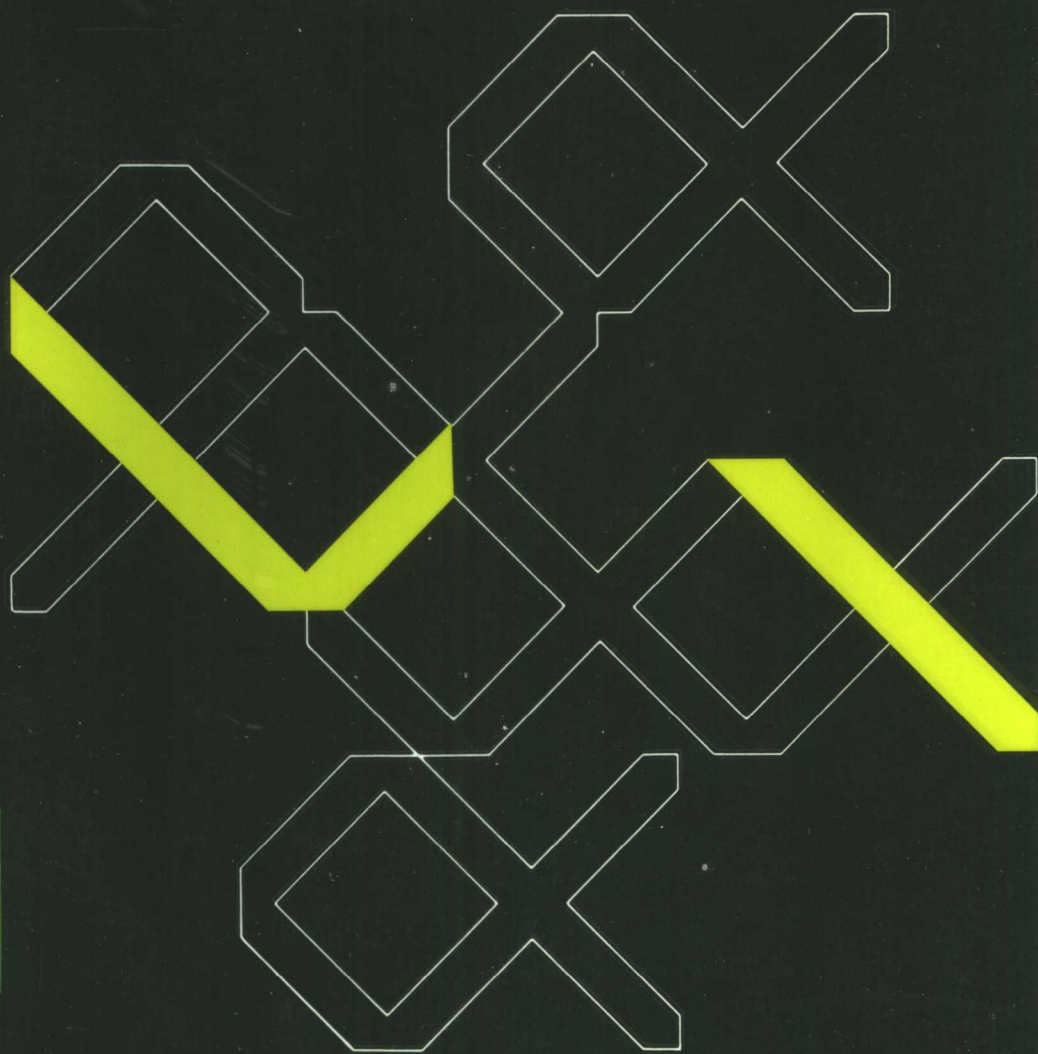




Linguistic Inquiry  
Monograph Sixteen

# Relativized Minimality

Luigi Rizzi



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## Series Foreword

We are pleased to present this monograph as the sixteenth in the series *Linguistic Inquiry Monographs*. These monographs will present new and original research beyond the scope of the article, and we hope they will benefit our field by bringing to it perspectives that will stimulate further research and insight.

Originally published in limited edition, the *Linguistic Inquiry Monograph* series is now available on a much wider scale. This change is due to the great interest engendered by the series and the needs of a growing readership. The editors wish to thank the readers for their support and welcome suggestions about future directions the series might take.

