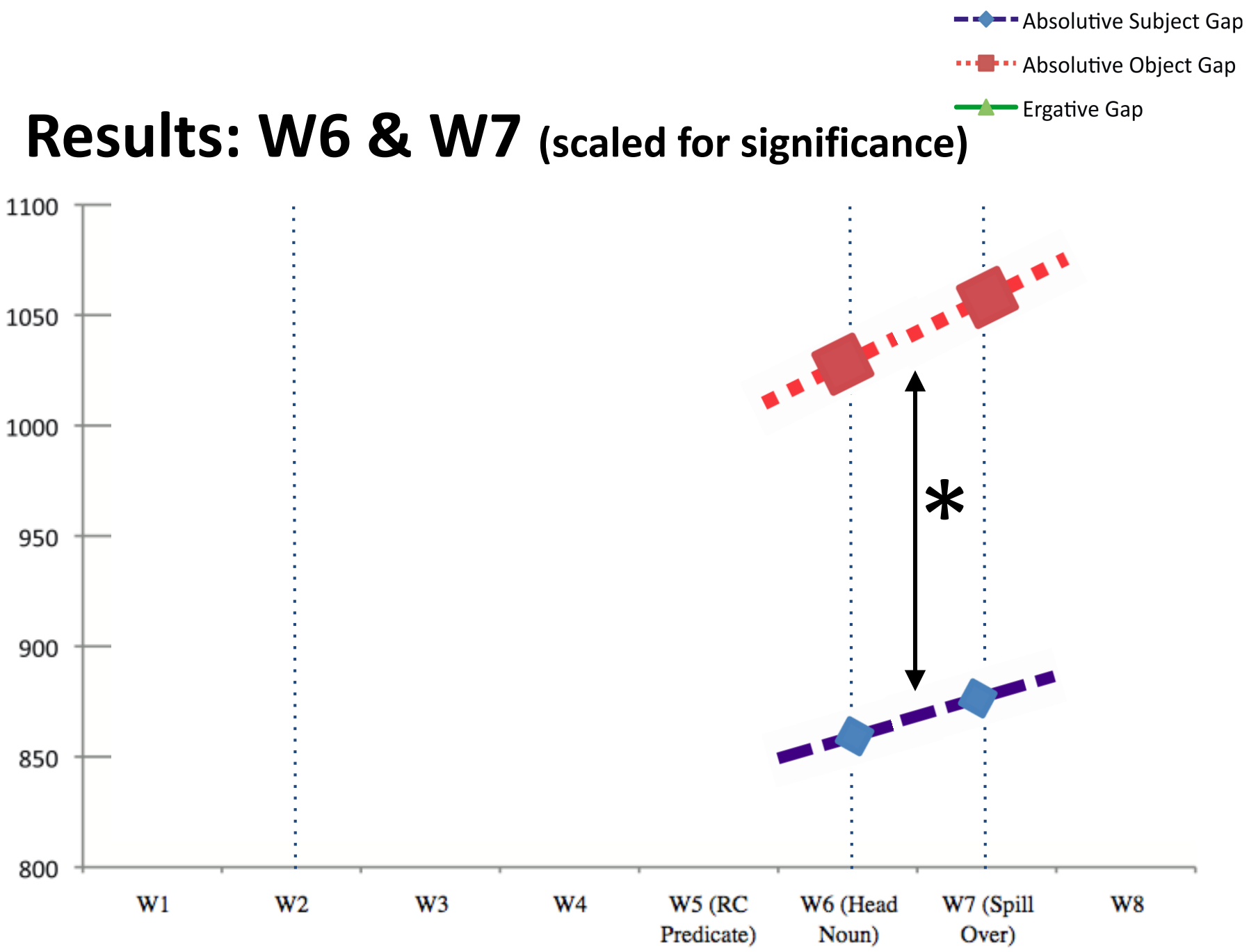
Results: W6 & W7 (scaled for significance)



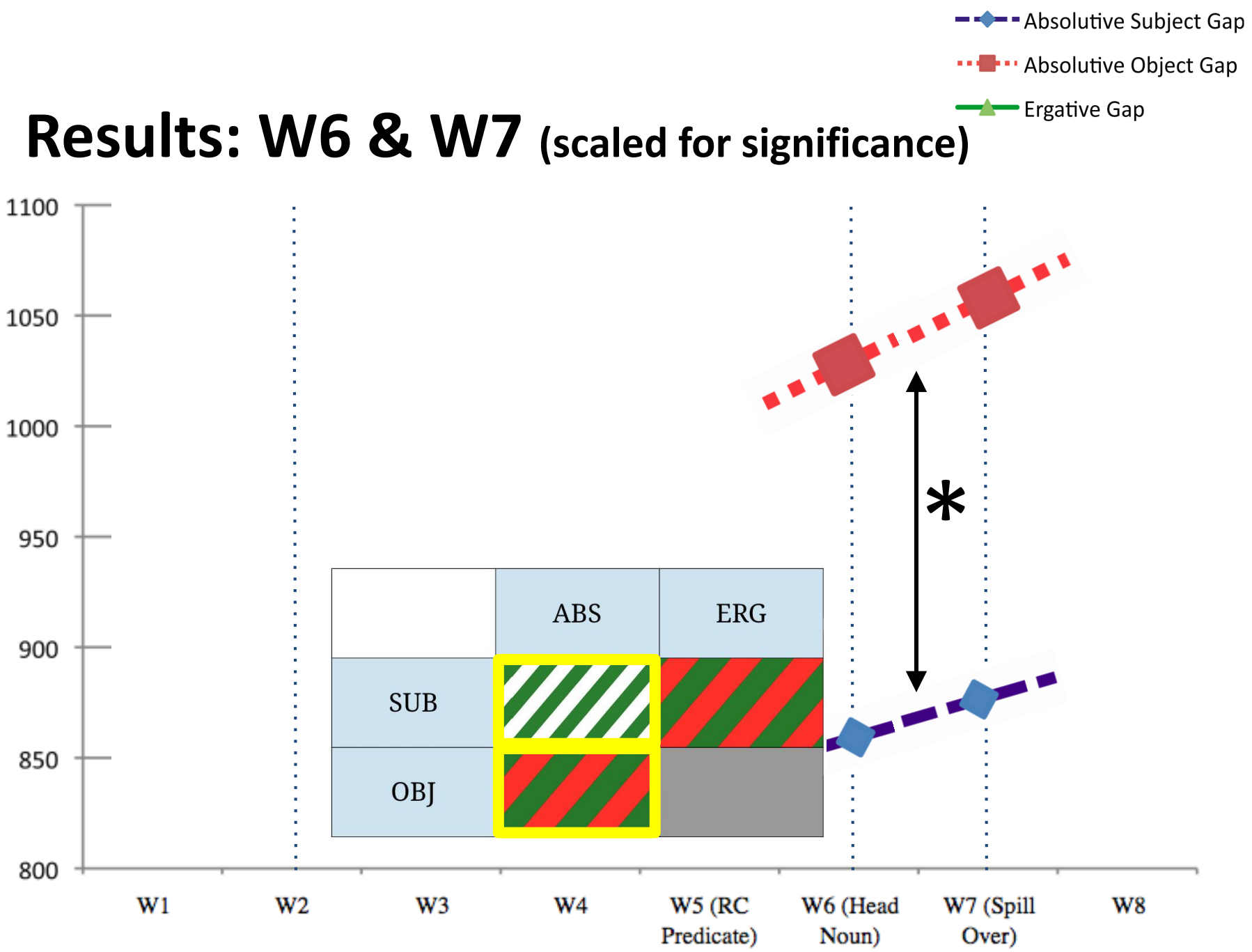
Results: W6 & W7 (scaled for significance)



