

Processing of parasitic gaps in real-time: Evidence from eye-tracking

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Background Parasitic gaps (henceforth, PG) were originally proposed as a repair strategy for island violations (Ross, 1967; Chomsky, 1982; Engdahl, 1983). These constructions *repair* islands by adding a gap in the structure, which is able to *license* the gap caused by the island violation. For example, a single gap following *visiting* in (1) results in an island violation:

(1) *Which man_i did you see him_i before visiting t_i ?

However, inserting a *real gap* after *see* in (1), gives us (2):

(2) Which man_i did you see t_i before visiting t_i ?

The gap after *visiting* in (2) is *parasitic* on the real gap, hence parasitic gap construction. There are two types of PGs: i) adjunct PGs (the PG *follows* the real gap), as in (2); and ii) subject PG (the PG *precedes* the real gap), as in (3) below:

(3) What_i did the study to test t_i impressively demonstrate t_i / *the results?

Previous work PG constructions belong to a larger family of restrictions on extraction, normally called *islands*. Previous experimental studies (Stowe 1986, Pickering et al. 1994; Traxler & Pickering, 1996; McElree & Griffith, 1998) have found that participants are aware of island domains. A related question is whether or not participants are also aware of PG sites and their licensing restrictions. PGs have been minimally studied experimentally: Kurtzman & Crawford (1991) found that participants accepted subject PGs in a speeded grammaticality judgment task; Phillips (2006) also tested subject PGs using an acceptability judgment task and an on-line reading time study. While these studies tell us about the acceptability of these types of constructions, they do not give us insight into the processing of these sentences.

Methodology In this talk, I will present pilot results of an eye-tracking experiment testing English native speakers' awareness of PGs and island domains; a methodology which has not yet been pursued to study this topic. Following previous studies on islands, I hypothesize that participants are aware of island domains. Consequently, they are also aware of syntactic gap sites. If this hypothesis is correct, participants should fixate on words adjacent to gap sites during reading. A related question is whether or not participants are also aware of licensing rules on gap sites. If they are aware of these restrictions, they should know which gap is parasitic. The distinction between adjunct and subject PG constructions will thus play an important role. For adjunct PG constructions, as in (2), we predict that participants will fixate on words adjacent to both gap sites but reading should proceed normally. Once the PG has been reached, it has already been licensed by the real gap. However, following previous experiments on regressions to the left in garden path sentences (Apel et al., 2012), when participants read subject PG constructions, as in (3), it is expected that they will regress back to the PG site once the real gap site is reached. If participants are aware of the licensing restrictions on PGs, they should be aware that this PG is not licensed. When the licenser is reached (real gap), we predict that regressions to the PG will occur. We also expect longer reading times for the subject PG condition in comparison to the adjunct PG condition and therefore, more processing difficulty. These results will be compared to reading times in distractor and control sentences. Participants will also complete grammaticality judgments after they have read each sentence, in order to control for any reading difficulties due to ungrammaticality or other unforeseen factors.

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