

# The electrophysiology of unergative and unaccusative sentence processing in Basque

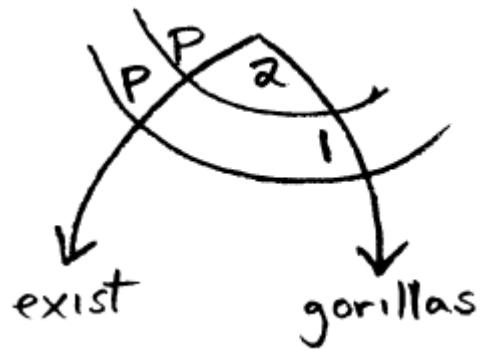
Gillen Martínez de la Hidalga  
Adam Zawiszewski  
Itziar Laka  
(UPV/EHU)

Unergative predicates

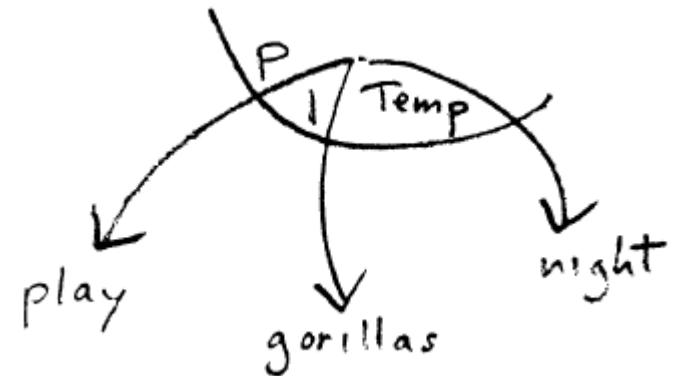
Architecture and variation (2018)

# ► Perlmutter (1978) Unaccusativity Hypothesis

Gorillas exist



Gorillas play at night



# ► Burzio (1981)

### ▶ Levin (1983)

ABS       Unacc

ERG       Unerg

### ▶ Hale & Keyser (1993)

Laka (1993)

Unacc       1 argument

Unerg       2 arguments

## AIMS OF THE STUDY

Preliminaries  
Present study  
Discussion

- ▶ Test the Unaccusativity Hypothesis by means of ERP
- ▶ Expectations

**Transitives**

**Unergatives**

**Unaccusatives**

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Transitives

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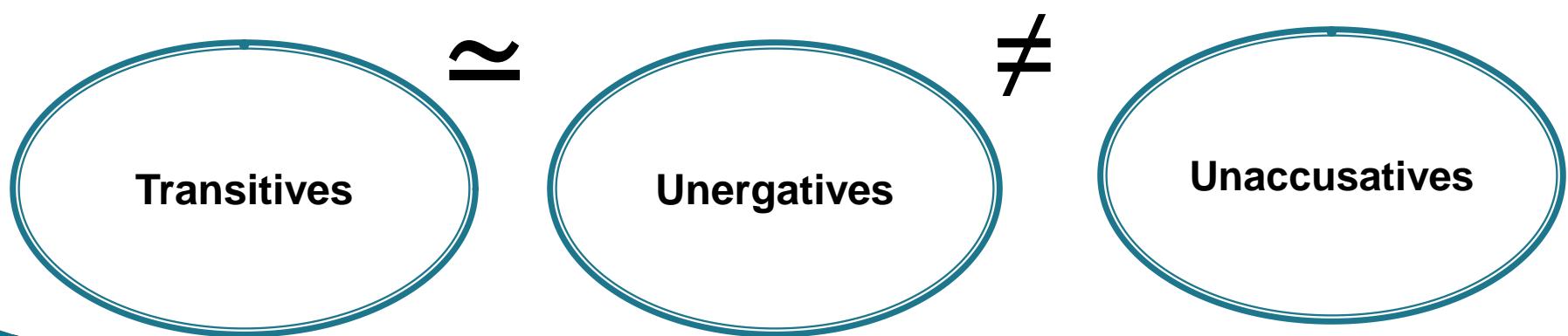
≠

