

PP-Coordination, Embedding, and Feature Sharing: seeking the connections between notation and processing

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ABSTRACT

This study presents and discusses two sentence/picture matching experiments in English and in Brazilian Portuguese with Prepositional Phrase constructions to try to assess the complexity of the representations in terms of structure, features, and grammatical operations. 24 individuals were tested in two different groups, namely, one group of Brazilian Portuguese native speakers and a group of English native speakers. Each group had 12 participants, all undergraduate university students between 18 and 24 years old. The results of the experiments in which PP coordination (Direct Unstructured - DU, embedding (Indirect structuring - IS) and Feature-Sharing (Direct structuring - DS) are compared reveal the following hierarchy based on the average response times: $DU < IS < DS$. An explanation for the hierarchy is explored in which the Feature-sharing construction is discussed in terms of potential agreement phenomena. The modern challenge of Psycholinguistics is in many ways identical to the original challenges of Cognitive Science. We hope to contribute with this study to answer pivotal questions that correlate these areas, such as i) What are mental representations, and how are they reflected in processing or acquisition? ii) how far does a processing system work within the same representation? The necessity of mental representations is unavoidable in many spheres from vision to language (although there remain those who are procedural reductionists).

EXAMPLES:




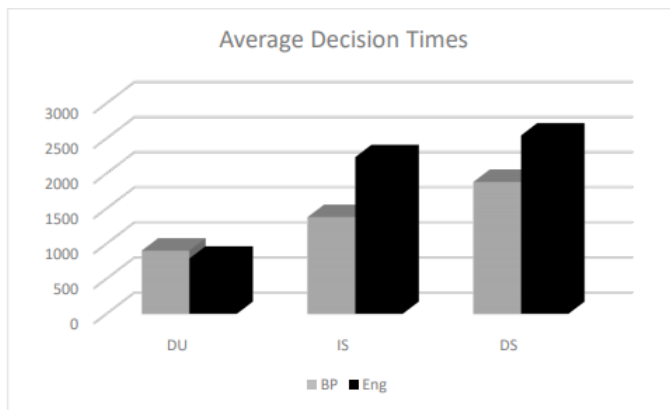
DS	IS	DU
		
A flower on the table on the book in the vase	A flower in the vase on the book on the table	A flower in the vase, on the book and on the table
'Uma flor na mesa no livro no vaso'	'Uma flor no vaso no livro na mesa'	'Uma flor no vaso, no livro e na mesa.'

Figure 1 – Examples of conditions in the Sentence/Picture matching experiment

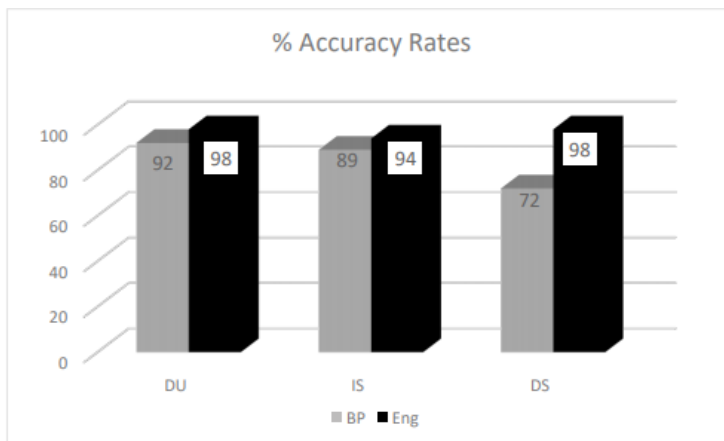
RESULTS:



Graph 1 – Average decision times in the three conditions of the BP and English versions

Lang/Cond	DU	IS	DS
BP	901	1380	1881
Eng	789	2235	2544

Table 1 – Average decision times in the three conditions of the BP and English versions



Graph 2 – Accuracy rates in the three conditions of the BP and English versions

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