

Temporal adverbs and their interaction with tense during sentence comprehension: new experimental evidence

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Current mainstream models of sentence processing (e.g. Friederici, 2002; Bornkessel & Schlesewsky, 2006; Hagoort, 2013) do not make any specific predictions about the processing of non-mandatory constituents such as temporal adverbs. The only exception is the Construal model (Frazier & Clifton, 1996), which predicts different mechanisms at play during the processing of primary, mandatory constituents (e.g. verbs) and non-primary, non-mandatory constituents (e.g. adverbs).

Within this framework, the research question I have been addressing is: how do comprehenders integrate the information provided by a non-primary element, such as a temporal adverb, with the information provided by a primary element, such as a verb (e.g. *Yesterday John went to the concert*)? The adverb-verb relation is specifically challenging for current models of sentence processing. On the one hand, the parser may give less priority to the processing of non-primary elements (temporal adverbs). On the other hand, the parser is obliged to deal with tense features during the processing of a primary element (verb) and to deal with any inconsistency that tense features may have with other constituents within the sentence. For this reason, I have addressed my research question by adopting a violation paradigm, that is by investigating adverb – verb temporal violations (e.g. *Yesterday John went to the concert* VS **Tomorrow John went to the concert*) through the use of different experimental techniques (behavioral, electrophysiological). In this talk I will focus on 2 eye-tracking studies in Spanish, where I investigated whether the distance between the adverb and the verb affects the processing of temporal violations (e.g. *Yesterday John went to the concert* vs *John yesterday went to the concert*) and whether providing a definite past/future time frame or not, i.e. by introducing a deictic and non-deictic adverb respectively (e.g. *Yesterday John went to the concert* vs *At midnight John went to the concert*), can affect the processing of time in sentences.

Data coming from these studies show that the processing of temporal adverbs is complex and may require time; the distance between the adverb and the verb can thus be crucial for an early or late processing of the temporal information. Moreover, data show that the type of information provided by the temporal adverb also plays a role, especially in late revision/reanalysis processes. I will discuss these findings by proposing an interdisciplinary approach, where both current linguistic theories and psycholinguistic accounts should be challenged in order to better investigate the nature of temporal adverbs, from an empirical perspective.