Unaccusatives

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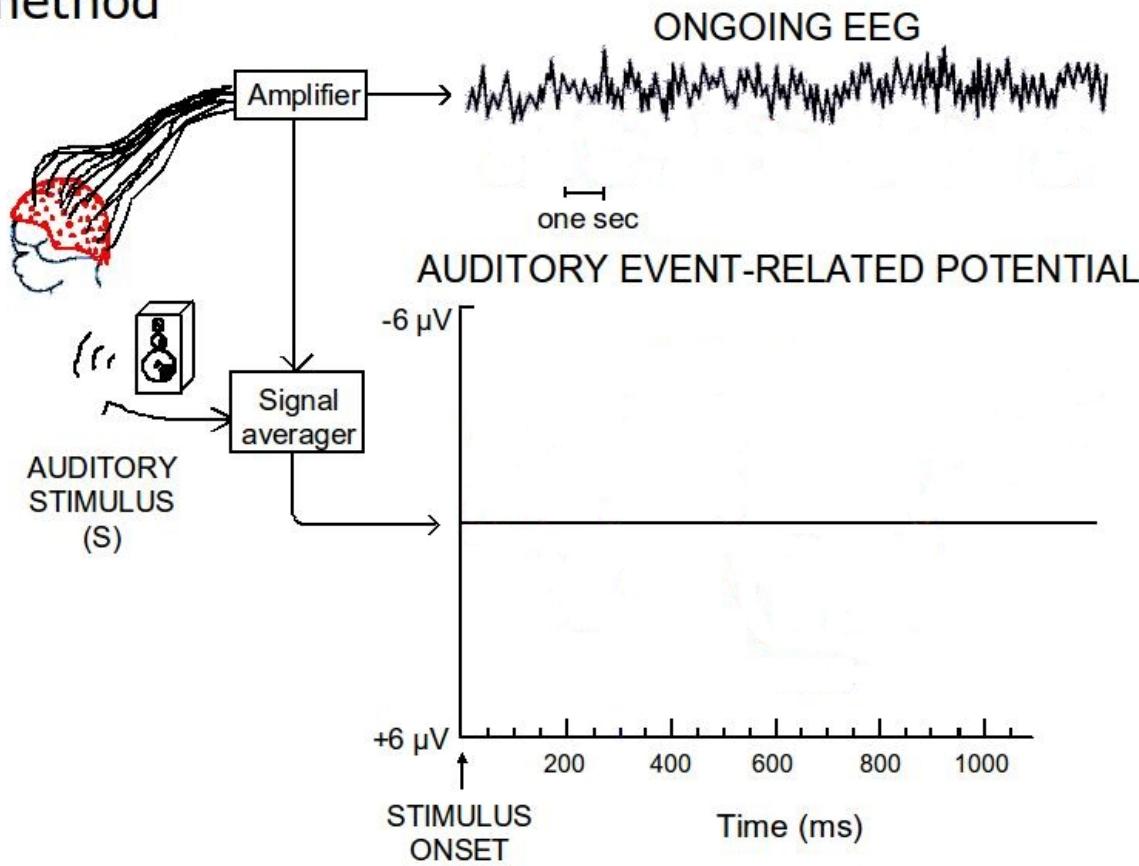
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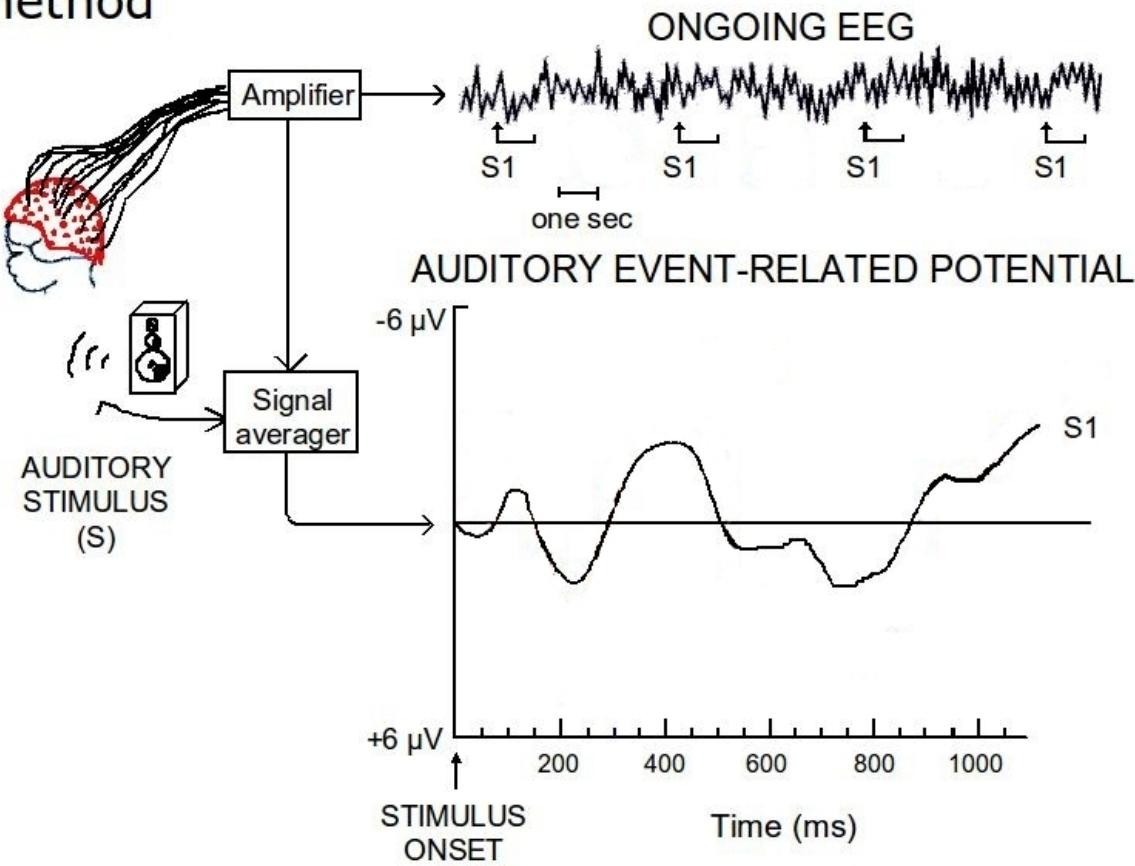
## Event-related potentials (ERPs) and language

