Psikohizkuntzalaritza
Gillen Mtz de la Hidalga
2019-2020

4. Perpausak prozesatzen

b. argumentu egitura

-Erlatibozko perpausak

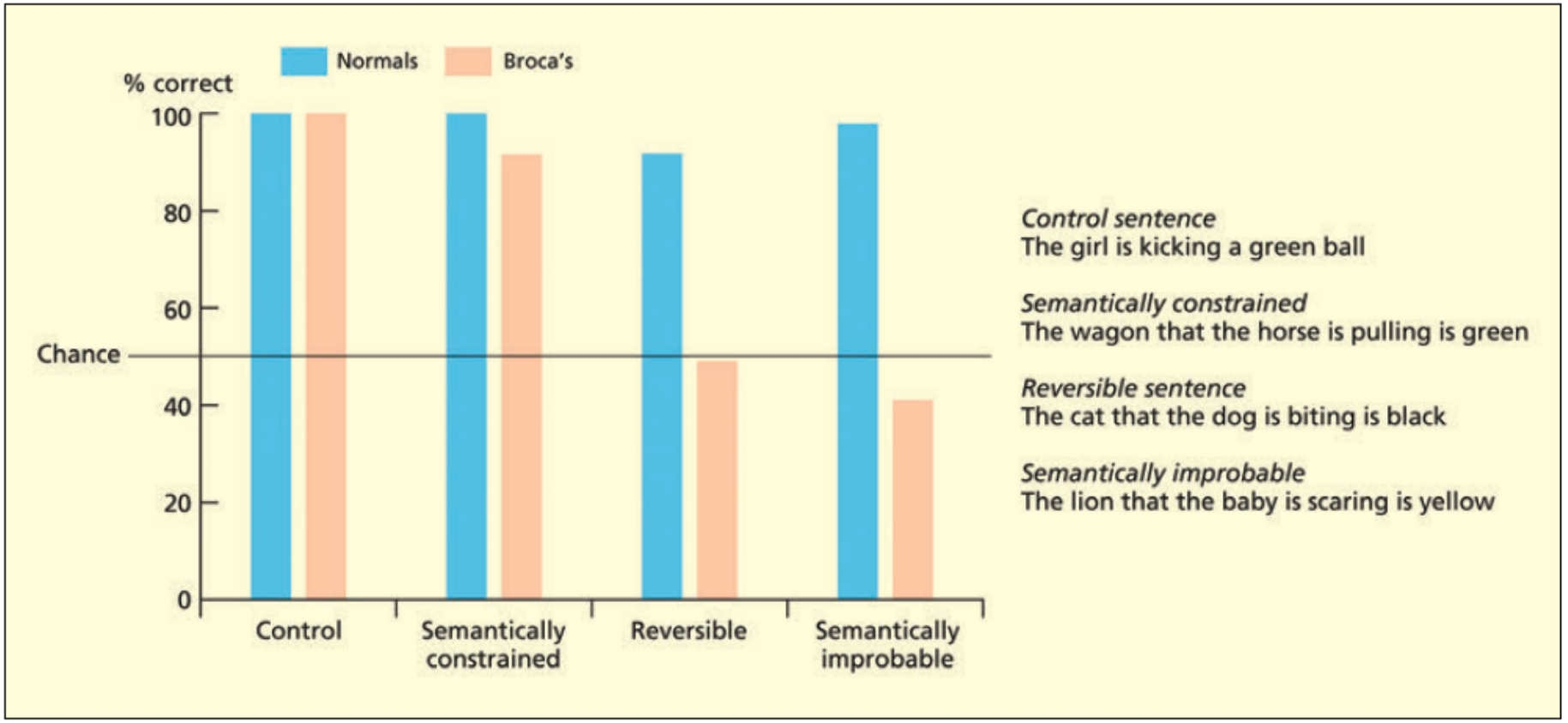
-Perpaus iragangaitzak

-Kasua L1 vs L2

eman ta zabal zazu
Universidad del País Vasco
Euskal Herriko Unibertsitatea

The Bilingual Mind

Broca afasia



In a group study of so-called Broca's aphasics, Caramazza and Zurif (1976; data adapted from Figure 3) found that participants had particular problems in comprehending sentences on a picture–sentence matching task when the subject and object of the verb were determined from syntax and not from semantics.

Ward (2015)

Erlatibozko perpausak

Subjektu- vs. Objektu-erlatibozko esaldien prozesamendua: hizkuntzen arteko lehentasun ezberdintasunak

a) *The senator that attacked the reporter admitted the error*

b) *The senator that the reporter attacked admitted the error*

Just & Carpenter (1992)

Subjektu- vs. Objektu-erlatibozko esaldien prozesamendua: hizkuntzen arteko lehentasun ezberdintasunak

a) *The senator that __attacked the reporter admitted the error*

b) *The senator that the reporter attacked __admitted the error*

Just & Carpenter (1992)

Just & Carpenter (1992)

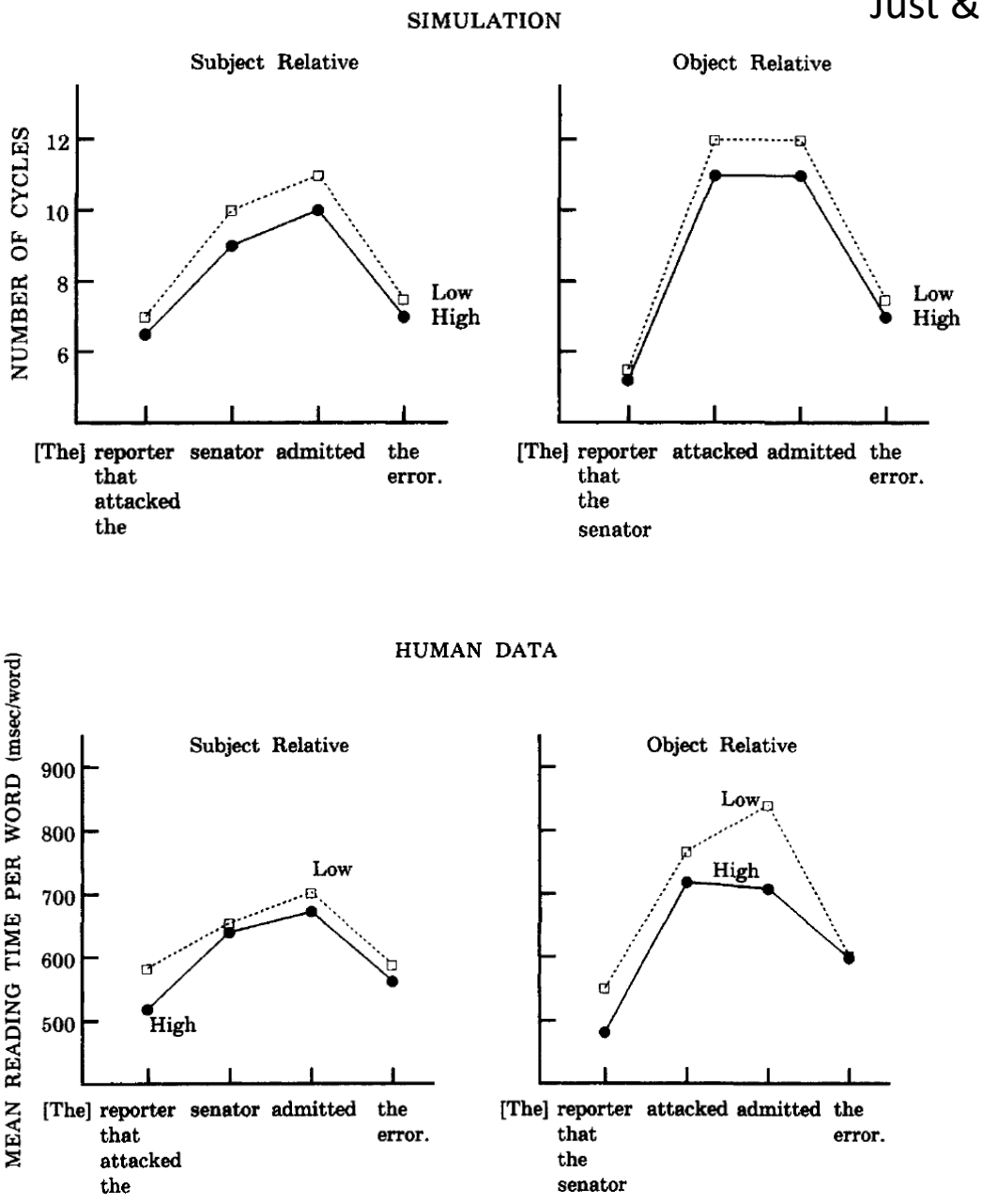


Figure 9. The number of cycles expended on various parts of the subject-relative sentences (on the left) and object-relative sentences (on the right) when the simulation, CC READER, is operating with more or less working memory capacity. (The bottom graph presents the human data for comparison with the simulation.)