Samuel Jay Keyser  
for the Editorial Board

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## Foreword

Locality is a pervasive property in natural-language syntax. If there is no upper limit to the length and depth of structural representations, a fundamental core of syntactic processes are bound to apply in local domains. The study of the nature and properties of these domains is the central task of much current work in syntactic theory. There are two conceptually distinct ways of addressing the issue of locality. The first is that certain structural boundaries count as barriers for the process under investigation. Classical Subjacency is a case in point. The second is to assume that the process cannot apply across an intervening element of a designated kind, which could in principle be involved in the process. Various versions of the Specified Subject Condition of the Theory of Binding and of the Minimal Distance Principle of the Theory of Control have this property. Ever since Chomsky 1981, both concepts have been used in distinct characterizations of the fundamental local relation of grammatical theory, the government relation.

This monograph is devoted to exploring the consequences of a particular “intervention” approach to the theory of government. The guiding idea is to maximize the role of intervention, and to correspondingly reduce the role of barriers in the definition of government. The principle to be developed, Relativized Minimality, blocks government of some kind across an element which could bear a government relation of the same kind. Chapter 1 introduces the principle and shows that it permits a unified treatment, under the Empty Category Principle (ECP), of three distinct but intuitively related classes of facts: Huang’s (1982) selective violations of *wh* islands, Obenauer’s (1984) pseudo-opacity effects, and Ross’s (1983) inner islands. Chapter 2 develops a new approach to COMP-trace phenomena through a conjunctive for-

mulation of the ECP, and explores the consequences of conjunctive ECP in various domains. Chapter 3 goes back to the fundamental argument-adjunct asymmetries discussed throughout the book, and proposes a new approach based on a radical simplification of the ECP and a natural constraint on the possible occurrence of referential indices: referential indices are allowed to occur only on elements having referential properties, in a sense to be made precise.

The ideas discussed in the first two chapters were originally presented in a course that I taught jointly with Richard Kayne at MIT in the fall 1986 semester and subsequently refined in a course at the 1987 LSA Summer Linguistic Institute at Stanford (the draft circulated as Rizzi 1987 corresponds to this stage of elaboration), in various courses and presentations at the Séminaire de recherche of the University of Geneva, in a GLOW talk (Budapest, March 1988), and in a talk given at the Second Princeton Workshop on Comparative Grammar (April 1989). The first chapter also draws from previous work on the ECP that I had the opportunity to present and discuss at the Symposium on Formal Syntax and Semantics (University of Texas, Austin, 1985) and at the Workshop on Logical Form (LSA Summer Institute at CUNY, July 1986). The content of the third chapter was originally presented at the University of Geneva in 1987 and was refined in talks at the Meeting of the Linguistic Association of Great Britain (Durham, March 1988) and at the workshop "The Chomskian Turn" (Tel-Aviv and Jerusalem, April 1988; see Rizzi 1988). I am much indebted for helpful comments to the audiences of these events—particularly Maggie Browning and Julia Horvath, discussants of the papers presented at the Princeton and Israel workshops—and to Adriana Belletti, Luigi Burzio, Noam Chomsky, Guglielmo Cinque, Maria Teresa Guasti, Liliane Haegeman, Richard Kayne, Ian Roberts, Dominique Sportiche, Tarald Taraldsen, Sten Vikner, and Eric Wehrli.

Geneva, June 1989

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## Chapter 1

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### Opacity Effects on Adjunct Variables

#### 1.1 Introduction

The minimality principle is a partial characterization of the locality conditions on government. The core case to be captured is that a governor cannot govern inside the domain of another governor; i.e., in configuration (1), X cannot govern Y if there is a closer potential governor Z for Y.

(1) . . . X . . . Z . . . Y . . .

The functional correlate of this formal principle is the reduction of ambiguity in government relations: there will be exactly one governor for each governee in the general case. For instance, in a configuration like (2), the verb will not govern the prepositional object *John* because of the intervention of the preposition, a closer potential (and actual) governor.

(2) . . . . [ talk [ to John ] ] . . .

Most current definitions implement this core idea in an asymmetric way with respect to the kinds of government. The theory specifies two kinds of government, depending on the nature of the governor: head government (relevant for Case, Binding, and the modules licensing the various types of empty categories) and antecedent government (relevant for the ECP and/or for the definition of chain—see chapter 3). The asymmetry is that an intervening potential head governor blocks both kinds of government, whereas an intervening potential antecedent governor does not have any blocking capacity. That is, if Z is a potential head governor for Y in (1), X can neither head-govern nor antecedent-govern Y, whereas if Z is a potential antecedent governor for Y, both kinds of government are still possible from X. This is, in

essence, the effect of the minimality principle of Chomsky (1986b), even though the blocking capacity of an intervening head is indirect in that system, mediated through the notion “barrier”.<sup>1</sup> We will call an asymmetric principle of this sort Rigid Minimality.

