

For my PhD, I do research on how sentences are planned and comprehended. In particular, I focus my dissertation on the morphosyntactic feature ergative case marking. Most of the world's languages have a case alignment in which the subject of an intransitive sentence and the subject of a transitive sentence have the same case. For example, in nominative-accusative languages like German, the sole (S) argument of an intransitive verb and the agent-like (A) argument of a transitive verb are both marked by nominative case (examples 1-2). By contrast, patient-like (P) arguments, that denote entities that undergo a transitive action, are marked by accusative case.

(1) Der Fuchs läuft.
The.NOM fox (**S**) runs

(2) der Fuchs erwischt die Maus
the.NOM fox (**A**) catches the.ACC mouse (**P**)

There are also languages that have a different case alignment, in which the the sole argument of intransitives and the agent argument of transitive verbs take different cases. In my work, I focus on an ergative-absolutive language, Basque (spoken in the Basque Country in Spain and France). In this language, the S argument is aligned with the P argument, whereas the A argument receives a different case, the ergative case (examples 3-4).

(3) azeria korrika doa
the fox.ABS (**S**) runs

(4) azeriak sagua harrapatu du
the fox.ERG (**A**) the mouse.ABS (**P**) has caught

In my research I utilize the ergative case marking system of Basque to investigate a psycholinguistic phenomenon called the *subject preference*, which describes the tendency for comprehenders to interpret semantic role-ambiguous noun phrases as S or A arguments. To investigate the role the subject preference in language processing, my thesis work will be composed of a language comprehension experiment and a language production experiment. Moreover, I will also conduct a corpus study on the interaction of semantic roles (S, A and P), case marking and word order in Basque.

The subject preference has been shown in a nominative language like German [1], and in a split-ergative language like Hindi [1]. For example, a German sentence like ... *dass Bertram Surferinnen gratuliert (hat | haben)* is ambiguous between A-P and P-A word order before the sentence-final auxiliary is encountered (which disambiguates towards one reading through its number agreement). Comprehenders tend to assign an agent reading to *Bertram* and have to revise their interpretation if it is disambiguated towards a patient reading. Similar biases for assigning A readings to role-ambiguous nouns have also been found in Hindi, a language that exhibits both nominative-accusative and ergative-absolutive case marking; ambiguous nouns are thus often disambiguated towards P readings. The fact that in this

language the subject preference nevertheless persists has been taken as evidence that it constitutes a universal language processing principle. By choosing Basque as a target language, I aim to test whether a completely ergative language also maintains a bias towards assigning A readings to role-ambiguous nouns. I use electroencephalography (EEG) to explore how the brain comprehends different sentence types in Basque and EEG and eye tracking to explore whether planning to produce sentences with ergative As affords different neurocognitive operations than planning to produce nominative As.

While the subject preference has been investigated mainly as a phenomenon in the domain of sentence comprehension, it is unexplored whether sentence production processes are also influenced by it. Are sentences with ergative-marked agents planned differently from sentences with nominative-marked agents?

In my current presentation, I will focus on the language production experiment. In this experiment, Basque-speaking and Swiss-German speaking participants described pictures of intransitive and transitive events that were presented to them on a computer screen. I recorded their eye gaze (eye tracking) and their neurophysiological responses (electroencephalography, EEG) while they produced sentences with ergative-marked agents (Basque) or nominative-marked agents (Swiss German).

Apart from Basque, this experiment was also run with Swiss German, which was used as a baseline for the comparison between a nominative and an ergative language.

In order to avoid confounds, the same experimental equipment was used to run the experiment in Swiss German and in Basque.

The stimuli for this experiment were 50 pictures with transitive events, and 60 pictures with intransitive events. Participants had to describe each picture following a lead-in cue (*Was hier passiert isch, isch dass*). This cue was used so that Swiss German and Basque speakers would always create Subject-Object-Verb (SOV) constructions, since subclauses in German have the SOV structure. For example, after hearing *Was hier passiert isch, isch dass*, participants would complete the sentence with the description of the picture as in *een maa rasierte tuet*.

Therefore, the research question for my experiment is whether producing transitive sentences in ergative languages (Basque) requires more planning than in nominative languages (German). I will present preliminary eye tracking analyses and want to discuss the interpretation and potential ways to move forward on this.

References:

[1] Bickel B, Witzlack-Makarevich A, Choudhary KK, Schlesewsky M, Bornkessel-Schlesewsky I (2015) The Neurophysiology of Language Processing Shapes the Evolution of Grammar: Evidence from Case Marking. PLoS ONE 10(8): e0132819. <https://doi.org/10.1371/journal.pone.0132819>