Subjektu- vs. Objektu-erlatibozko esaldien prozesamendua: hizkuntzen arteko lehentasun ezberdintasunak

Ingelesez: subjektu-erlatibozkoak (a) objektu erlatibozkoak (b) baino errazagoak dira prozesatzen (e.g., Just & Carpenter, 1992; Mak, Vonk, & Schriefers, 2002; Traxler, Morris, & Seely, 2002)

a) *The senator that __attacked the reporter admitted the error*

b) *The senator that the reporter attacked __admitted the error*

Subjektu- vs. Objektu-erlatibozko esaldien prozesamendua: hizkuntzen arteko lehentasun ezberdintasunak

Ingelesez: subjektu-erlatibozkoak (a) objektu erlatibozkoak (b) baino errazagoak dira prozesatzen (e.g., Just & Carpenter, 1992; Mak, Vonk, & Schriefers, 2002; Traxler, Morris, & Seely, 2002)

a. The senator$_1$ [that (e_1) attacked the reporter] admitted the error

b. The senator$_1$ [that the reporter attacked (e_1)] admitted the error.

•Active Filler Strategy: mugitutako elementuak utzitako hutsunea gertuen dagoen erreferentzia posiblearekin bete

Subjektu- vs. Objektu-erlatibozko esaldien prozesamendua: hizkuntzen arteko lehentasun ezberdintasunak

Partaideak: 28 gaztelera elebakar (La Laguna Unibertsitatekoak)

Metodo esperimentala: Irakurketa begi mugimenduak (bideoa)

Materialak:

Subjektu-erlatibozkoak

a) *Conocıan al atleta que venció finalmente **al corredor** el año pasado.* [DS1-biziduna DS2-biziduna; B-B]

b) *Conocıan la enfermedad que venció finalmente **al corredor** el año pasado.* [DS1-ez-biziduna DS2-biziduna; ezB-B]

Objektu-erlatibozkoak

c) *Conocıan al atleta que venció finalmente **el corredor** el año pasado.* [B-B]

d) *Conocıan la enfermedad que venció finalmente **el corredor** el año pasado.* [ezB-B]

Emaitzak:

- Irakurketa denbora luzeagoak (denbora orokorra) “el corredor” (obj-rel) irakurtzerakoan “al corredor” (subj-rel) irakurtzerakoan baino.
- Objektu erlatibozkoen irakurtze zailtasuna handiagoa zen DS1 biziduna zenean (B-B baldintzetan; A vs. C) ez-biziduna zenean baino (ezB-B; B vs. D)

Betancort et al. (2009)

Subjektu- vs. Objektu-erlatibozko esaldien prozesamendua: hizkuntzen arteko lehentasun ezberdintasunak

Dena den, prozesamendu lehenespen hauek hizkuntza buru-lehenetan (VO) bakarrik ikertu dira.

Zer gertatuko litzateke hizkuntza buru-azken (OV) batean? Subjektu-erlatibozkoak errazagoak izango al dira prozesatzen hizkuntza buru-azken batean ere?

Erlatibozko perpausak

Subjektuzko erlatibozko perpausak

[__*i uywon-ul kongkyekha-n] enlonini-i yumyengha-ta*

[__ senatari-ACC erasotu-ADN] kazetari-NOM da.ezagun-DECL

“__Senataria erasotu zuen kazetaria ezaguna da.”

Objektuzko erlatibozko perpausak

[uywon-i __*i kongkyekha-n] enlonini-i yumyengha-ta*

[senatari-NOM __ erasotu-ADN] kazetari-NOM da.ezagun-DECL

“Senatariak __ erasotu zuen kazetaria ezaguna da.”

Kwon et al. (2010)

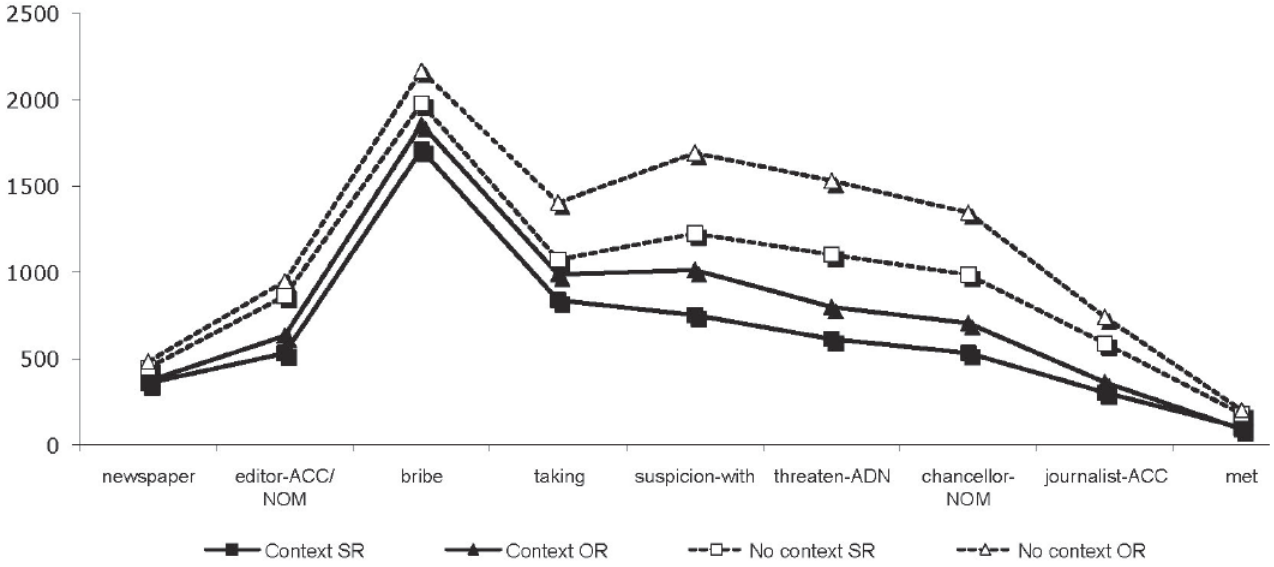
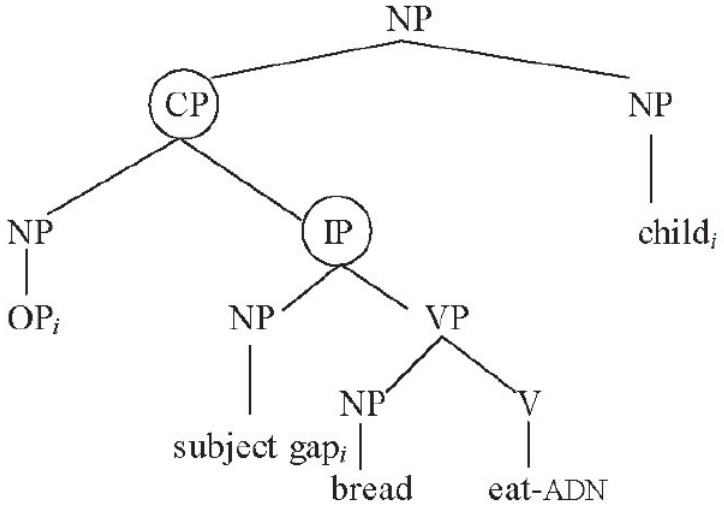


FIGURE 5. Rereading times of SRs and ORs with and without context of experiment 2.

Kwon et al. (2010)

SR: 2 XPs, 'the child who ate bread'



OR: 3 XPs, 'the bread that the child ate'

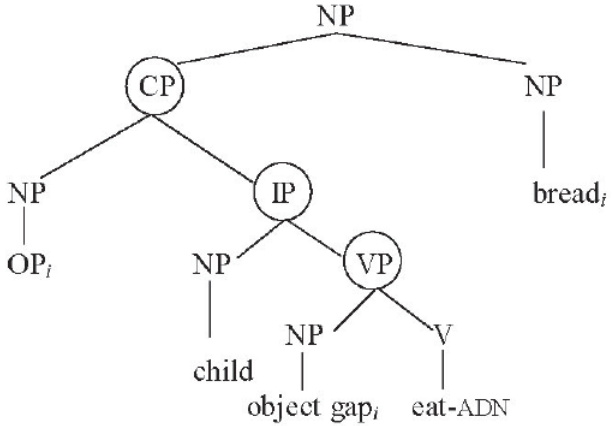


FIGURE 1. Phrase structure of SRs and ORs.