In this chapter we will explore the consequences of a symmetric approach to minimality. The principle to be introduced, Relativized Minimality, makes the blocking effect of an intervening governor relative to the nature of the government relation involved: in (1), if Z is a potential governor *of some kind* for Y, it will block only government *of the same kind* from X. If Z is a potential head governor, only head government from X will be blocked. If Z is a potential antecedent governor, only antecedent government will be blocked.

Conceptually, this symmetric approach appears to be closer to the intuitive functional correlate of disambiguation, as expressed above. Empirically, the symmetric approach is both more and less restrictive than the asymmetric approach. It is more restrictive because relativized minimality blocks antecedent government from X when Z is a potential antecedent governor, a configuration about which rigid minimality has nothing to say. The symmetric approach is also less restrictive because relativized minimality cannot block antecedent government from X if Z is a potential head governor, whereas rigid minimality does. Within the symmetric approach, head government and antecedent government proceed on parallel tracks and cannot interfere with each other.

The main empirical motivation for relativized minimality has to do with its more restrictive character. It will be argued that this approach permits a unified treatment, under the Empty Category Principle, of three empirical domains which are intuitively very close:

- Huang’s (1982) observation that adjuncts cannot be extracted from *wh* islands:
  - (3) a ?Which problem do you wonder [how [PRO to solve t t]]
  - b \*How do you wonder [which problem [PRO to solve t t]]
- Obenauer’s (1984) pseudo-opacity effects: In French a VP-initial adverbial QP selectively blocks extraction of certain VP-internal elements—for example, extraction of the direct object is possible, but extraction of the specifier of the direct object is not, as in (4).

(4) a Combien de livres a-t-il beaucoup consultés t  
 'How many of books did he a lot consult'

b \*Combien a-t-il beaucoup consulté [t de livres]  
 'How many did he a lot consult of books'

• Ross's (1983) inner islands: Adverbial elements cannot be extracted from the scope of negative operators, as (5) shows.

(5) a Bill is here, which they (don't) know t

b Bill is here, as they (\*don't) know t

The striking similarity among these three cases is that the class of possible extractions is, by and large, defined in the same way: an argument can be extracted, an adjunct cannot. A unified account seems to be in order. As a first approximation we could reason in the following way: Certain operators create a selective opaque domain for adjunct variables; i.e., in the context of (6) adjunct variables cannot be free in the domain of the operator.

(6) . . . [ OP . . . \_\_\_\_ . . . ] . . .

Of course, the empirical effects of this opacity principle would overlap to a significant extent with the effects of the ECP, thus suggesting a unification. But standard assumptions on the ECP module, and rigid minimality in particular, do not seem to allow the ECP to subsume our descriptive scope constraint: why should an intervening VP initial operator or negation block the required government relation in (4b) and (5b)?

The basic goal of this chapter is to show that a unified treatment of (3)–(5) is made possible by a symmetric theory of government and minimality. We will also discuss cases in which relativized minimality is less restrictive than standard minimality. In some such cases, the reduced restrictiveness will turn out to yield desired empirical consequences (see the end of subsection 1.3.1). In chapter 2 we will go back to other, more problematic cases involving Comp-trace effects.

## 1.2 *Wh* Islands

Huang (1982) noticed that extraction of an adjunct from a *wh* island gives a notably worse result than extraction of a complement, and made the influential proposal of assimilating this asymmetry to familiar subject-object asymmetries under the ECP. Consider the following paradigm:

- (7) a ??Which problem do you wonder how John could solve t t  
 b \*Which student do you wonder how t could solve the  
 problem t  
 c \*How do you wonder which problem John could solve t t
- (8) a Which problem do you think [t [John could solve t]]  
 b Which student do you think [t [t could solve this problem]]  
 c How do you think [t [John could solve this problem t]]

How can one express the fact that subjects and adjuncts pattern alike, and differently from complements, in this respect? The classical formulation of the ECP (Chomsky 1981) does not seem to draw the right distinction here:

- (9) **ECP I:** A nonpronominal empty category must be  
 (i) lexically governed, or  
 (ii) antecedent-governed.

