

BILINGUAL FREEDOM: on word order processing

Kepa Erdocia, Adam Zawiszewski & Itziar Laka

University of the Basque Country



The Bilingual Mind



1. Introduction

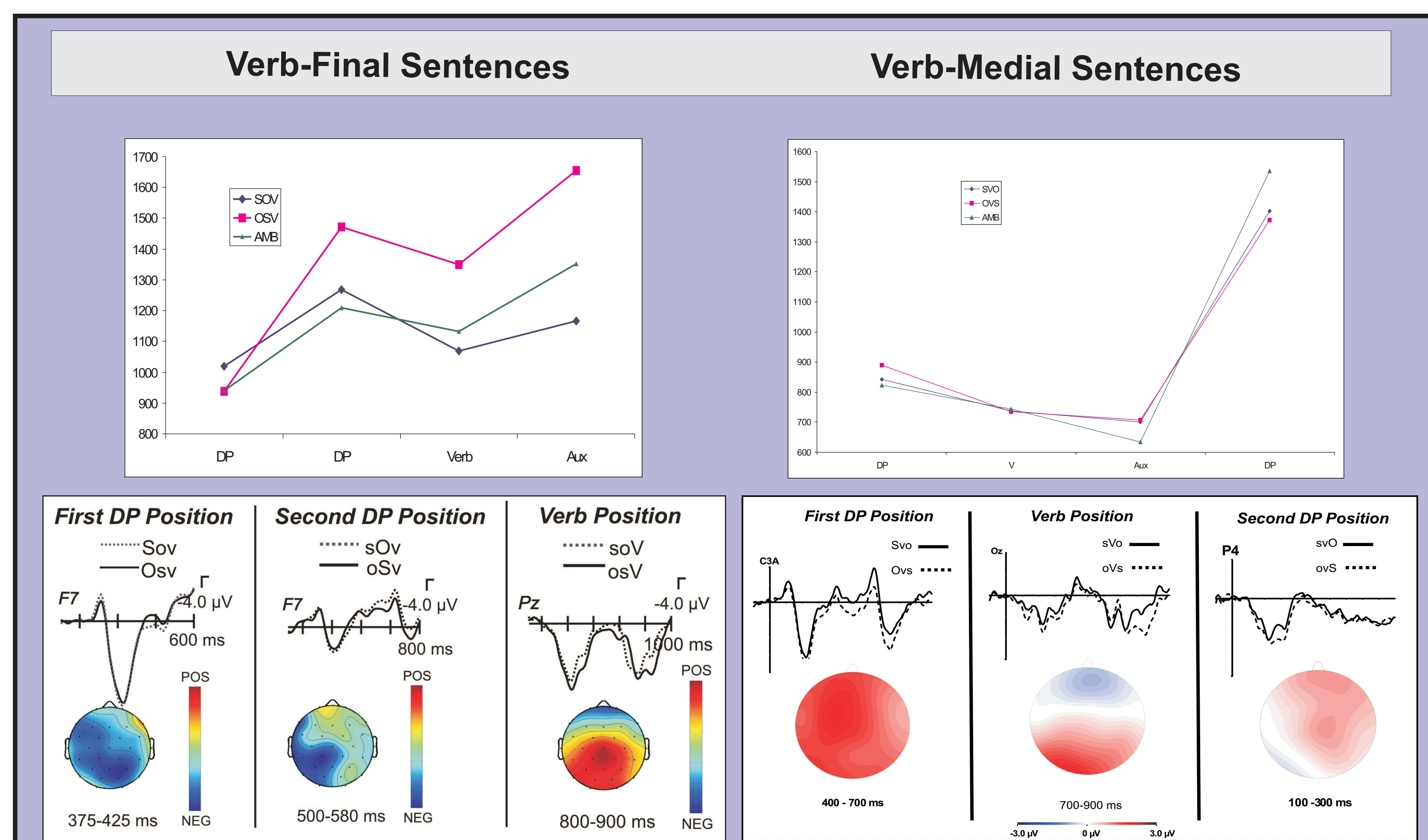
Age of acquisition and *proficiency*, together with *structural similarities and dissimilarities* between bilinguals' L1 and 2 are crucial factors in the research of the neural basis of bilingualism. We present results from a series of behavioral and ERP experiments investigating processing preferences in highly proficient L1Spanish/L2Basque bilinguals (AoA=3).