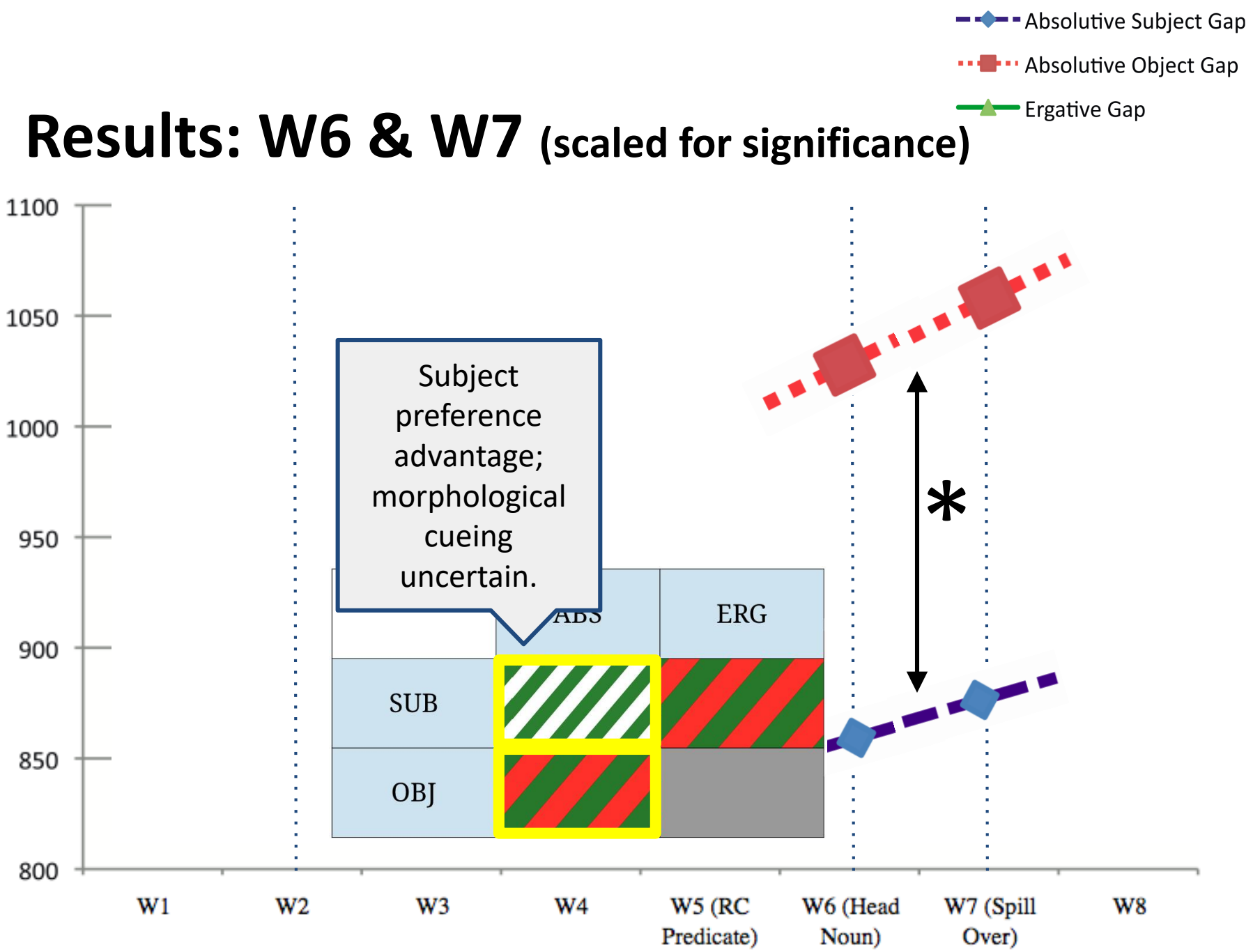
Results: W6 & W7 (scaled for significance)



