

Intervention effects and Relativized Minimality: New experimental evidence from graded judgments



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Abstract

According to Featural Relativized Minimality, the local relation between an extracted element and its trace is disrupted when it crosses an intervening element whose morphosyntactic featural specification matches the specification of the elements it separates. This approach naturally leads to a system able to capture degrees of deviance: the relative acceptability of an intervention configuration will vary as a function of the total, partial or zero featural overlap between the intervener and the target. In a nutshell, configurations involving a lesser degree of featural overlap should be more acceptable than sentences involving a higher degree of overlap. Three acceptability judgment experiments systematically investigated predictions ensuing from Featural Relativized Minimality in extraction from weak islands. Four configurations of feature overlap were systematically tested with different methods of data collection and on a large set of linguistically naïve participants. Results from the three experiments are highly consistent in returning that predictions from Featural Relativized Minimality are globally borne out, except for the configuration involving two lexically restricted *wh*-elements, for which tentative explanations in terms of grammar or processing are sketched out.

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1. Introduction

Ever since Ross (1967) it has been claimed that *wh*-movement respects certain island constraints. For instance, a *wh*-element like *how* can be extracted from a declarative (1), but not from an indirect question (2).

- (1) How do you think John could solve the problem __?
- (2) *How do you wonder whether John could solve the problem __?

Indirect questions like (2) illustrate the environments known as *weak islands*. Weak islands are traditionally opposed to strong islands, environments such as complex noun phrases and adjunct islands, in which extractions are assumed to

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give rise to severe ill-formedness not modulated by the nature of the extractee (but see [Sprouse et al., 2016](#), for a more complex picture based on a quantitative definition of island effects made possible by formal experimental methods). Unlike strong islands, the deviance of the extraction from a weak island is modulated by the nature of the extracted wh-element (see [Szabolcsi, 2006](#), for an overview). For instance, while extraction of a bare wh-adverbial like *how* is sharply excluded, extraction of a lexically restricted wh-argument of the form *which NP* (3) is more acceptable, although perceived as deviant to some degree.

(3) ??Which problem do you wonder whether John could solve__ (in this way)?

The deviance of (2) as well as the milder deviance of (3) is typically analyzed as an *intervention effect*, to be captured by Relativized Minimality ([Rizzi, 1990](#)) or the corresponding derivational principles introduced in different versions of minimalist syntax, the Minimal Link condition ([Chomsky, 1995](#)), or Minimal Search ([Chomsky, 2000, 2007](#)). *Intervention locality* partly corresponds to the concept of weak island, while the notion of *impenetrability locality* partly corresponds to the concept of strong islands, as the former solely involves violations of intervention locality in traditional approaches (on the distinction, and the prospects of a unifying approach, see the discussion in [Rizzi, 2009](#)).

Informally, the relation between *how* and its trace in (2), and between *which problem* and its trace in (3), is disrupted by the intervention of an element of the same type as the elements it separates, the wh-element *whether* in the embedded complementizer system. The question then arises of why the intervention effect is weakened in (3).

Many factors have been considered as potentially responsible for the contrast between (2) and (3), like the argument/adjunct distinction ([Huang, 1982](#)), the distinction between bare and lexically restricted wh-elements ([Friedmann et al., 2009](#)), and the distinction between D(iscourse)-linked and non-D-linked elements ([Comorovski, 1989](#); [Cinque, 1990](#); [Rizzi, 1990](#) and much subsequent work building on [Pesetsky, 1987](#)). In this paper we will not test classical cases of adjunct extraction from weak islands: on the one hand, they represent the most robust case of weak island violation, but, on the other hand, the judgment may be affected by the possibility of main clause attachment for the adjunct, an option that is not easy to exclude in an experimental setting with naïve informants. So, we will focus on extraction of wh-arguments in which the extraction site is unambiguous, modulating the bare or lexically restricted nature of both the extracted argument and the intervener.¹

Even if the most robust case of weak island violation is represented by the extraction of an adjunct (as in (2)), the improvement observed for the extraction of a lexically restricted argument (3) is also observable when compared to the extraction of a bare argument (4).

(4) *What do you wonder whether John could solve __ (in this way)?

Moreover, the contrast (3)–(4) is more minimal than the contrast (3)–(2) as it solely involves the presence or absence of the lexical restriction in otherwise identical structures. There may well be an additional argument vs. adjunct factor responsible for making the contrast (3)–(2) particularly sharp, but this factor will not be investigated in this paper. So, here we will restrict our attention to a subset of the cases classically illustrating weak island effects, that is, arguments.

The relevant empirical domain often consists of subtle comparative judgments between different deviant sentences. The facts are typically established through the classical informal methodology of judgment gathering in modern theoretical and comparative syntax. As we systematically deal with graded judgments (B not as good as A, but better than C, etc.) it is worthwhile to also try out more sophisticated methodologies of data gathering, to see how far we can go with controlled judgments on complicated sentences by many linguistically naïve speakers (e.g., [Sprouse et al., 2013](#)). Such methods could highlight facets of the empirical domain which otherwise remain unnoticed with a more traditional methodology. Moreover, the subtlety of the judgments on the various types of weak islands makes converging evidence from various empirical sources particularly important before firm conclusions can be drawn. So, one of the purposes of this paper is to explore the heuristic capacity of such methods for enriching the empirical basis of sophisticated formal hypotheses in the study of weak islands and intervention effects.

In section 1 we present featural Relativized Minimality (henceforth, fRM) and illustrate how it accounts for the classical cases of acceptability judgments in extractions from weak islands, and spell out its predictions with respect to the role of

¹ Other factors affect the acceptability of extraction from weak islands. For instance, all other things being equal, extraction from an untensed weak island is more acceptable than extraction from a tensed weak island:

- (i) a. ?? Which problem do you wonder how Bill could solve?
b. ? Which problem do you wonder how to solve?

The overall acceptability of a particular case is thus a function of several concomitant factors. In this paper we will only focus on some such factors.

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