### ERP method



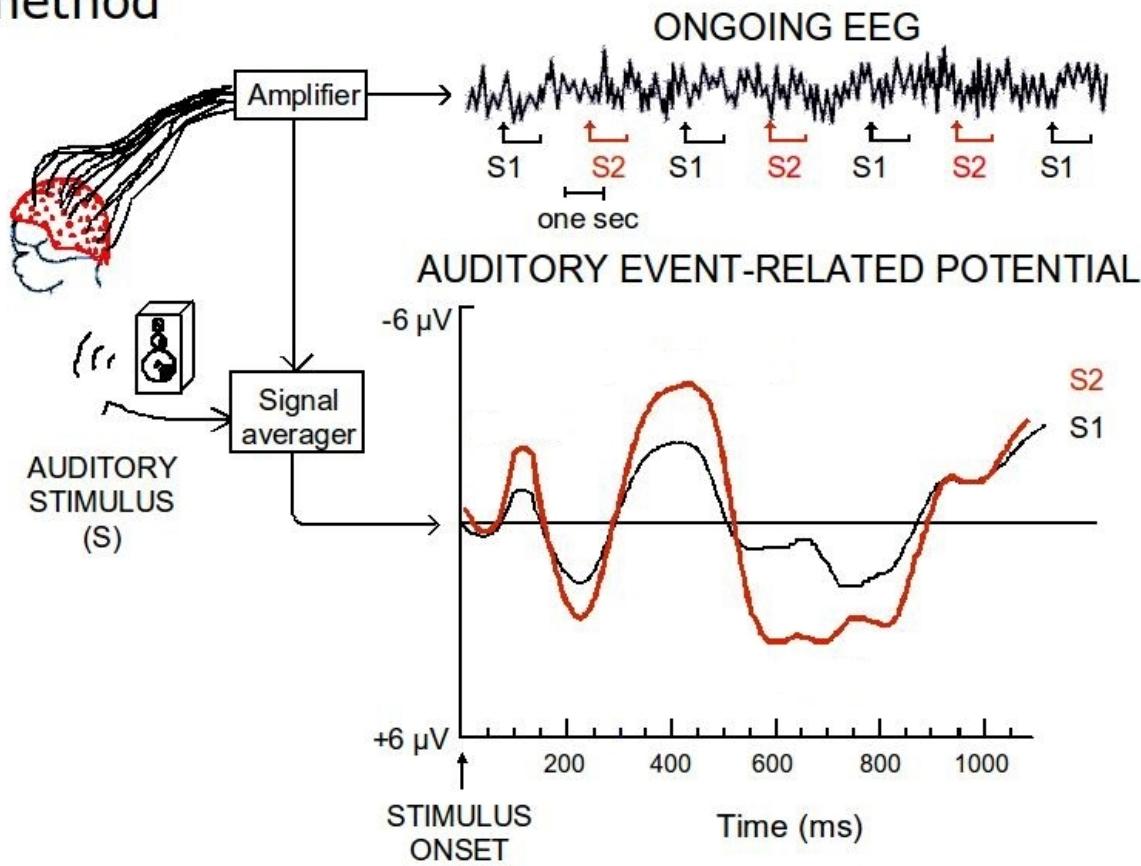
## Event-related potentials (ERPs) and language