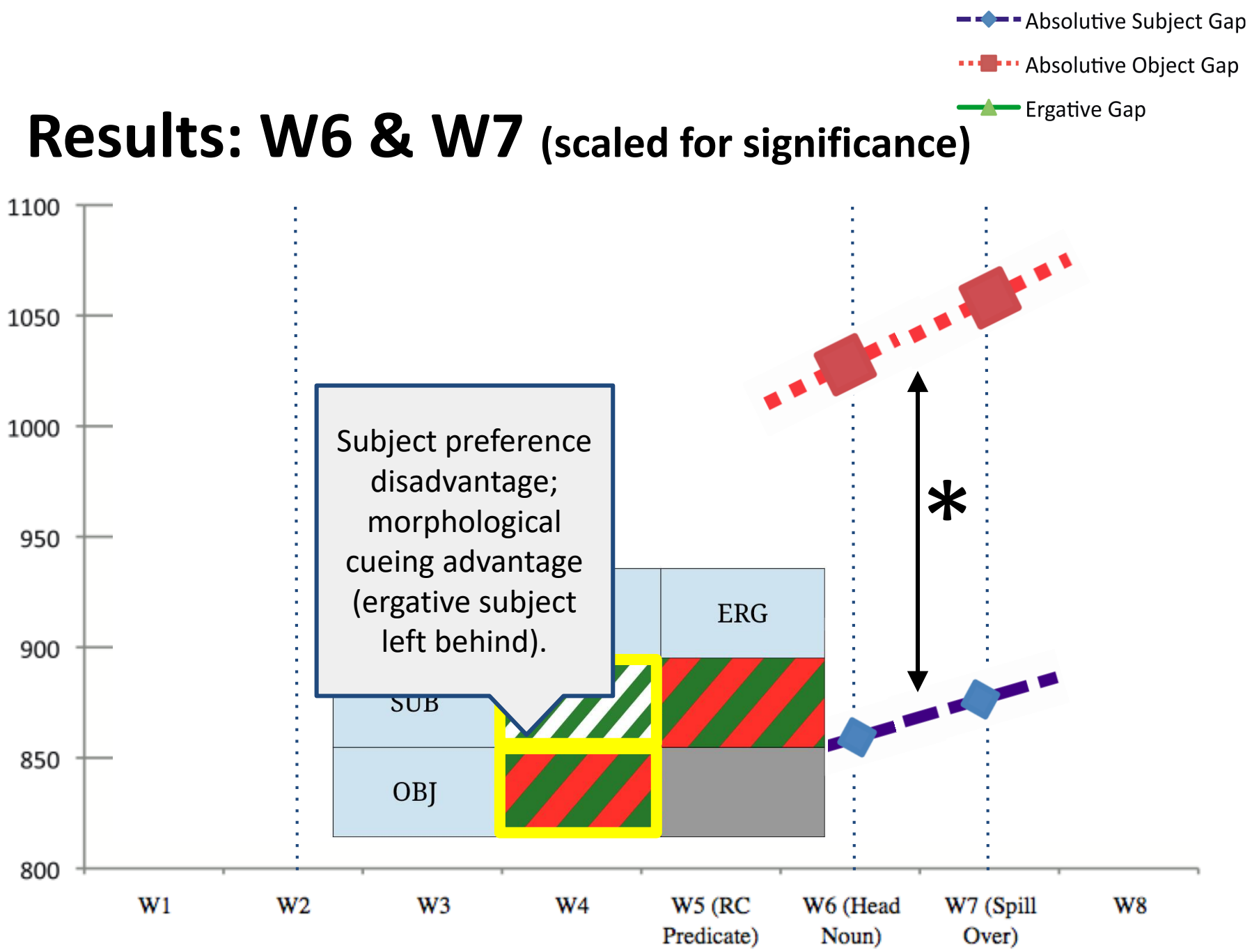
Results: W6 & W7 (scaled for significance)



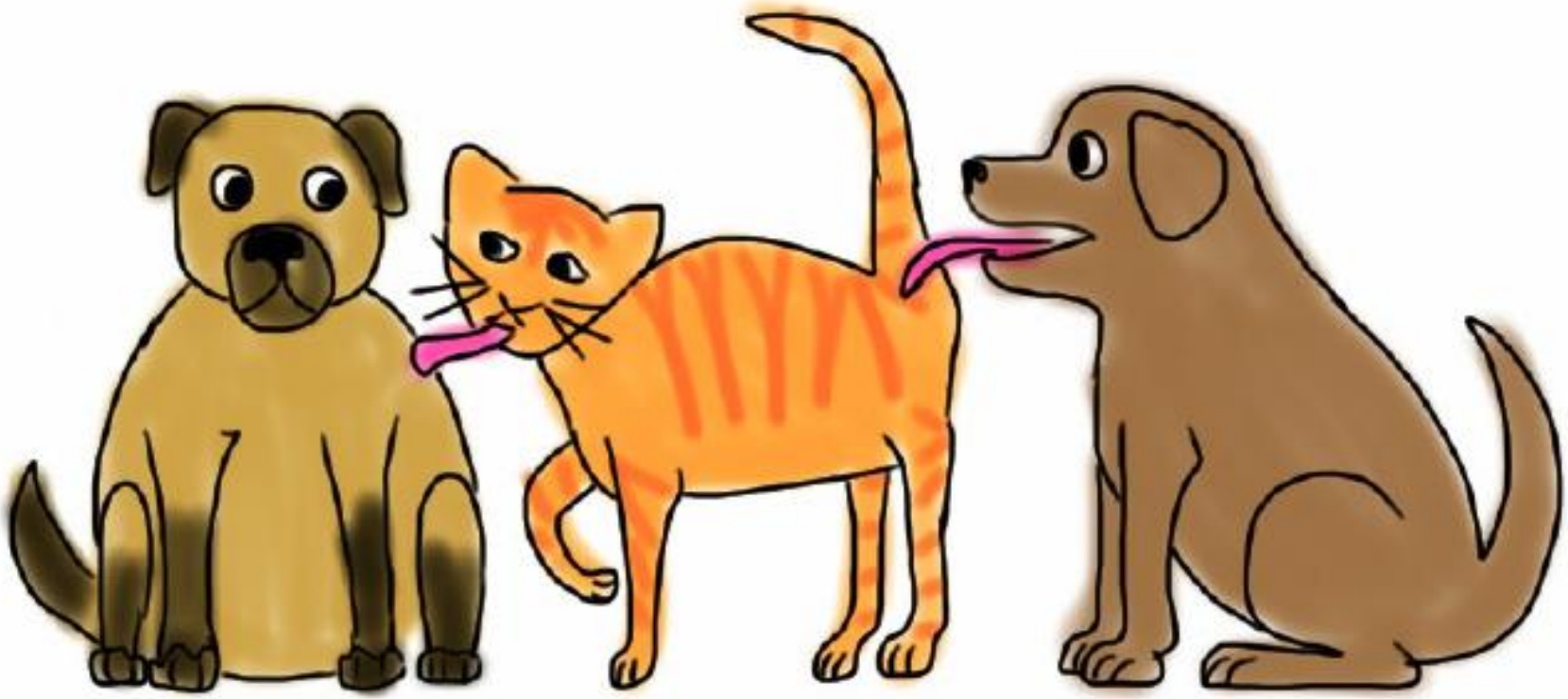
Results: W6 & W7 (scaled for significance)