Spanish is head-initial/canonical SVO while Basque is head-final/canonical SOV although both languages allow a certain degree of freedom in surface sentences word order. Our study aims to ascertain whether the L1 of the bilinguals has an impact on their L2 processing, as would be revealed if an SVO processing preference obtained in non-natives, as opposed to the SOV preference displayed by natives [1].

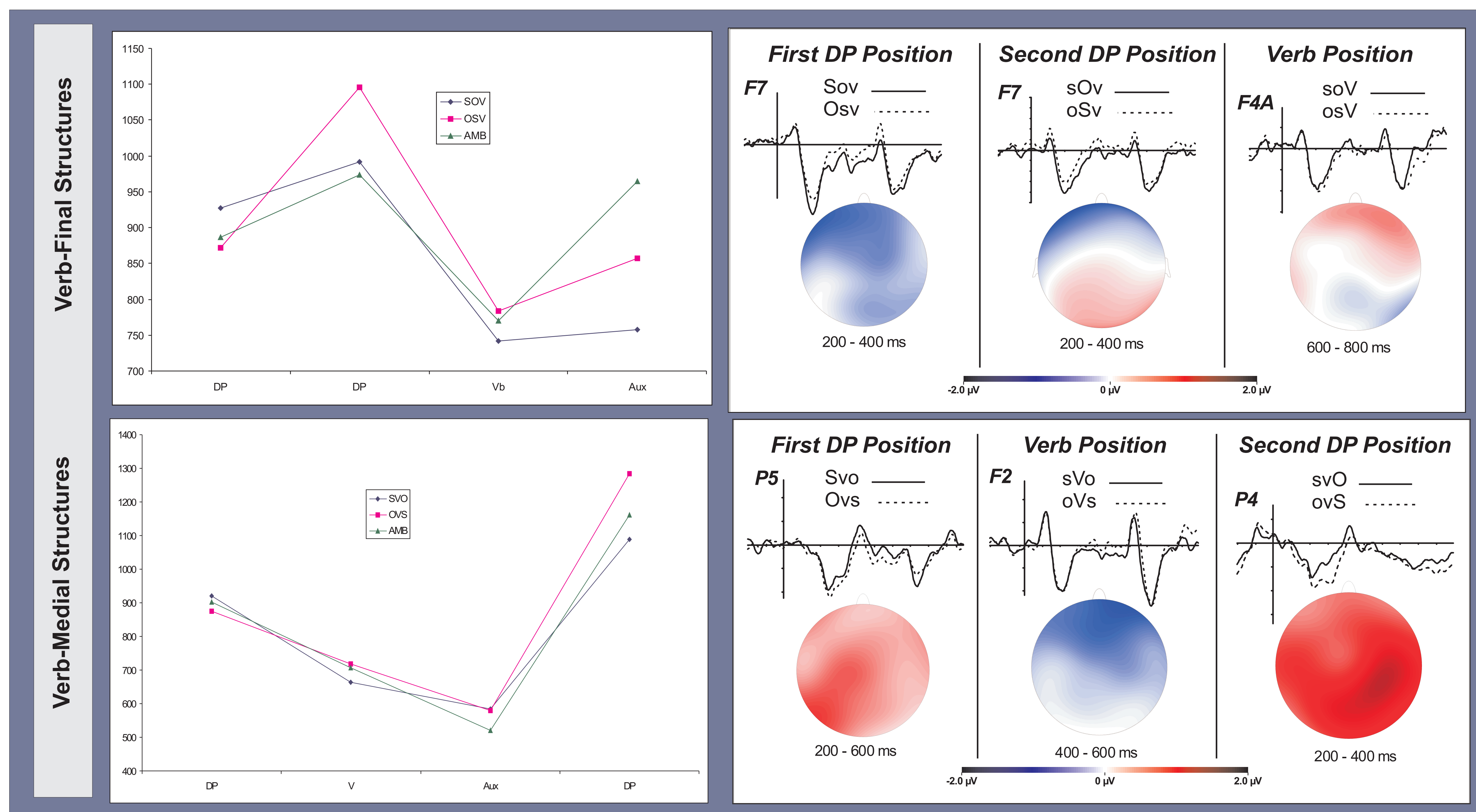
2. Materials

	Verb-Final Sentences	Verb-Medial Sentences
BEHAVIORAL EXPERIMENTS	<i>Subject-Object-Verb</i> Emakume-ek gizon-ak ikusi dituzte women-S men-O seen have	<i>Subject-Verb-Object</i> Emakume-ek ikusi dituzte gizonak women-S seen have men-O
	<i>Object-Subject-Verb</i> Gizon-ak emakume-ek ikusi dituzte man-? women-S seen have	<i>Object-Verb-Subject</i> Gizon-ak ikusi dituzte emakume-ek man-? seen have women-S
	<i>Fully Ambiguous</i> Emakume-ak gizon-ak ikusi ditu woman-? man-? seen have	<i>Fully Ambiguous</i> Emakume-ak ikusi ditu gizon-ak woman-? Seen have man-?
ERP EXPERIMENTS	<i>Subject-Object-Verb</i> Otso-ek ardi-ak jan dituzte wolves-S sheep-O eaten have	<i>Subject-Verb-Object</i> Otso-ek jan dituzte ardi-ak wolves-S eaten have sheep-O
	<i>Object-Subject-Verb</i> Ardi-a otso-ak jan du sheep-O wolf-S eaten has	<i>Object-Verb-Subject</i> Ardi-a jan du otso-ak sheep-O eaten has wolf-S

3. Previous Results



4. Results: Non-Native Speakers of Basque



5. Discussion

Although the word order is relatively free in Basque, previous results showed that native Basque speakers favoured canonical SOV word order over derived OVS, SVO and OVS word orders [1,2,3]. These results, together with results in other languages, entail universal processing mechanisms, independent on parametric specifications of the grammar [1].