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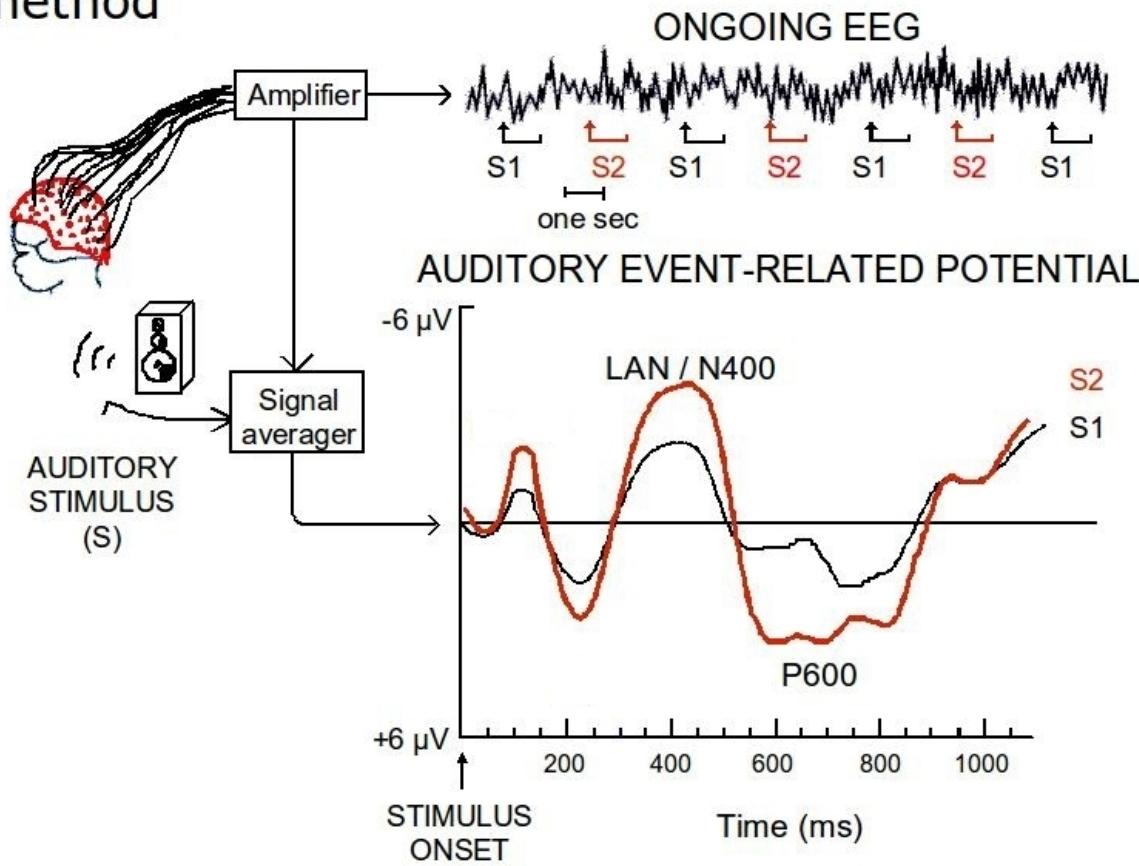
## Event-related potentials (ERPs) and language

### ERP method



## Event-related potentials (ERPs) and language

### ERP method



## The experiment

### ▶ Participants:

- 24 native speakers of Basque (7 males)
- Mean age: 19,5

+

correct

incorrect

?