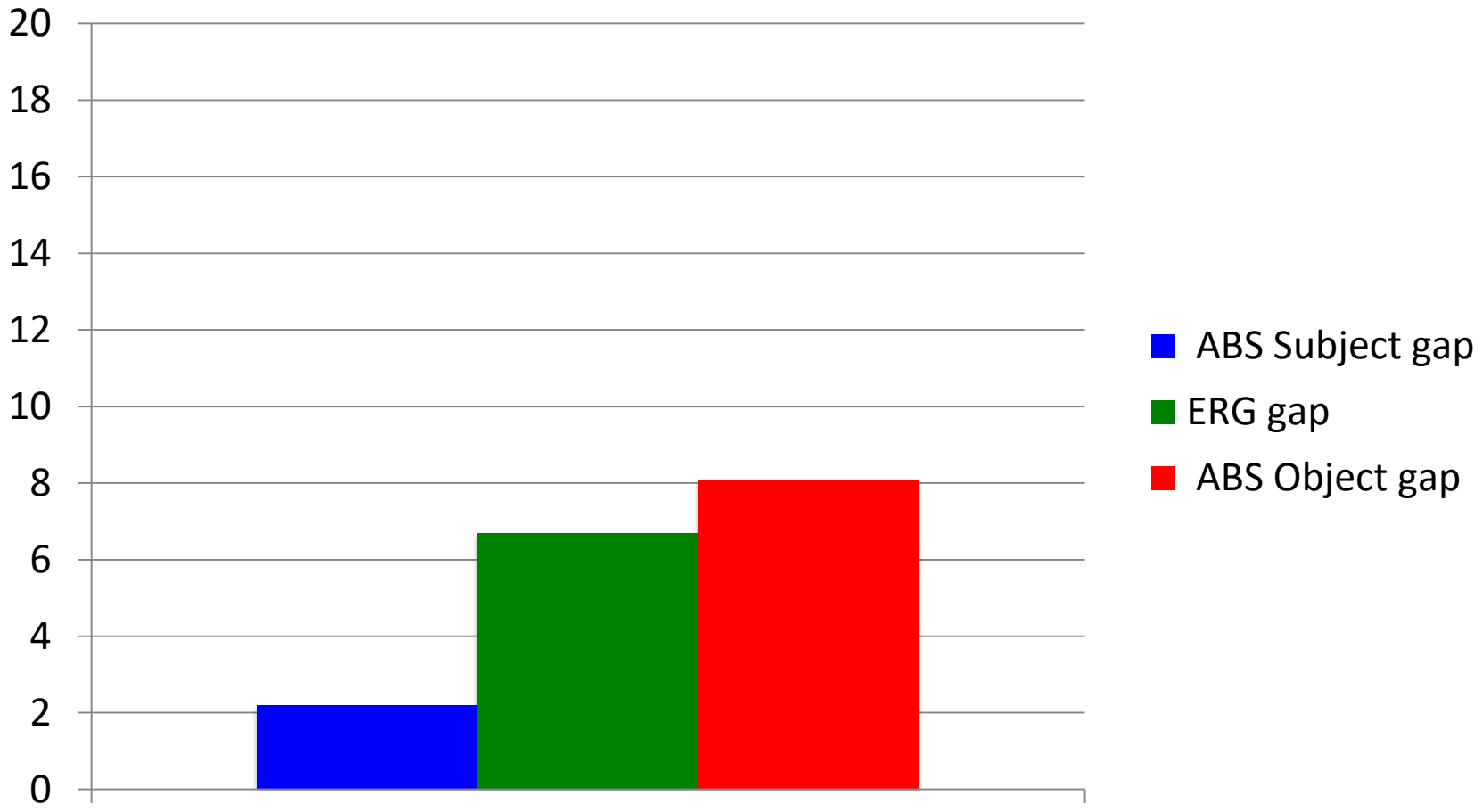
Results: W6 & W7 (scaled for significance)