Subjektu- vs. Objektu-erlatibozko esaldien prozesamendua: hizkuntzen arteko lehentasun ezberdintasunak

Dena den, prozesamendu lehenespen hauek hizkuntzetan nominatibo-akusatiboetan bakarrik ikertu dira.

Zer gertatuko litzateke hizkuntza ergatibo batean? Subjektu-erlatibozkoak errazagoak izango al dira prozesatzen hizkuntza ergativo batean ere?

Subjektu- vs. Objektu-erlatibozko esaldien prozesamendua: hizkuntzen arteko lehentasun ezberdintasunak

Partaideak: 54 jaiotzetiko euskaldun

Materialak:

a) *Irakasleak aipatu dituen ikasleak lagunak **ditu**.* (SUBJ-ERL)
[e_1 irakasleak aipatu dituen] ikasleak$_1$ lagunak ditu.

b) *Irakasleak aipatu dituen ikasleak lagunak **dira**.* (OBJ-ERL)
[irakasleak e_1 aipatu dituen] ikasleak$_1$ lagunak dira.

Metodoa: Norberak gidatutako irakurketa (self-paced reading)

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

_____ _____ _____ _____ _____ _____.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

Irakasleak _____ _____ _____ _____ _____.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

_____aipatu _____ _____ _____.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

_____ _____ dituen _____ _____.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

_____ _____ _____ikasleak _____ ___ ____.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

_____ _____ _____lagunak _____.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

_____ _____ _____ _____ _____ditu ____.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

_____ _____ _____ _____ _____orain.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

_____ _____ _____ _____ _____ _____.

Metodoa: norberak gidatutako irakurketa (leiho-mugikorrak)

Irakasleak aipatu dituen ikasleak lagunak ditu orain.

Metodoa: norberak gidatutako irakurketa (hitzak erdian)

+

aipatu

dituen

ikasleak

lagunak

ditu

orain

+

Erlatibozko perpausak

Euskara

(a) __ Jon ikusi duen gizona etorri da. (SR)

(b) Jonek __ ikusi duen gizona etorri da. (OR)

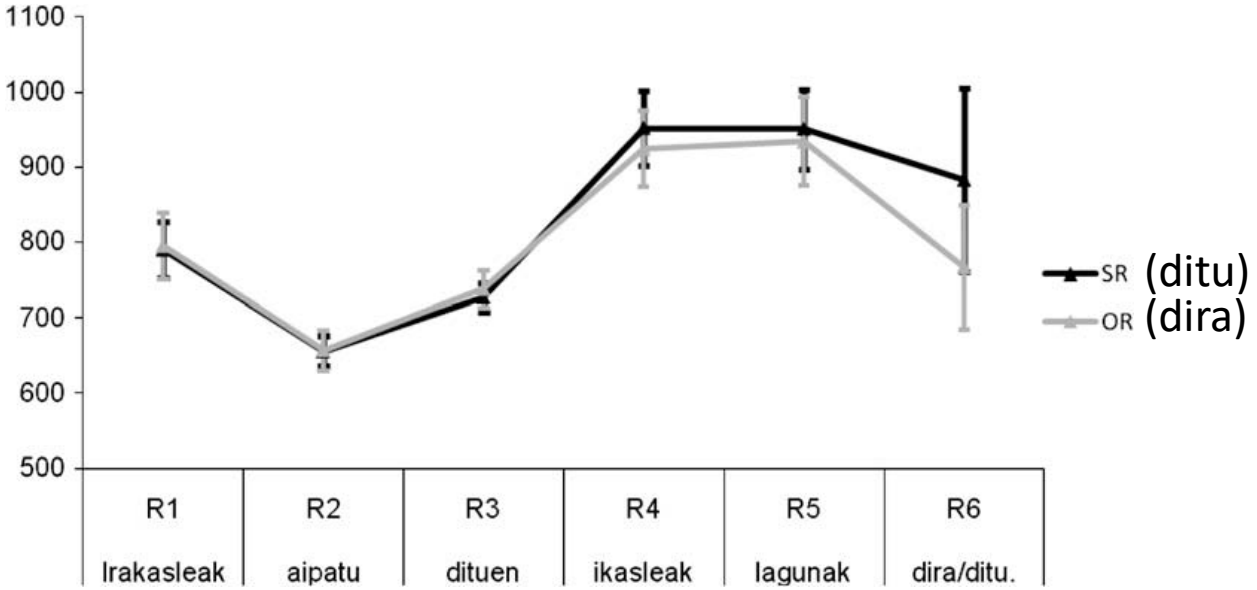
Erlatibozko perpausak

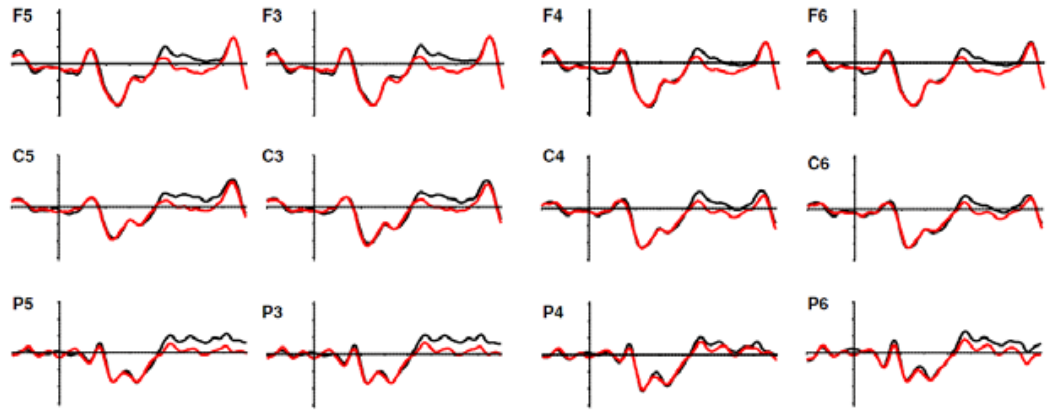
a. [$_{RC}$ ___ ^{1} [$_{VP}$ irakasleak aipatu] dituen] ikasleak^{1}
lagun-ak **ditu**

b. [$_{RC}$ irakasleak [$_{VP}$ ___ ^{1} aipatu] dituen] ikasleak^{1}
lagun-ak **dira**

Carreiras et al. (2010)

Erlatibozko perpausak





Carreiras et al. (2010)

Erlatibozko perpausak

Gaztelania

(a) Ha venido el hombre que __ vio a Juan. (SR)

(b) Ha venido el hombre que Juan vio __ . (OR)

Euskara

(a) __ Jon ikusi duen gizona etorri da. (SR)

(b) Jonek __ ikusi duen gizona etorri da. (OR)

Erlatibozko perpausak

Gaztelania

el hombre

(a) Ha venido el hombre que __ vio a Juan. (SR)

a Juan

(b) Ha venido el hombre que Juan vio __ . (OR)

Euskara

gizona**k**

(a) __ Jon ikusi duen gizona etorri da. (SR)

gizona

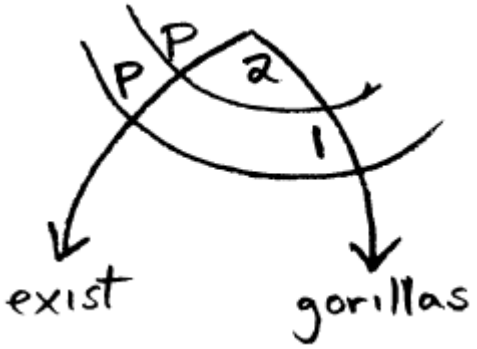
(b) Jonek __ ikusi duen gizona etorri da. (OR)