Subj ... V<sub>unerg/unacc</sub> Aux/\*Aux ... .

unergetives	128
+	
unaccusatives	128
+	
fillers	160
	_____
total	416

## Materials

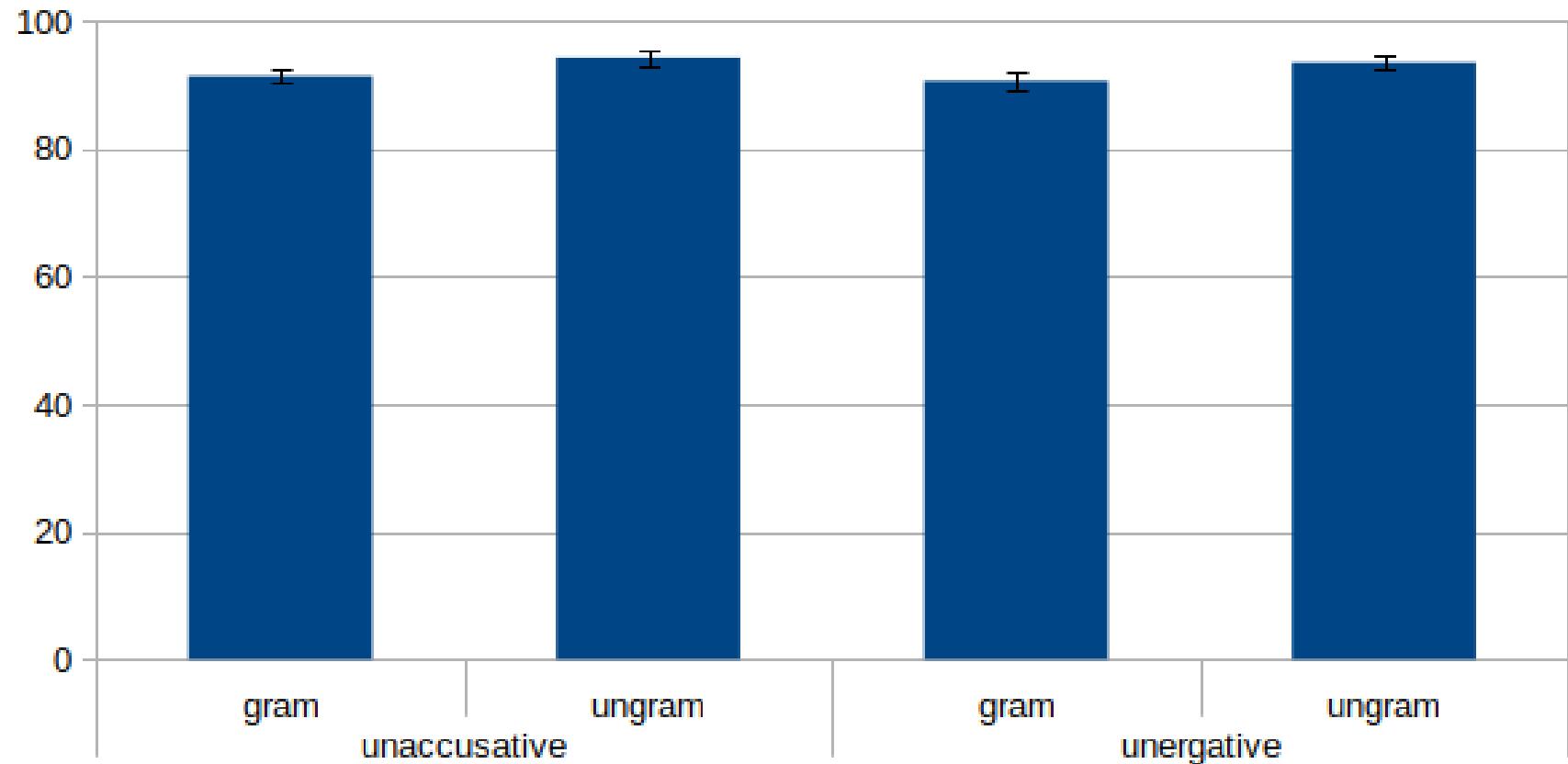
### Unaccusatives

**Zu/hura** gaur goizean bueltatu **zara(\*naiz)/da(\*dira)** Bilbotik.  
You<sub>SG</sub>/he.she today morning come.back are<sub>2SG(1SG)/3SG(3PL)</sub> Bilbao.from

### Unergatives

**Zuk/hark** goizean biziki sufritu **duzu(\*dut)/du(\*dute)** aurkezpenean.  
You<sub>SG</sub>/he.she morning a.lot suffer have<sub>2SG(1SG)/3SG(3pl)</sub> presentation.the.at