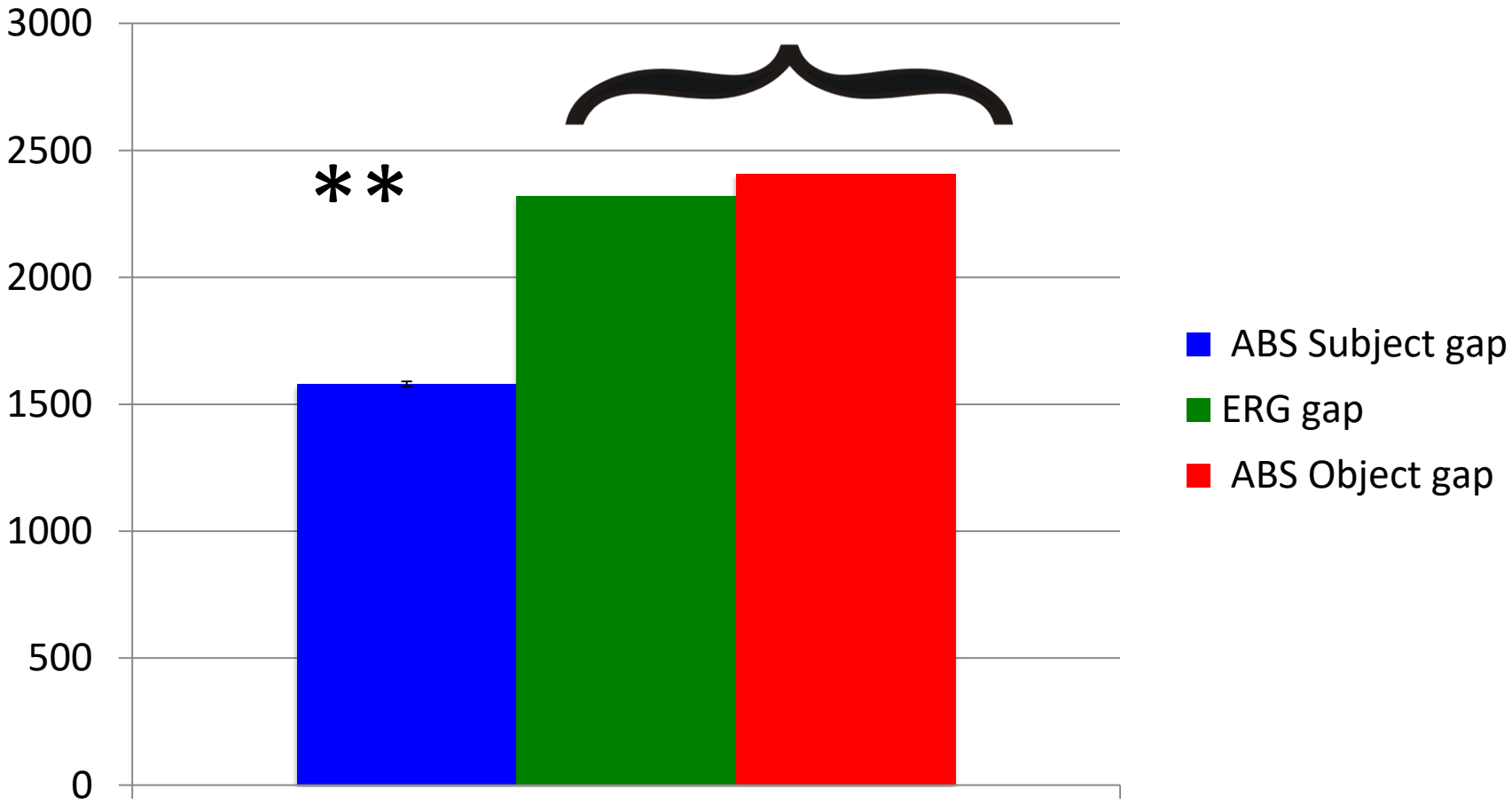
DIFFERENT METHODOLOGY: SPM



PICTURE-MATCHING: ERROR RATE IN HEAD NOUN CHOICE, %

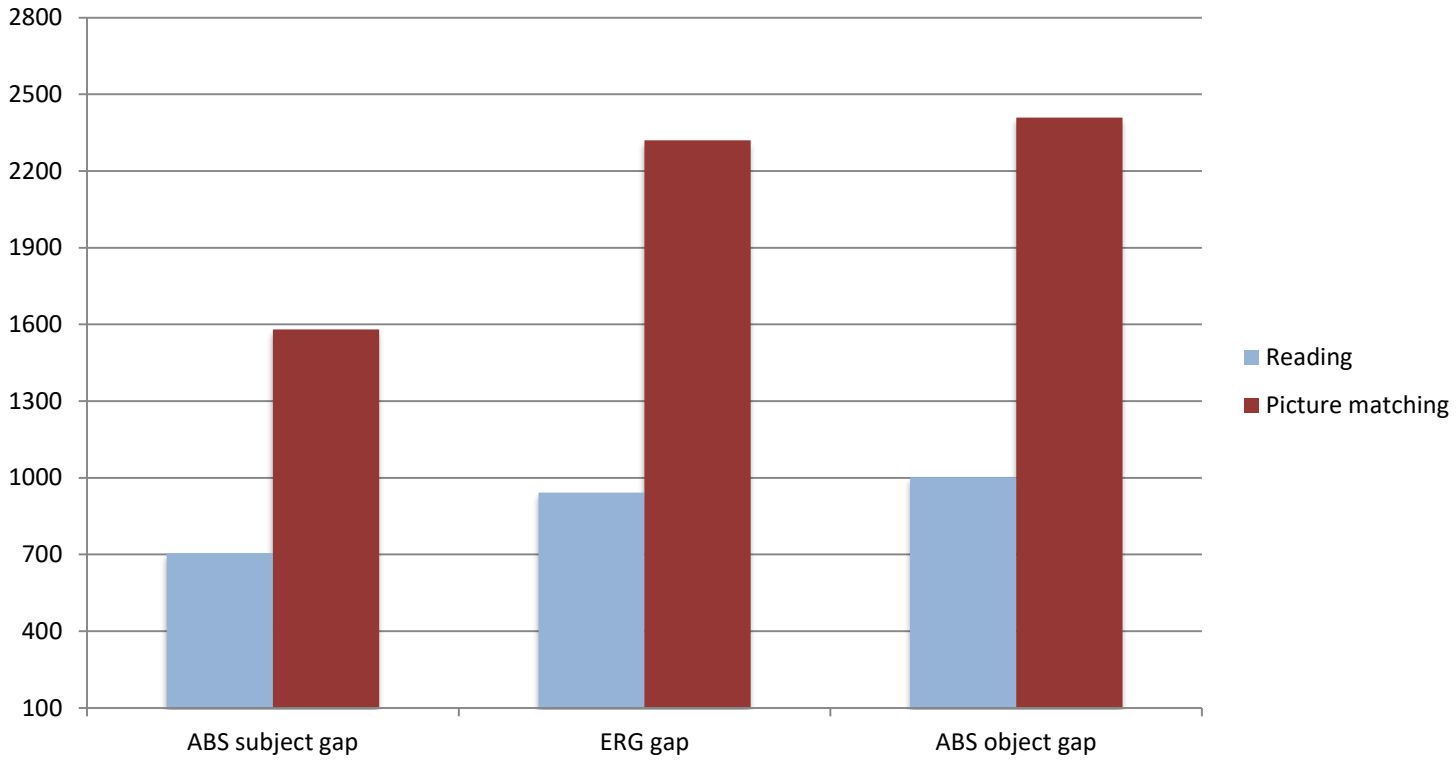


