

Experimental syntax and wh-island effects in Hebrew

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Wh-island effects are notoriously known for their cross-linguistic variation (e.g. Reinhart, 1981; Rizzi, 1982; Sportiche, 1981; Torrego, 1984). Recent years have seen developments in the methodological toolkit in linguistics, presenting experimental syntax approaches to supplement informal judgements which were commonly used in the syntactic literature. Within this framework, a new method for testing island effects with acceptability judgements was presented in a number of studies by Sprouse and his colleagues (Sprouse et al., 2012). The logic of this measure is as follows. There may be several different acceptability costs, or processing costs reflected in acceptability ratings, which are associated with island structures. For example, consider the wh-island structure, presented schematically in (1a). First, a decrease in acceptability might be induced by the depth and length of the dependency (embedded gaps might be less acceptable / more difficult relatively to matrix gaps), regardless of the island structure. Namely, a sentence such as (1b) may elicit reduced acceptability ratings compared to a sentence with a shorter dependency, (1d), even though it contains no island. A further decrease in grammaticality might be related to the complexity of the embedded structure, again, independently from the island constraint. For example, it might be that embedded questions are less acceptable than embedded declarative clauses, namely that (1c) will elicit lower ratings than (1d), although, once again, no island is present in it. Thus, to isolate the reduction in acceptability induced by the island effect itself, over and above the reduction predicted by the length and complexity of the structure, Sprouse proposes testing for super-additivity effects. A disproportionate decrease in ratings for (1a) as compared to what is predicted based on the decrease due to length in (1b) and complexity in (1c) would suggest that the acceptability of the structure is affected not only by the above factors, but by another, grammatical, aspect, namely the island effect.

- (1) a. **Filler_i** [_{RC} that [when_j _i]]
b. **Filler_i** [_{RC} that [that _i]]
c. **Filler_i** [_{RC} that _i [when_j]]
d. **Filler_i** [_{RC} that _i [that]]

Experiments utilizing this design revealed some surprising results, departing from the classical observations regarding island effects. Specifically, wh-island effects were observed in languages which were previously argued to be immune to them (Brazilian Portuguese - Almeida, 2014; Italian - Sprouse et al., 2016; Norwegian and Swedish - Kush et al., 2015).

The goal of the current study was to use this new paradigm to test whether Hebrew exhibits a wh-island effect, despite being often considered to lack this island (Reinhart, 1981). Using the super-additivity design (Table 1), we observed an island effect both when the dependency resolved with a gap and with a resumptive pronoun. However, the acceptability rating of the island condition was not as low as would be expected from a fully ungrammatical sentence. We suspected that these effects do not reflect the grammatical status of the island constraint, but may rather have resulted in part from an increased cost for retrieving and maintaining the filler in the island condition, due to interference caused by the embedded wh-phrase. To test this possibility, we applied the super-additivity design to dependencies that involve retrieval or maintenance but are not constrained by islands, i.e. binding relations. To simulate retrieval demands we used anaphors, and to simulate maintenance demands we used cataphors. In both cases, we found super-additivity, despite the lack of island constraints. Finally, we wanted to test whether the super-additive wh-island effect in extraction dependencies is eliminated when increased costs of maintaining two fillers are minimized. We tested this by placing the embedded relativization site at the subject, rather than object, position. No super-additive effect was found in this case.

The results of this study suggest that Hebrew is indeed immune to the grammatical wh-island constraint, as was previously suggested based on non-formal observations (Reinhart, 1981). However, processing costs related to maintenance and retrieval of a filler over an intervening subject contribute to what may be interpreted as an island effect when no care is taken to control for these factors. Therefore, this study stresses the importance of considering and controlling for processing factors in experimental syntax studies.

Condition	Example sentence
Matrix resolution Embedded that-clause	<i>ha-safranit makira et ha-profesor ha-kašuaš še-hisik</i> The-librarian knows acc the-professor the-strict that-gathered <i>še-ha-metargelet telamed et ha-student ha-mitkaše.</i> that-the-assistant will+teach acc the-student the-weak. 'The librarian knows the strict professor _i ; that __ _i gathered that the assistant will teach the weak student.'
Embedded resolution Embedded that-clause	<i>ha-safranit makira et ha-student ha-mitkaše še-ha-profesor</i> The-librarian knows acc the-student the-weak that-the-professor <i>ha-kašuaš hisik še-ha-metargelet telamed (oto).</i> the-strict gathered that-the-assistant will+teach (him) 'The librarian knows the weak student _i ; that the strict professor gathered that the assistant will teach __ _i .'
Matrix resolution Embedded wh-question	<i>ha-safranit makira et ha-profesor ha-kašuaš še-hisik</i> The-librarian knows acc the-professor the-strict that-gathered <i>matai ha-metargelet telamed et ha-student ha-mitkaše.</i> when the-assistant will+teach acc the-student the-weak 'The librarian knows the strict professor _i ; that __ _i gathered when _j the assistant will teach the weak student __ _j .'
Embedded resolution Embedded wh-question	<i>ha-safranit makira et ha-student ha-mitkaše še-ha-profesor</i> The-librarian knows acc the-student the-weak that-the-professor <i>ha-kašuaš hisik matai ha-metargelet telamed (oto).</i> the-strict gathered when the-assistant will+teach (him). 'The librarian knows the weak student _i ; that the strict professor gathered when _j the assistant will teach __ _i __ _j .'

Table 1. Example set. The wh-island condition is shaded in grey.

References

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