## Accuracy (%)

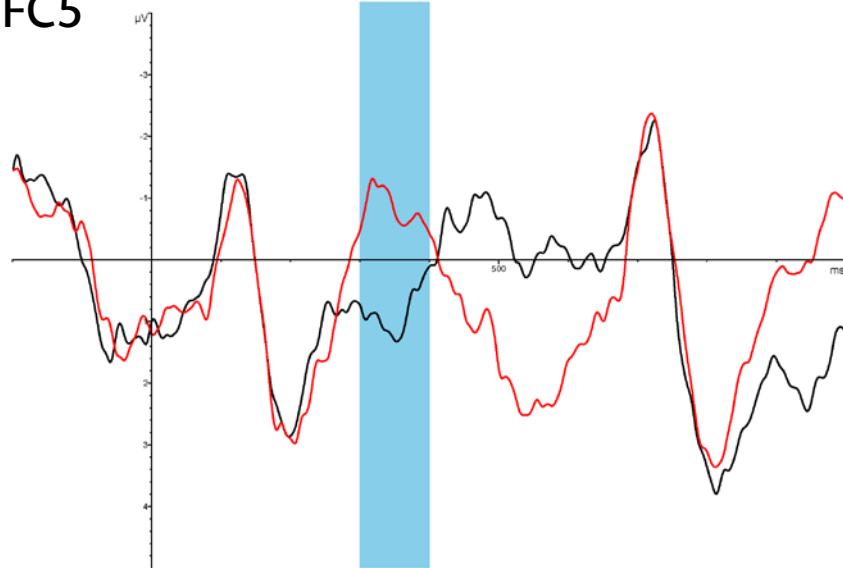


## ERP results

300-400 ms

### Unaccusatives

FC5

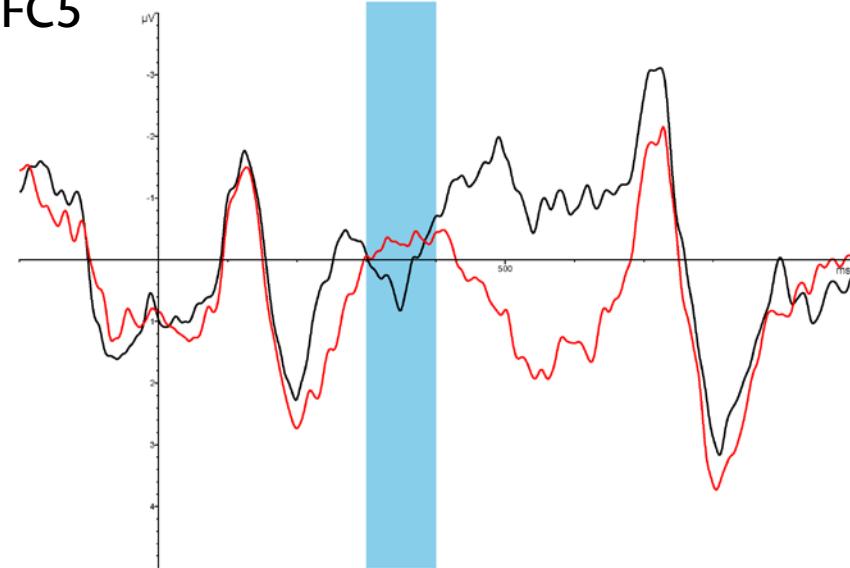


gram

ungram

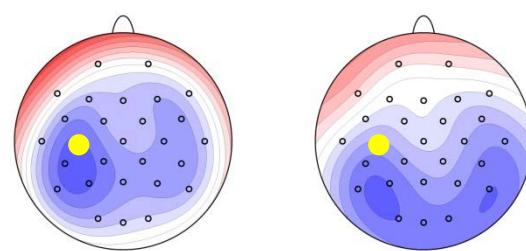
### Unergatives

FC5



gram

ungram



300 ms - 400 ms

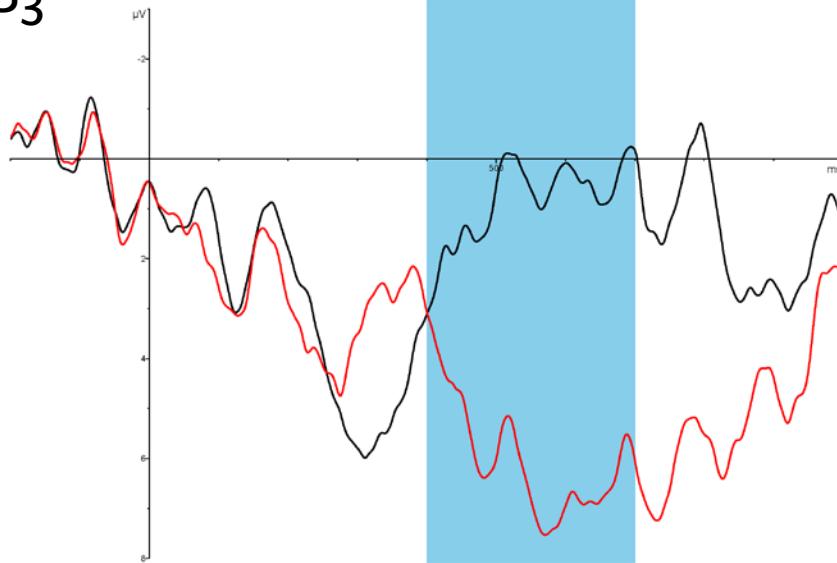
-7 μV 0 μV 7 μV