DIFFERENT METHODOLOGY, SAME RESULT



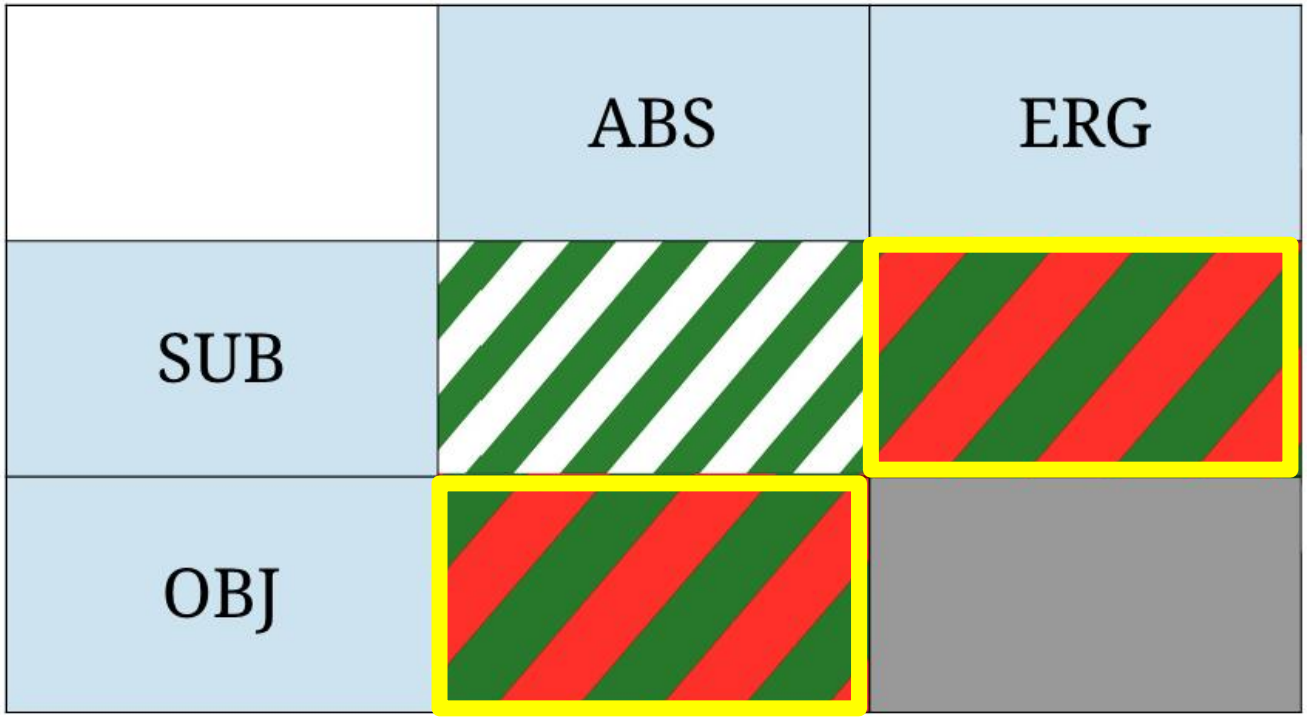
Picture-matching results, RT (ms) at picture selection, 25 subjects