Perpaus iragangaitzak

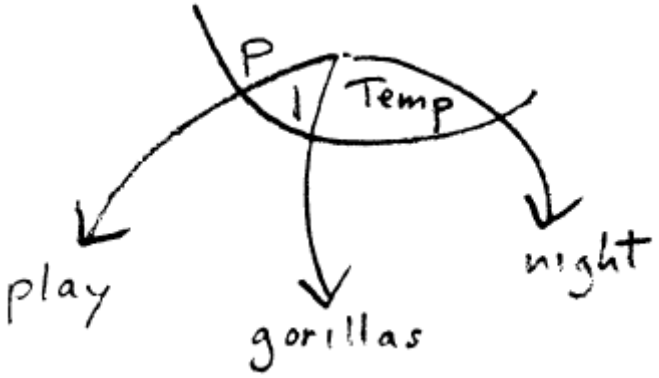
Perpaus iragangaitzak

- Perlmutter (1978) **Unaccusative Hypothesis**

Gorillas exist



Gorillas play at night



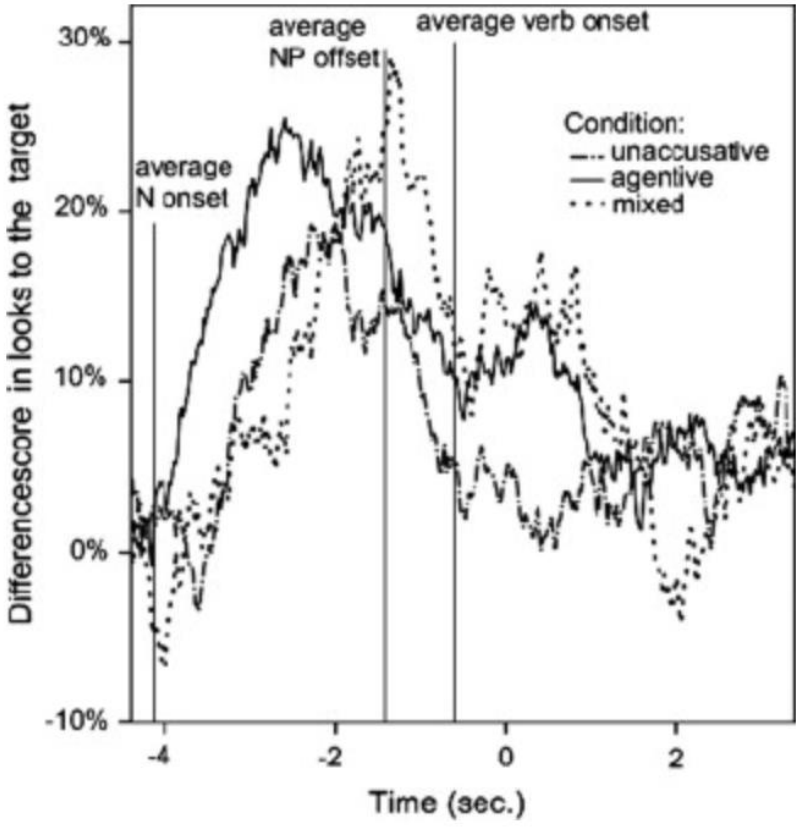
- Burzio (1981)

Perpaus iragangaitzak ezakusatiboak vs ezergatiboak

Ebidentzia:

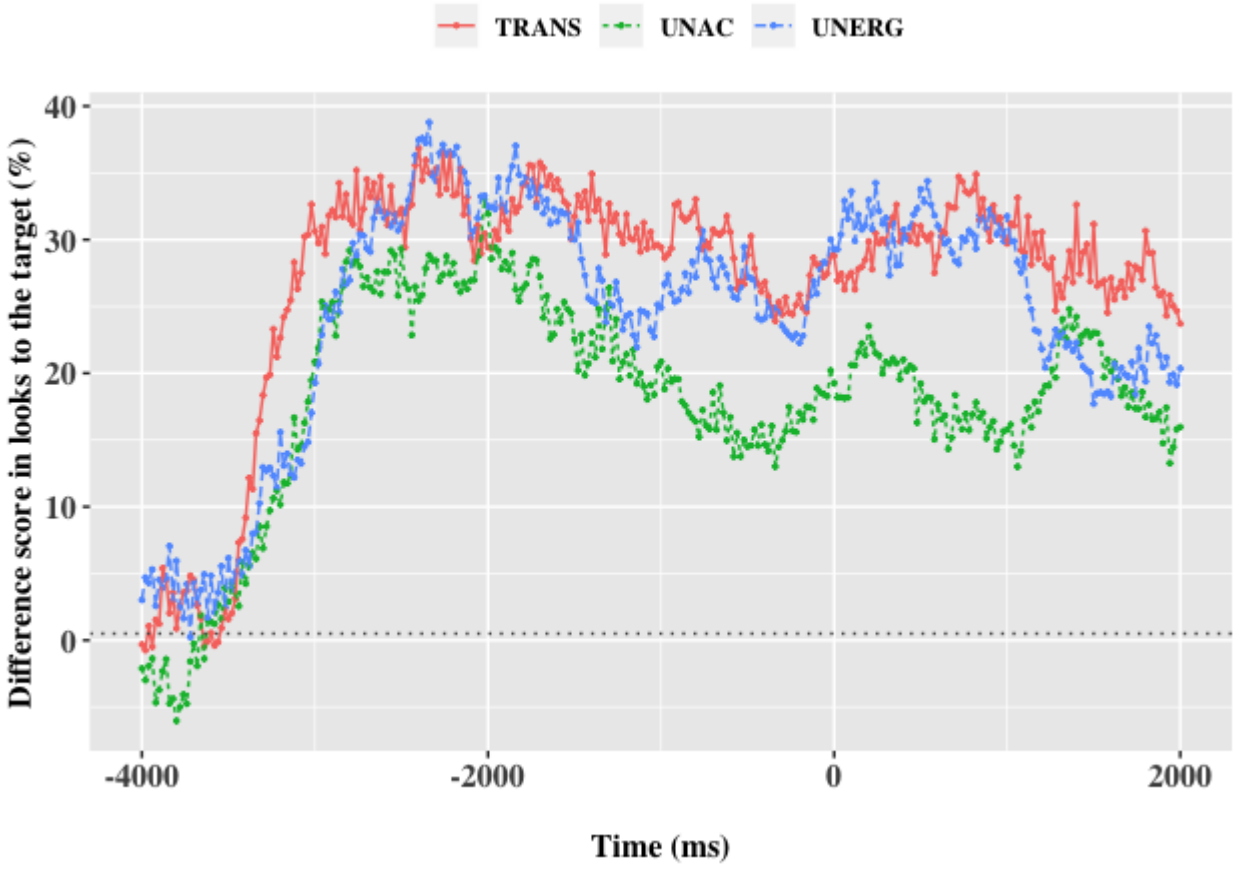
- Erantzun denborak
- fMRI irudiak
- Afasiadun pazienteak
- Begirada patroiak

Neerlandera



Koring et al. (2012)

Gaztelania



Gómez-Vidal et al. (in prep.)

Euskara

Eppur non si muove: Experimental evidence for the Unaccusative Hypothesis and distinct ϕ-feature processing in Basque

Authors: Gillen Martinez de la Hidalga, Adam Zawiszewski, Itziar Laka

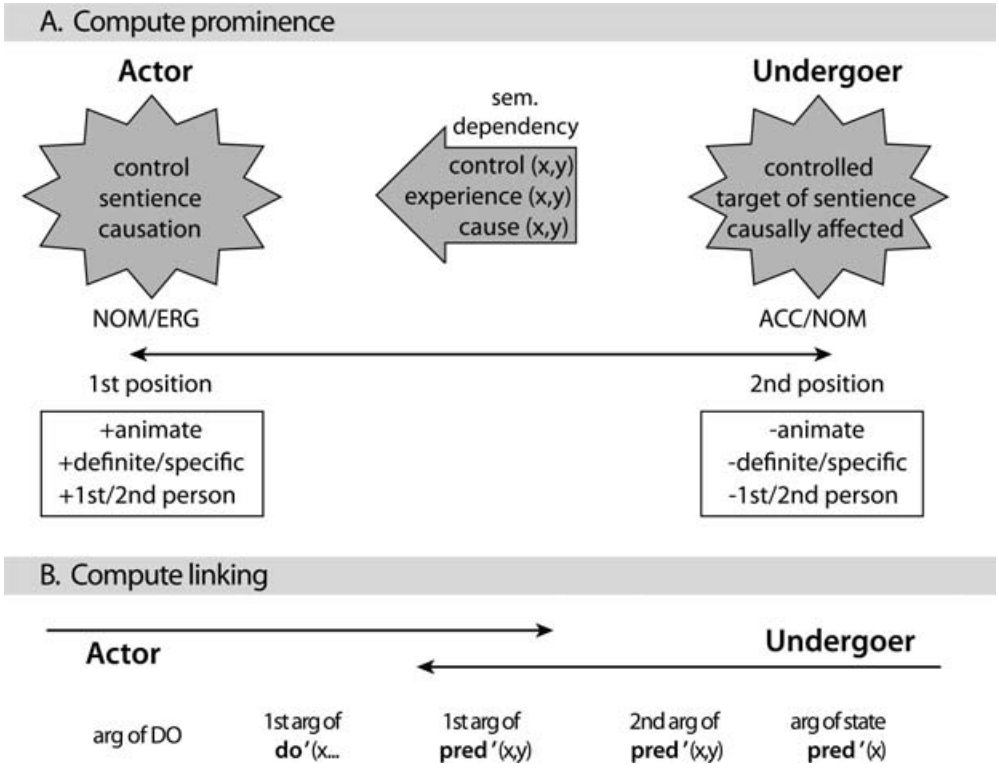
Abstract

The Unaccusative Hypothesis (UH) has been extensively studied in linguistics, but, to date, it has not been tested by means of ERPs. The present study aimed to experimentally test the UH hypothesis in Basque and determine what the electrophysiological correlates are of the processing of unergative versus unaccusative predicates; it also aimed to investigate distinctness in phi-feature processing. We generated eight conditions to compare unergative and unaccusative predicate sentence processing involving phi-feature violations in grammatical and ungrammatical sentences. Participants responded faster to sentences containing unaccusative predicates compared to unergative predicates. All conditions elicited a N400-P600 interaction. Overall, the negativity elicited by person violations was larger than the negativity elicited by number violations in both types of predicates. Intransitives differed regarding the size of the positivity elicited by phi-feature violations: unaccusatives elicited a larger positivity for number than for person feature violations, but unergatives elicited a larger positivity for person than for number.