Regarding non-native speakers, the results are equivalent to those found for natives; thus, proficient L2 bilinguals process sentence word order like natives, despite the different setting of their L1, and this is the case even when the canonical L1 order (SVO) is tested in L2. No signs of linguistic transfer from L1 to L2 is detected regarding this aspect of language processing. Spanish native speakers are free from their first language word order restrictions when processing Basque word order permutations.

6. References

- [1] Erdocia, K., Laka, I., Mestres-Misse, A., Rodriguez-Fornells, A. 2009. Syntactic complexity and ambiguity resolution in a free word order language: behavioral and electrophysiological evidences from Basque. *Brain and Language*, 109(1), 1-17.
- [2] Erdocia, K., Laka, I., Rodriguez-Fornells, A. In Press. Processing verb medial word orders in a verb final language. In P. de Swart and M. Lamers (eds.) *Case, Word Order, and Prominency. Interacting Cues in Language Production and Comprehension*. Springer.
- [3] Laka, I., Erdocia, K. In Prep. Subject-First strategy is language dependent.

7. Acknowledgements

This research has been supported by grants from the Spanish Ministry of Education and Science within the program CONSOLIDER-INGENIO 2010 (BRAINGLOT CSD2007-00012), the Spanish Ministry of Science and Innovation (FFI2009-09695 and FFI2010/20472), and the Basque Council for Education, Universities and Research (IT-262-07 and IT414-10)