COMPARING THE RESULTS



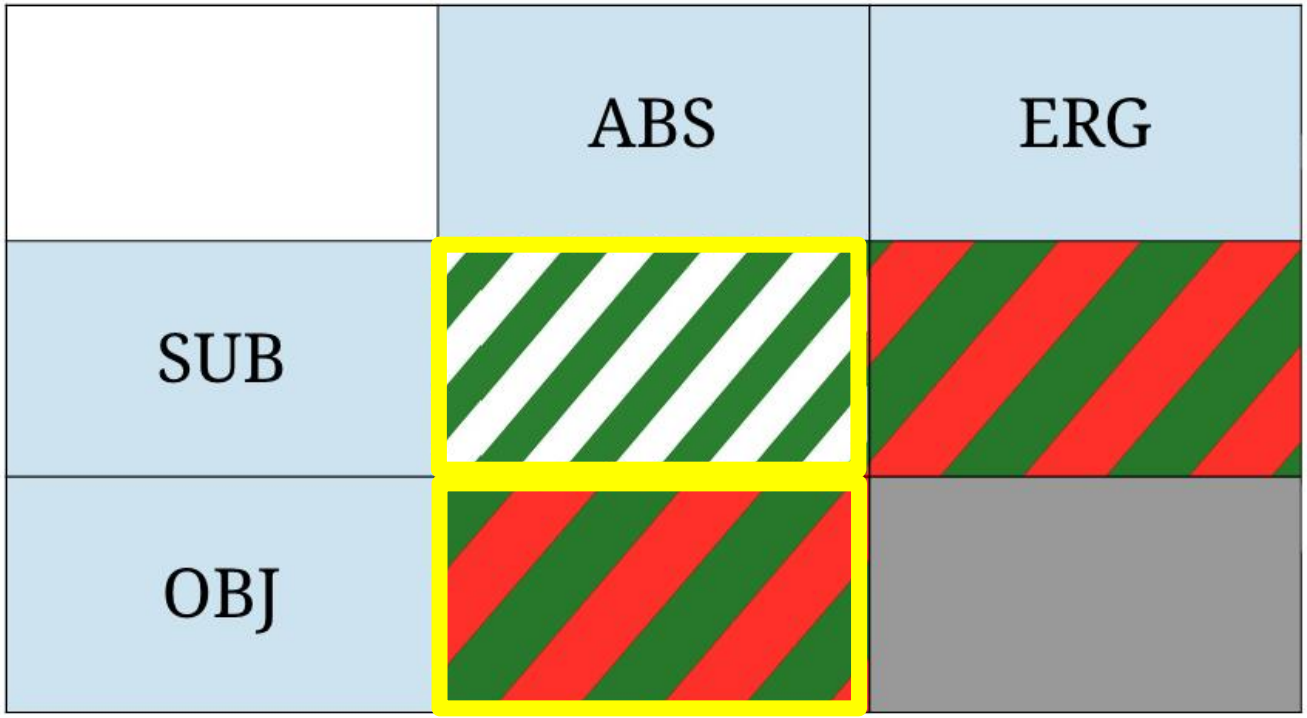
Reading averaged per word

INTERPRETATION



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

INTERPRETATION



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

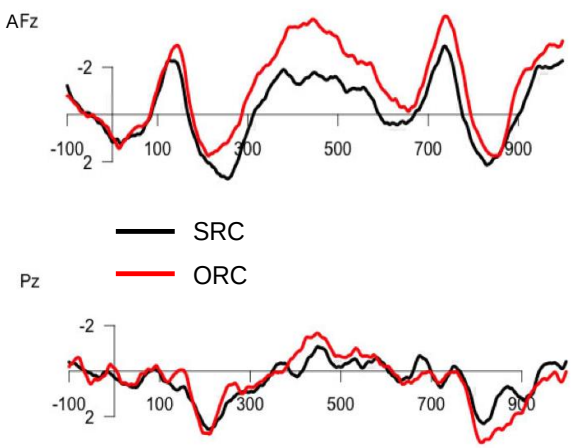
Main result

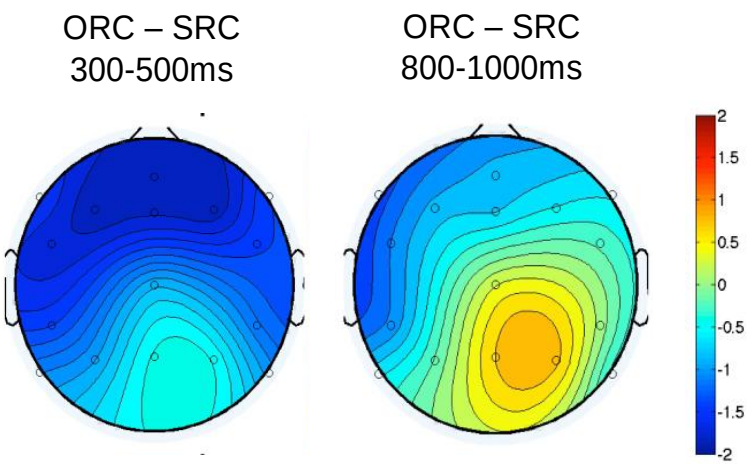
- Ergative subjects in Avar are not more difficult to process than absolutive objects

Beyond Avar

- Ergative subjects are not more difficult to process than absolutive objects:
  replicated in Niuean (Longenbaugh & Polinsky 2016, 2017), Samoan (Tollan 2019), Georgian (Foley 2018, Lau et al. 2019)

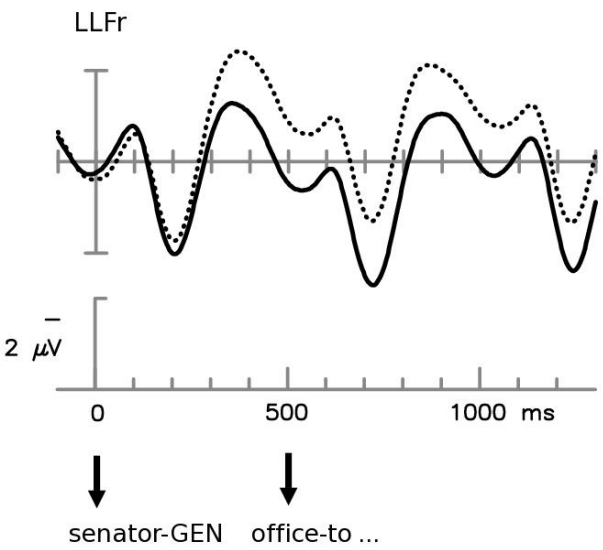
Georgian relative clauses

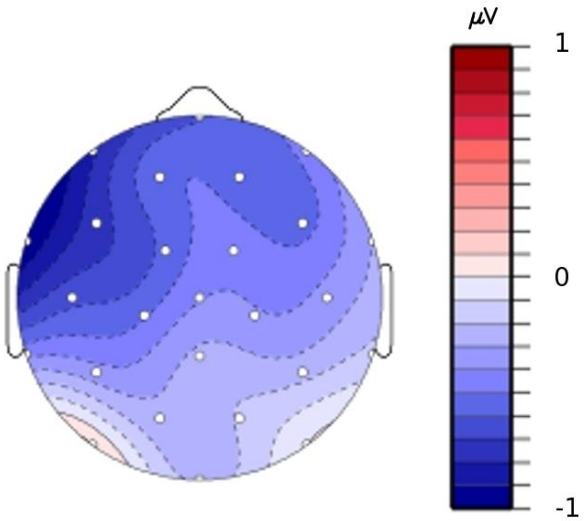




Lau et al. (2019)

Korean relative clauses





Kwon et al. (2013); Kwon (2008)

WHAT THIS MEANS FOR ERGATIVE LGS

- Languages without syntactic ergativity do not show difficulty in the extraction of the ergative DP
- Therefore, syntactic ergativity cannot be derived from a processing constraint

WHAT THIS MEANS OUTSIDE ERGATIVE LGS

- Subject preference in nominative-accusative languages is a cumulative effect of morphological cueing and structural position
- Genuine subject preference in in nominative-accusative languages is to be sought in ambiguous relative clauses where surface cues are absent or suppressed

AMBIGUITIES

- German feminine and neuter nouns

die Spionin, [*die* *die Komissarin*

the spy.FEM $REL_{NOM/ACC}$ [the superintendent.FEM]$_{NOM/ACC}$

verfolgt hat]

chased has

(i) ‘the spy who has chased the superintendent’

(ii) the superintendent who has chased the spy’

(Bader & Meng 1999; Schwarz 2007)

AMBIGUITIES

- Russian inanimates (masc and neuter)

  akvarium, [*kotoryj* *zagoraživaet* *jaščik*]

  fishtank which.$\text{MASC}_{\text{NOM/ACC}}$ blocks $\text{box}_{\text{NOM/ACC}}$

  (i) ‘the fishtank that blocks the box’

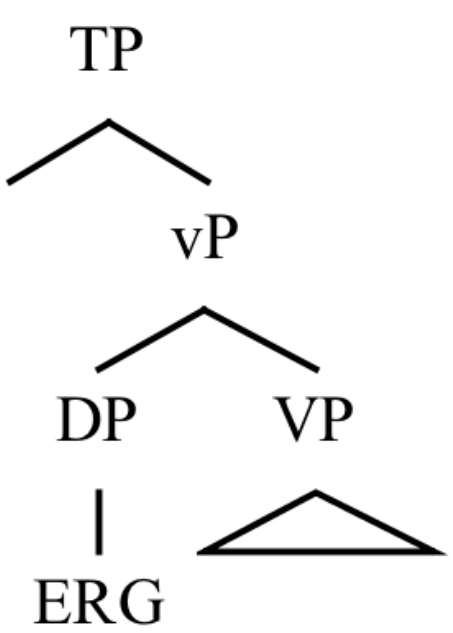
  (ii) ‘the box that blocks the fishtank’

(Polinsky 2011; Clemens et al. 2015)