- **Zu/hura** gaur goizean bueltatu zara(*naiz)/da(*dira) Bilbotik.
- **Zuk/hark** goizean biziki sufritu duzu(*dut)/du(*dute) aurkezpenean.

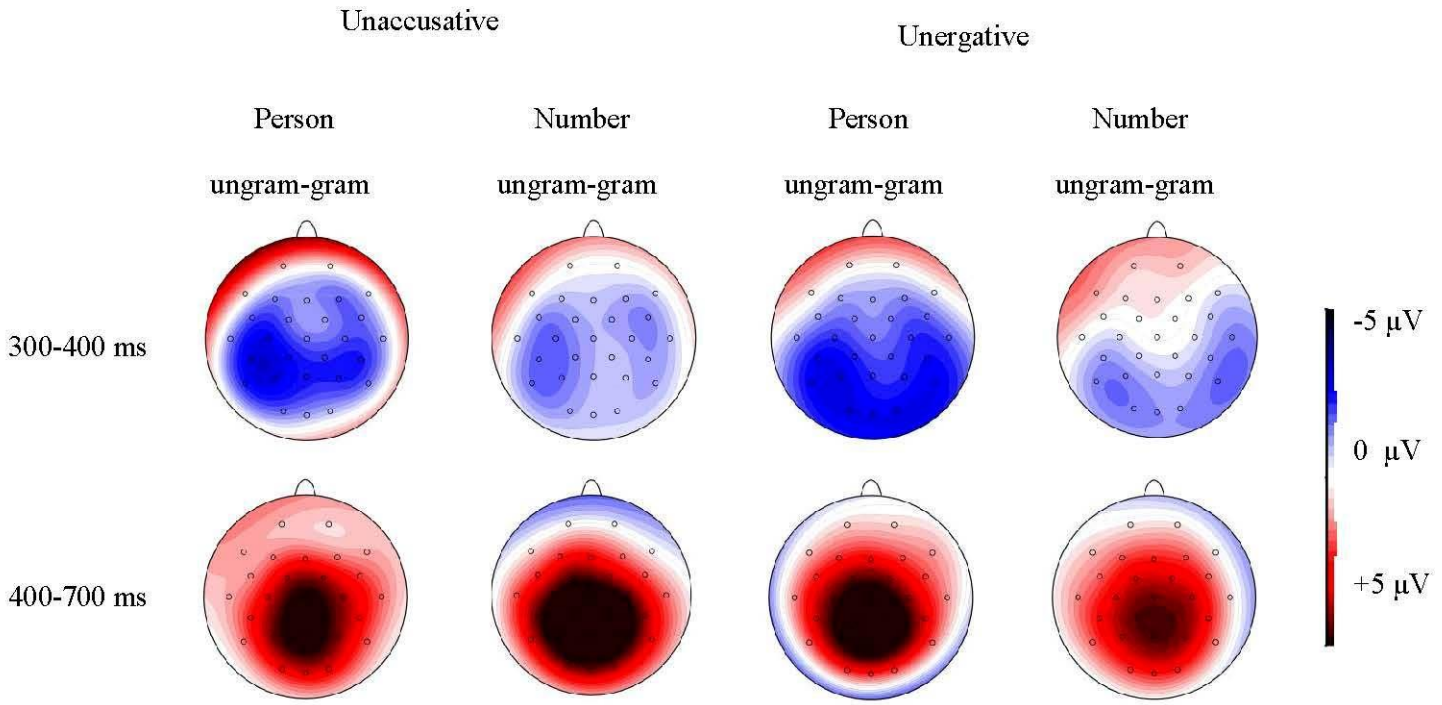
- **Tú/él**, todos los martes, vendrás(*vendré)/vendrá(*vendrán) a Bilbao.
- **Tú/él**, con la presentación, sufrirás(*sufriré)/sufrirá(sufrirán) como nunca.

Martinez de la Hidalga et al. (2019)



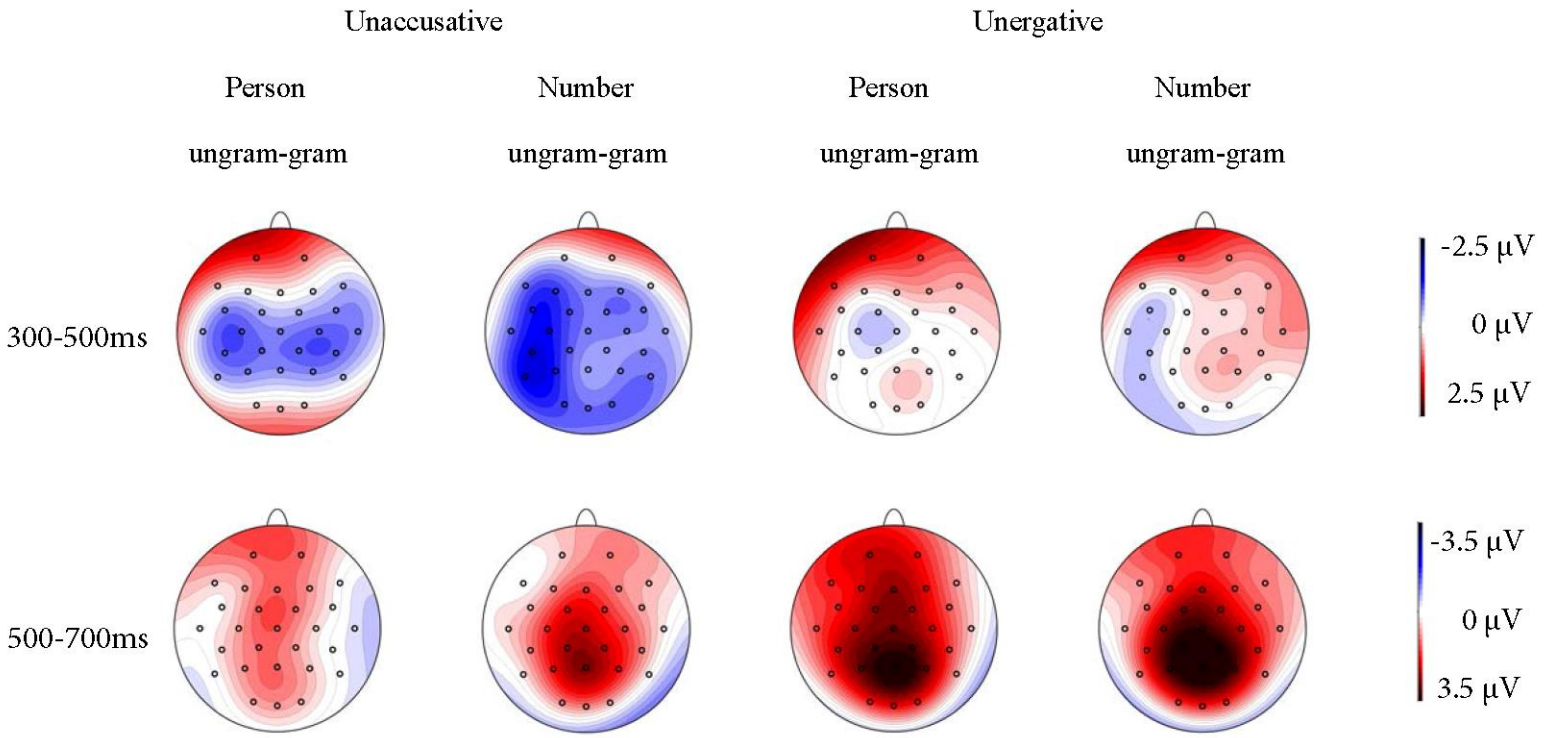
Bornkessel-Schlesewski et al. (2009)