Manner adverbials are base-generated VP-internally, as is shown by the fact that they may be carried along under VP preposing (see Roberts 1988a):

- (10) . . . and speak in this way he did

Therefore, they are lexically governed by V. Still, they appear to require antecedent government if (7c) is to be ruled out by the ECP. The same argument-adjunct asymmetry is found even with manner adverbials which are obligatorily selected by certain verbs:

- (11) a ??With whom do you wonder [how [PRO to behave t t]]  
 b \*How do you wonder [with whom [PRO to behave t t]]

There can be little doubt, in this case, that the adjunct (or its trace) is lexically governed by the verb that selects it. If (9) is correct, why should antecedent government be required? The classical formulation of the ECP is insufficient here.

Stowell's (1981) proposal that the first clause of the ECP should refer to Theta government (government by a Theta assigner) appears more promising:

- (12) **ECP II:** A nonpronominal empty category must be  
 (i) Theta-governed, or  
 (ii) antecedent-governed.

In (7a) the object trace is governed by the verb that assigns a Theta role to it; hence, it is Theta-governed, the ECP is fulfilled, and the weak deviance of the structure is solely determined by a Subjacency

violation. In (7b) the subject trace is neither antecedent-governed nor Theta-governed (the verb does not govern the subject); hence, the structure is ruled out by the ECP. Huang's influential insight was that (7c) should be ruled out on a par with (7b) by the ECP. In fact, the adjunct trace is not Theta-marked; hence, the first clause of the ECP cannot be fulfilled, nor is it antecedent-governed in this structure; thus the ECP, as formulated in (12), is violated. On the contrary, examples (8b) and (8c) are well formed because the trace in the specifier of Comp antecedent governs the initial trace, and the second clause of the ECP is satisfied. (11b) can be excluded on a par with (7c) if we make the assumption that lexical selection of an adverbial does not involve Theta marking of the appropriate kind, which is restricted to referential expressions.<sup>2</sup>

Of course, in order to achieve this result, our theory of government must state that the *wh* phrase in the main Spec of Comp in (7b), (7c), and (11b) is too far away to directly antecedent-govern a trace in the lower clause, whereas the trace in the embedded COMP in (8b) and (8c) is close enough to do so. Keeping the discussion at an informal level for the moment, we can now see how Relativized Minimality gives us the desired result. Consider the informal characterization given in the introduction. In (7b) and (7c) a potential antecedent governor for the subject or adjunct trace is the operator in the lower Spec of Comp. This element is not an actual antecedent governor (in fact it is not an actual antecedent, there being no coindexation), but its presence suffices to block government from the actual antecedent: given Relativized Minimality, antecedent government cannot take place inside the domain of a potential antecedent governor. Since in (7b) and (7c) the relevant trace is not Theta-governed either, the ECP is violated. In (8b) and (8c), on the other hand, the non-Theta-governed trace is antecedent-governed by the trace in the embedded Spec of Comp; hence, the ECP is satisfied. In general, the combined effect of the ECP and Relativized Minimality on traces that are not Theta-governed is that the closest potential antecedent governor must be the *actual* antecedent governor; otherwise the ECP will be violated.

Concerning the well-formedness of (8c), one should raise the question why the subject (or the object) does not count as a potential antecedent governor for the adjunct trace: if it did, it would induce a minimality effect and hence an ECP violation. Clearly, what is needed is a selective definition of the notion "potential antecedent governor" such that an operator in the specifier of Comp counts as a potential

antecedent governor for a *wh* trace but other clause-internal c-commanding positions do not count. And, of course, we need precise definitions of all the principles and notions involved.

### 1.3 Relativized Minimality

First of all, we must define the two types of government which the system uses:

- (13) **Head Government:** X head-governs Y iff
- (i)  $X \in \{A, N, P, V, Agr, T\}$
  - (ii) X m-commands Y
  - (iii) no barrier intervenes
  - (iv) Relativized Minimality is respected.
- (14) **Antecedent Government:** X antecedent-governs Y iff
- (i) X and Y are coindexed
  - (ii) X c-commands Y
  - (iii) no barrier intervenes
  - (iv) Relativized Minimality is respected.