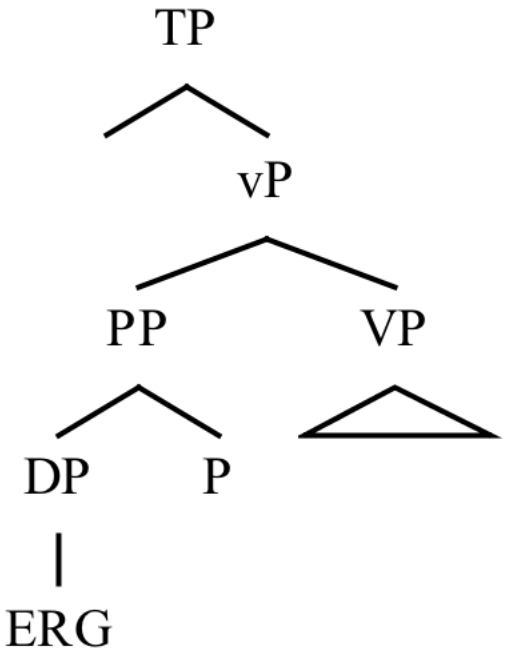
A SYNTACTIC ACCOUNT

TWO ERGATIVES

- Parametric variation in ergative case assignment:



OR



Prepositional phrases and A-bar movement

- A PP is a syntactic island for movement
  - DP cannot escape from the island
  - Possible solution: Move the entire PP
- The entire PP cannot move if
  - Movement operator is null (as in relativization), cf. den Dikken (1995)
  - The P head is silent

Prepositional phrases and A-bar movement

- The entire PP cannot move if
  - Movement operator is null (as in relativization), cf. den Dikken (1995)
  - The P head is silent (also prevents stranding)

- Syntactic ergativity arises when the P head is null and A-bar movement involves a null Op

PRECEDENTS FOR PP-SPECIFIERS

- Japanese *ni*-passive (Fukuda 2009, 2013)
- English passives (Goodall 1997)
- Prepositional experiencer subjects (Landau 2010)

PP vs. DP: General contrasts

	PP	DP
Can extract (A-bar move) leaving a gap at the extraction site	No	Yes
Subextraction from XP is possible	No	Yes (unless independently constrained)
Can serve as pivot of cleft	No	Yes
Can determine agreement	Only if DP-agreement with all absolutives (subj and obj) is available	Yes
Can serve as binder of anaphors	No	Yes
Can host floating quantifiers	No	Yes
Is accessible to A-movement	No	Yes

COMPARING TWO LANGUAGES

- Tongan
  - Syntactic ergativity
  - Ergative shows PP properties
- Niuean
  - Morphological ergativity only
  - Ergative has all DP properties

Tongan vs Niuean

- Co-occurrence with a preposition
- Neither language has preposition stacking (**from about that corner*)
- Tongan ergative cannot co-occur with a preposition: **ki ‘e he ta’ahine* ‘with the girl’
- Niuean ergative can co-occur with a preposition: *ke he tama* ‘with the child’

TONGAN ERGATIVE

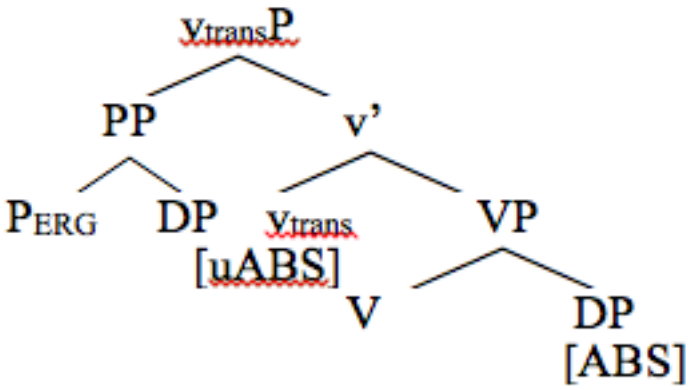
	PP
Can combine with a preposition	No
Can extract (A-bar move) leaving a gap at the extraction site	No
Can serve as pivot of cleft	No
Is accessible to A-movement	No
Can host floating quantifiers	No

NIUEAN ERGATIVE

	DP
Can combine with a preposition	Yes
Can extract (A-bar move) leaving a gap at the extraction site	Yes
Can serve as pivot of cleft	Yes
Is accessible to A-movement	Maybe
Can host floating quantifiers	Yes

GENERAL HYPOTHESIS

- Languages with syntactic ergativity have a prepositional ergative; the preposition makes it impossible for the ergative to extract



GENERAL HYPOTHESIS

- The presence of a prepositional phrase in the subject position is associated with a set of correlated properties, for example:
  - The ergative cannot serve as a binder of anaphors
  - There is no raising and control in the narrow (syntactic) sense
  - The ergative cannot be pivot of cleft
  - Agreement is with the absolutive, not ergative
  - Other properties: TBD

CONCLUSIONS

- The majority of morphologically ergative languages also manifest syntactic ergativity
  - ABS can undergo A-bar movement leaving a gap at the extraction site, but ERG cannot
  - The split can happen even in closely related languages such as Tongan and Niuean
- Syntactic ergativity is puzzling because ERG is subject

CONCLUSIONS

- Hypothesis 1: syntactic ergativity follows from processing constraints, which may be gradient (soft) in some languages and categorical (strong) in others
- Experimental data from Avar and Mayan languages indicate that the processing account of syntactic ergativity is untenable

CONCLUSIONS

- Hypothesis 2: syntactic ergativity follows from the status of the ergative as a PP, not DP
  - Somne languages have PP-ergatives, others, DP-ergatives
- The PP status of the ergative is associated with a cluster of structural properties which together form a macro-parameter

THANK YOU

- Peter Arkadiev, Bernard Comrie, Jessica Coon, Annie Gagliardi, Michael Goncalves, Peter Graff, Yuri Lander, Pedro Mateo Pedro, Vera Podlesskaya, Nina Radkevich, Pavel Rudnev, Laine Stranahan, Yakov Testelets
- Members of the Polinsky Language Science Lab (Harvard and UMD)
- Funding: NSF, Max Planck Institute, Davis Center at Harvard, DRCLAS at Harvard, National Heritage Language Resource Center (UCLA)