Euskarazko esperimentua (L1eusk)



Martinez de la Hidalga et al. (2019)

Gaztelerazko esperimentua (L1gazt)



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On the cross-linguistic validity of electrophysiological correlates of morphosyntactic processing: A study of case and agreement violations in Basque

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Aditz komunztadura eta kasua

Mikelen arrebek egunkaria saskian ekarri dute kioskotik (SA, GRAM)

Mikelen arrebek egunkaria saskian ekarri *du kioskotik (SA, EZ-GRAM)

Mikelen arrebek egunkari*ek saskian ekarri dute kioskotik (KE, EZ-GRAM)

Mikelen arrebek egunkariak saskian ekarri dituzte kioskotik (OA, GRAM)

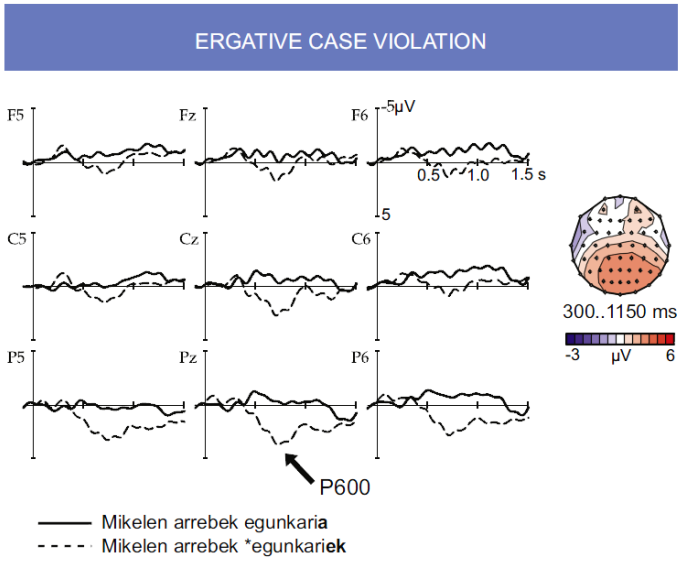
Mikelen arrebek egunkariak saskian ekarri *dute kioskotik (OA, EZ-GRAM)

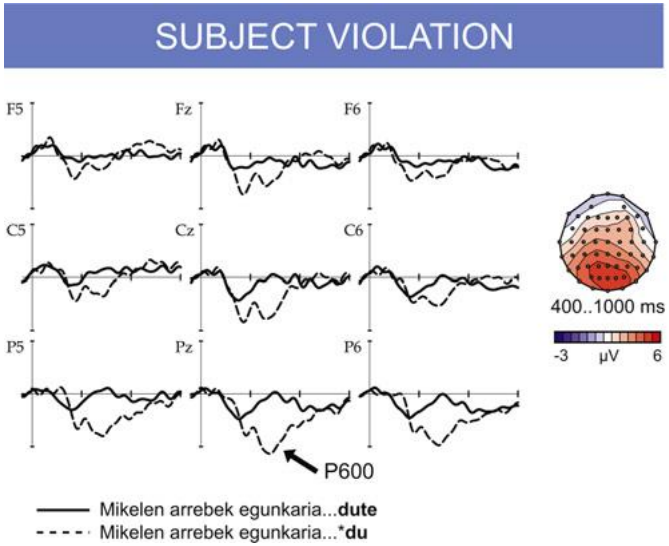
Díaz et al. (2011)

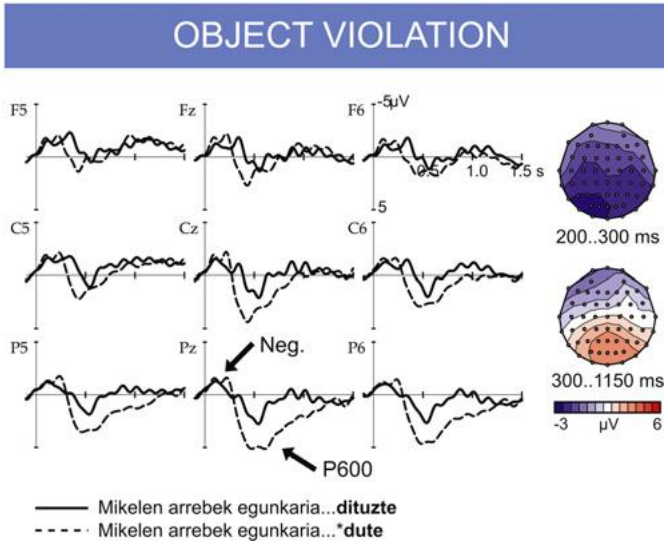
Aditz komunztadura

Díaz et al. (2011)

Emaitzak







Díaz et al. (2011)

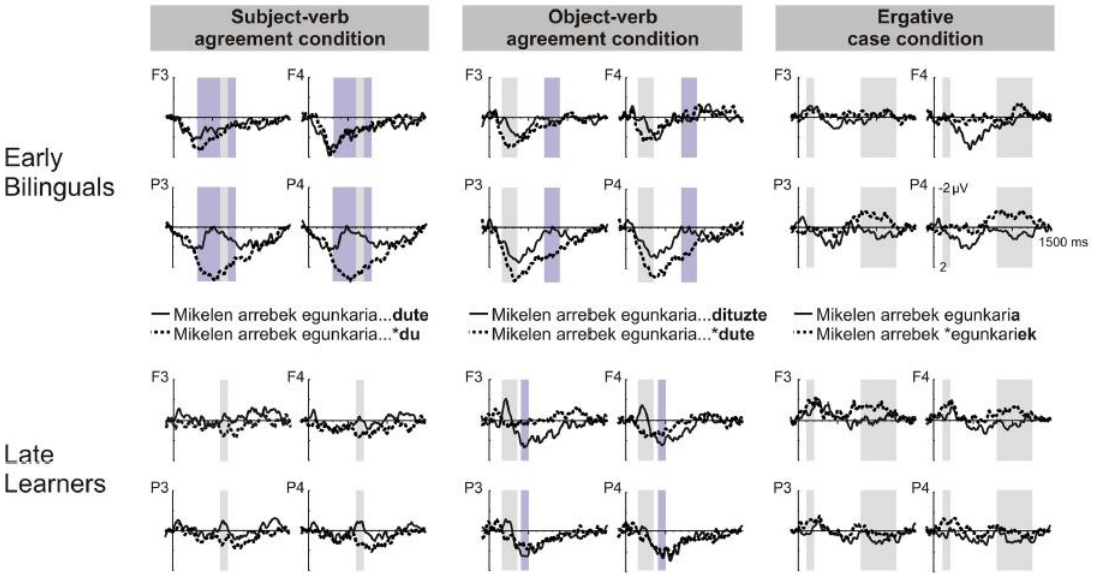


FIGURE 3 | Grand average waveforms of the early and late groups at four representative electrodes distributed across each scalp area analyzed (frontal right: F4, frontal left: F3, posterior right: P4, posterior left: P3). Grand averages are time-locked to the onset of the critical words, i.e., the auxiliary verb for subject- and object-agreement conditions and the morpheme marking the ergative case for the ergative case condition (critical words are depicted in bold in the figure legend). Bars depict the time windows where grammatical and ungrammatical sentences elicited significantly different ERPs. Gray bars depict similar effects between the two groups, and purple bars depict effects which are unique to the given non-native group.

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Language distance and non-native syntactic processing: Evidence from event-related potentials*

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(Received: December 3, 2009; final revision received: July 7, 2010; accepted: July 12, 2010; First published online 15 November 2010)

In this study, we explore native and non-native syntactic processing, paying special attention to the language distance factor. To this end, we compared how native speakers of Basque and highly proficient non-native speakers of Basque who are native speakers of Spanish process certain core aspects of Basque syntax. Our results suggest that differences in native versus non-native language processing strongly correlate with language distance: native/non-native processing differences obtain if a syntactic parameter of the non-native grammar diverges from the native grammar. Otherwise, non-native processing will approximate native processing as levels of proficiency increase. We focus on three syntactic parameters: (i) the head parameter, (ii) argument alignment (ergative/accusative), and (iii) verb agreement. The first two diverge in Basque and Spanish, but the third is the same in both languages. Our results reveal that native and non-native processing differs for the diverging syntactic parameters, but not for the convergent one. These findings indicate that language distance has a significant impact in non-native language processing.