## ERP results

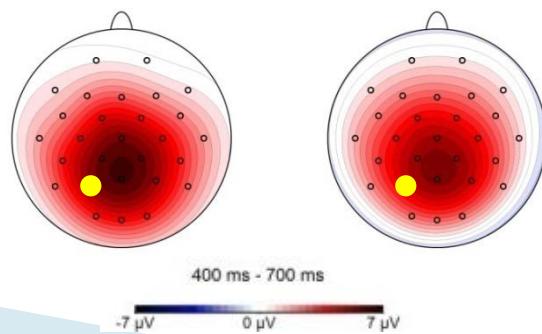
400-700 ms

### Unaccusatives

P3

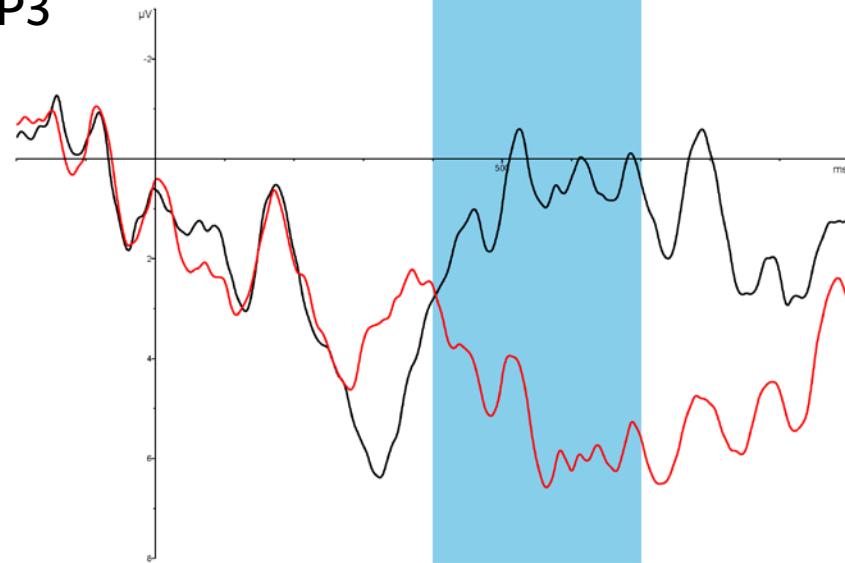


gram  
ungram



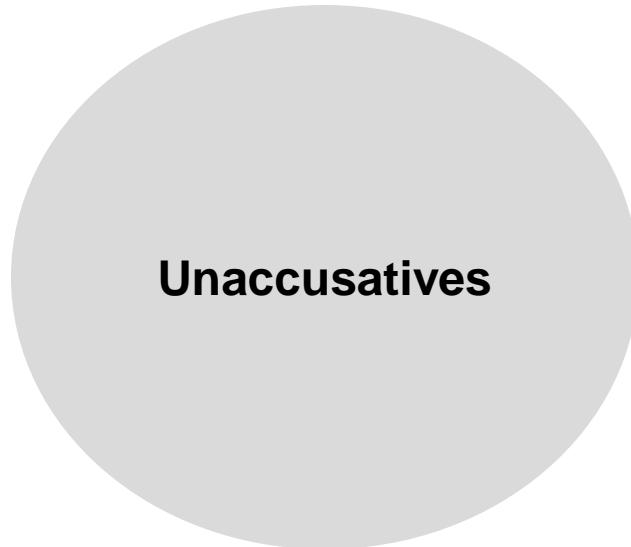
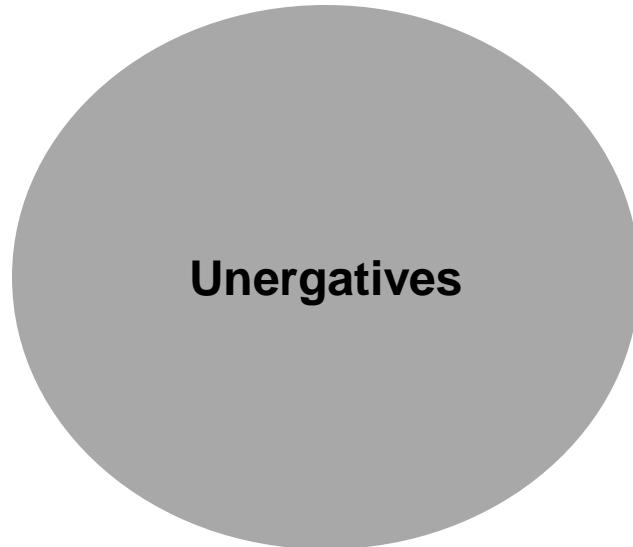
### Unergatives

P3

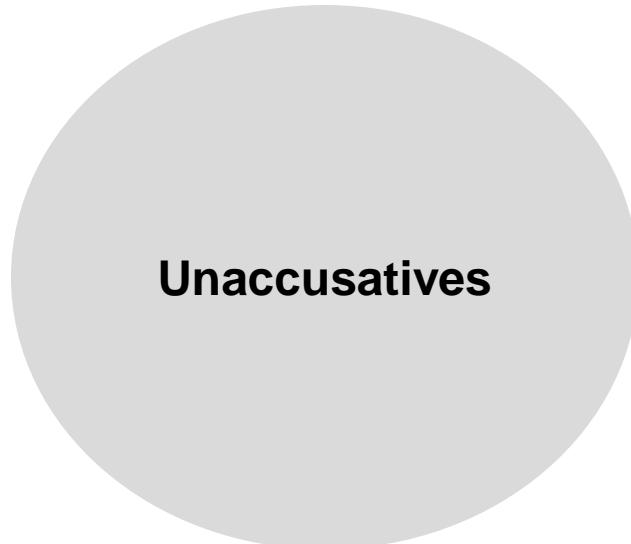
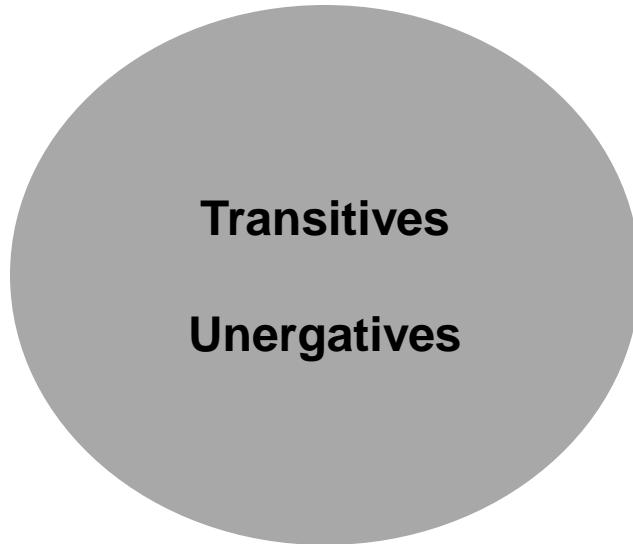


gram  
ungram

### ▶ 1<sup>st</sup> expectation



### ▶ 2<sup>nd</sup> expectation





**The Bilingual Mind**

**Gogo Elebiduna**

**La Mente Bilingüe**

eman ta zabal zazu



**UPV EHU**

# **THANK YOU!**

# **ESKERRIK ASKO!**

Ministry of Economy and Competitiveness (BES-2016-076456, FFI2015-64183-P)  
Government of the Basque Country (IT665-13).