Table 3. *Sample of the materials used in the study (examples (4)–(11)).*

Semantic expectation	plaus	(4) Ikasle-ek bazkaltzera gonbidatu zuten **maisua** atzo. students-to lunch invited had teacher.the yesterday "The students invited the teacher to lunch yesterday."
	implaus	(5) Ikasle-ek bazkaltzera gonbidatu zuten **horma** atzo. students- to lunch invited had wall.the yesterday "The students invited the wall to lunch yesterday."
Object–verb agreement	gram	(6) Zu-k ni hondartza-ra eramaten **na-u-zu** batzuetan. you-SUBJ me.OBJ beach-to take 1SG-have-2SG sometimes "Sometimes you take me to the beach."
	ungram	(7) Zu-k ni hondartza-ra eramaten ***d-u-zu** batzuetan. you-SUBJ me.OBJ beach-to take 3SG-have-2SG sometimes
Head parameter	gram	(8) Etxe-an askotan gauzak [$_{PP}$ **[guraso-en]** **arabera** egiten ditugu. home-at usually things parents-GEN according.to do have.we "At home, we usually do things according to (our) parents."
	ungram	(9) Etxe-an askotan gauzak *[$_{PP}$ **arabera** **[guraso-en]**] egiten ditugu. home-at usually things.ABS according.to parents-GEN do have.we
Ergative case	gram	(10) Goiz-ean ogia erosi dut **ni-k** denda-n. morning-in bread bought have I-ERG shop-in "This morning I bought bread in the shop."
	ungram	(11) Goiz-ean ogia erosi dut ***ni** denda-n. morning-in bread.DET bought have I shop-in

plaus = plausible; implaus = implausible; gram = grammatical; ungram = ungrammatical

Emaitza konduktualak

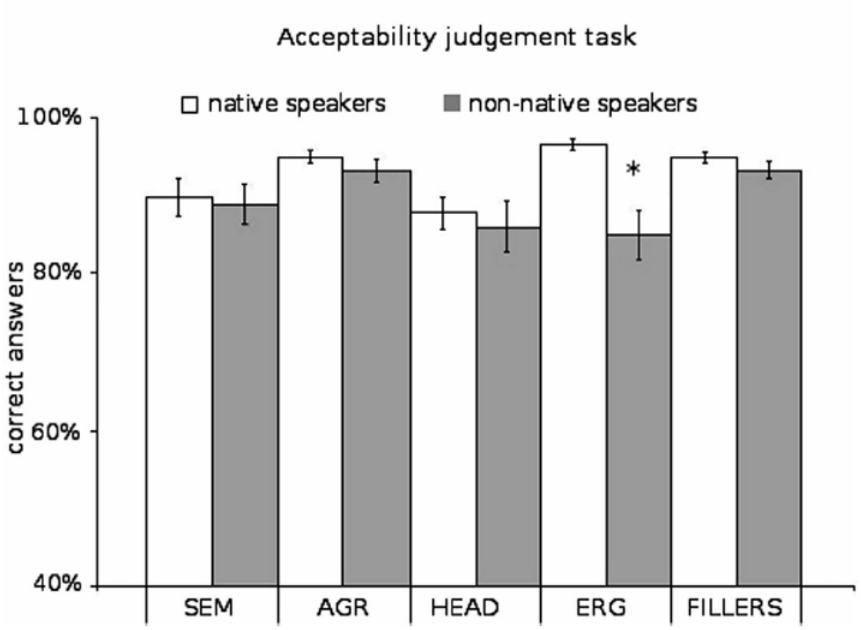

Figure 1. Behavioural results of the grammaticality judgment task. SEM = Semantic expectation; AGR = Object–verb agreement; HEAD = Head parameter; ERG = Ergative case

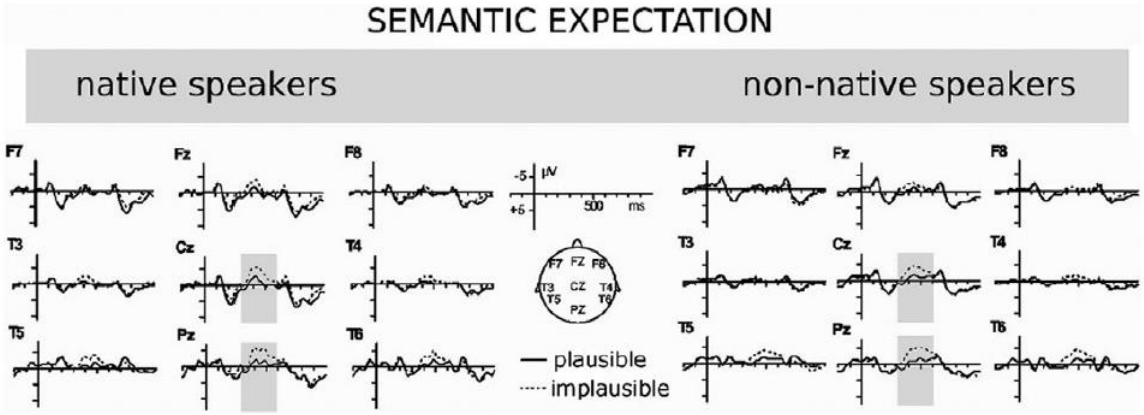

Figure 2. Semantic expectation: ERPs elicited at the critical word position. Dotted lines represent the plausible stimuli and the continued lines represent the implausible stimuli.

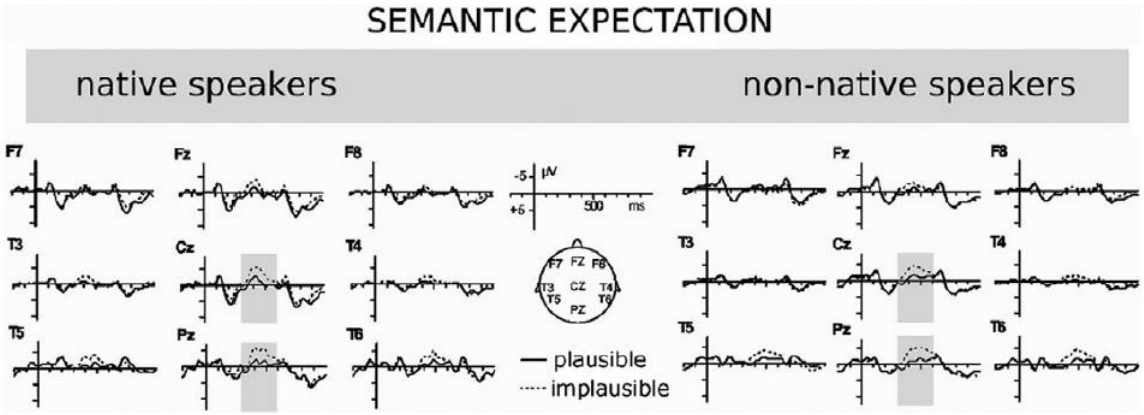

Figure 2. Semantic expectation: ERPs elicited at the critical word position. Dotted lines represent the plausible stimuli and the continued lines represent the implausible stimuli.

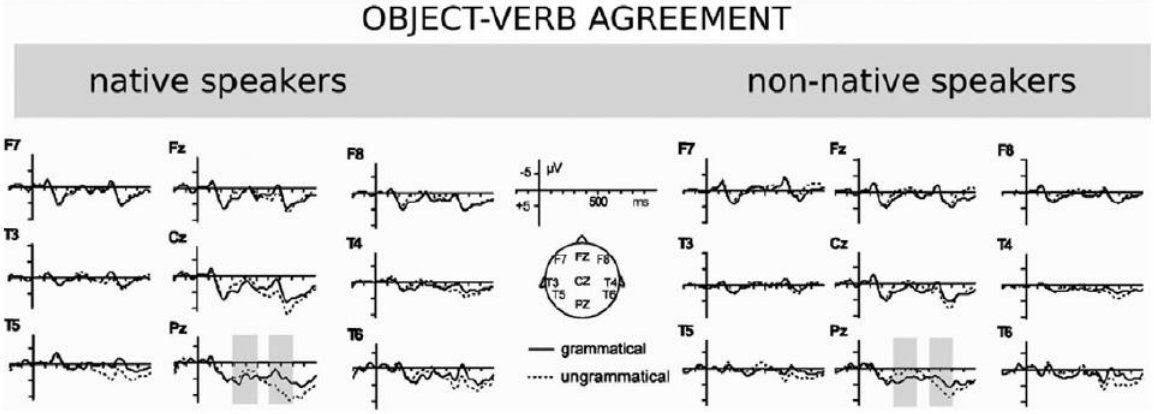

Figure 3. Object–verb agreement: ERPs elicited at the critical word position. Dotted lines represent the ungrammatical stimuli and the continued lines represent the grammatical stimuli.

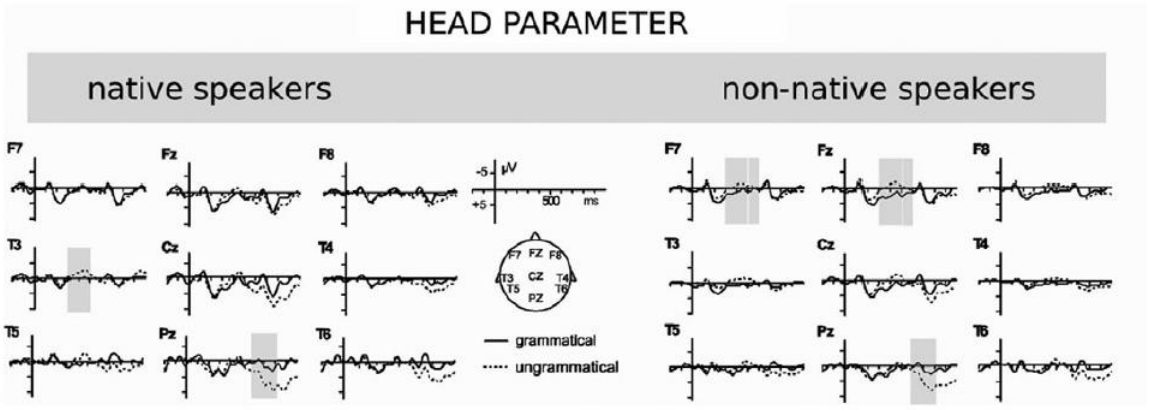

Figure 4. Head parameter: ERPs elicited at the critical word position. Dotted lines represent the ungrammatical stimuli and the continued lines represent the grammatical stimuli.

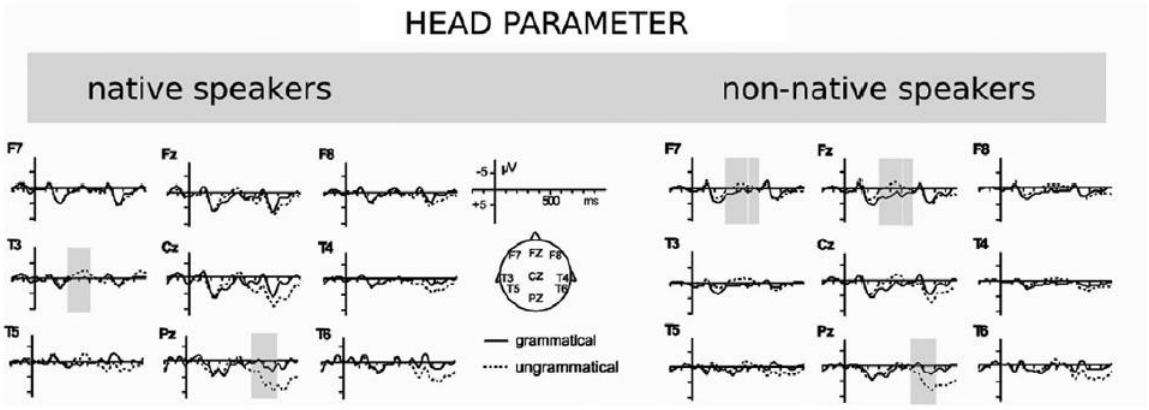

Figure 4. Head parameter: ERPs elicited at the critical word position. Dotted lines represent the ungrammatical stimuli and the continued lines represent the grammatical stimuli.

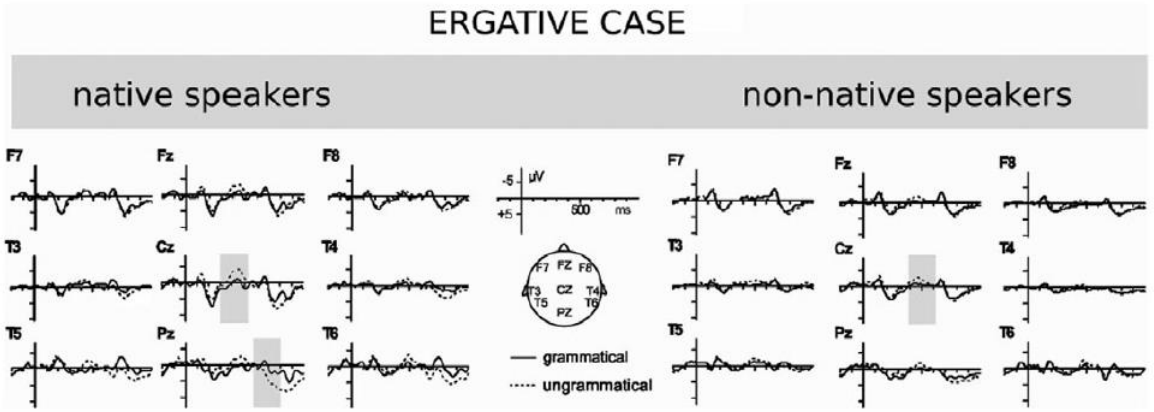

Figure 5. Ergative case: ERPs elicited at the critical word position. Dotted lines represent the ungrammatical stimuli and the continued lines represent the grammatical stimuli.

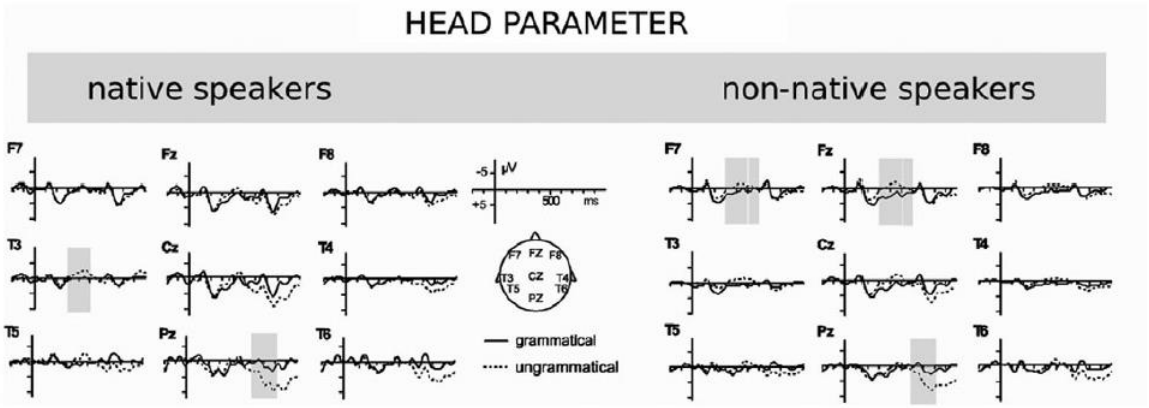

Figure 4. Head parameter: ERPs elicited at the critical word position. Dotted lines represent the ungrammatical stimuli and the continued lines represent the grammatical stimuli.

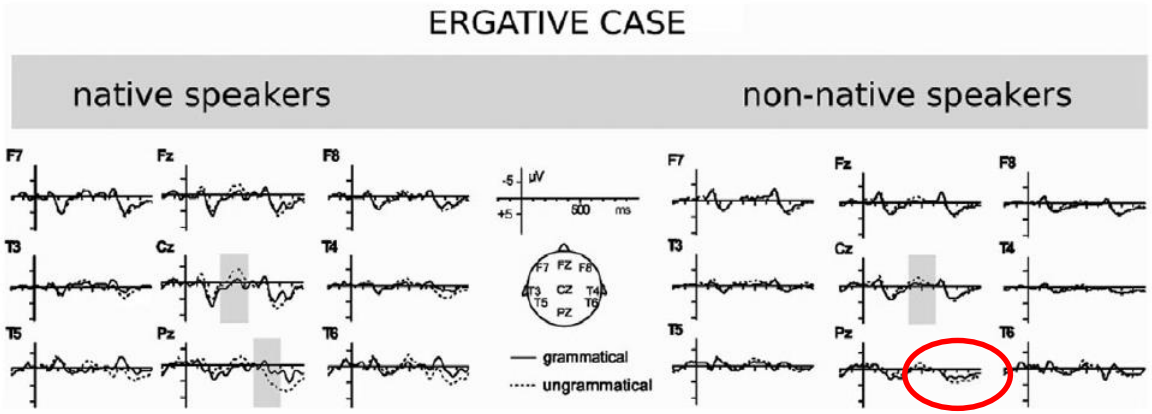

Figure 5. Ergative case: ERPs elicited at the critical word position. Dotted lines represent the ungrammatical stimuli and the continued lines represent the grammatical stimuli.

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