The two definitions are fully parallel. They differ in the characterization of the classes of governors: head governors are the lexical heads and some functional heads, at least those containing the agreement and tense specification (we will assume here that *Agr* and *T* can head independent projections and can also be associated as features with other heads); antecedent governors are coindexed categories. Both definitions involve a command requirement, to exclude upward government.<sup>3</sup> Both definitions include some notion of barrier, in the sense of Chomsky 1986b. Clearly, there is some tension between the Relativized Minimality idea and the notion of barrier, in that the former directly subsumes some of the cases dealt with by the latter in Chomsky's system. We will not fully explore the consequences of this tension here; in particular, we will not try to assess its implications for the important project of unifying in part the theories of government and bounding, and we will limit the comparison with Chomsky's (1986b) system to the domain of the theory of government. For our current purposes it will be sufficient to assume that XP's which are not directly selected by [+V] elements are inviolable barriers for government (see note 6), and we will not address the question of how subjacency barriers are to be characterized.

We then define Relativized Minimality through the variable notion “ $\alpha$ -government,” ranging over head government and antecedent government, as in (15).

- (15) **Relativized Minimality:** X  $\alpha$ -governs Y only if there is no Z such that
- (i) Z is a typical potential  $\alpha$ -governor for Y,
  - (ii) Z c-commands Y and does not c-command X.

The second clause of the principle simply defines “intervention” in hierarchical terms, rather than in linear terms as in our initial intuitive characterization.<sup>4</sup> As for the first clause of (15), we now have to define the notion “typical potential  $\alpha$ -governor.” The intuitive idea is that a typical potential  $\alpha$ -governor for an element Y is a base-generated position that could bear the relevant kind of government relation to Y. For the moment I will leave this notion at an intuitive level, and will simply list the different subcases. A formal unification is offered in the second appendix of this chapter. As for the head government subcase, things are quite straightforward:

- (16) Z is a typical potential head governor for Y = Z is a head m-commanding Y.

As for antecedent government, we assume, with Chomsky (1986b, p. 17) that this notion is a property of chains; it is then natural to distinguish three subcases, depending on whether Y is a trace in an A-chain (NP movement), in an A'-chain (*wh* movement), or in an X<sup>0</sup>-chain (head movement):

- (17) a Z is a typical potential antecedent governor for Y, Y in an A-chain = Z is an A specifier c-commanding Y.  
 b Z is a typical potential antecedent governor for Y, Y in an A'-chain = Z is an A' specifier c-commanding Y.  
 c Z is a typical potential antecedent governor for Y, Y in an X<sup>0</sup>-chain = Z is a head c-commanding Y.

That is to say, minimality effects are exclusively triggered by potential governors of the different kinds filling base-generated positions: heads for head government and (respectively) A specifiers, A' specifiers, and heads for antecedent government in A, A', and X<sup>0</sup> chains. One will notice here a certain similarity with the Theory of Binding, in particular with the Generalized Binding approach (Aoun 1985, 1986). The classical insight behind the Specified Subject Condition and many more recent formulations of the Theory of Binding is that subjects (A spe-



cifiers) have a critical role in determining opaque domains for A anaphora: an anaphor must be bound in the domain of the closest A specifier, and not necessarily in the domain of the closest potential A antecedent; an A specifier seems to be the typical antecedent for an anaphor (the only possible antecedent in some languages), and as such it determines an opaque domain. Relativized Minimality, in a sense, generalizes this idea to government relations: typical potential governors of different kinds create impermeable domains for government. A close conceptual analogy also exists with Burzio's (1989) approach to cross-linguistic variation with respect to the Theory of Binding. According to Burzio, the class of elements which block binding relations and the class of possible antecedents are equivalent and are structured along an identical hierarchy of strength (a stronger potential antecedent is a stronger block, and so on). The analogies with the theory of binding look more than superficial, and suggest the possibility of a partial unification of government and binding along these lines, an important issue that I will not address here. See chapter 6 of Kayne 1984 for relevant discussion. The second appendix of this chapter capitalizes on the analogies between government and binding to attempt a formal unification of (16) and (17).

The next four subsections will show how the system works for antecedent government in A'-chains, A-chains, and X<sup>0</sup>-chains, and for head government.

### 1.3.1 A'-Chains

Let us now go back to structures like the following:

(18) \*How do you wonder [which problem [PRO to solve t t']]

Here the A' specifier *which problem* intervenes between *how* and its trace t', an A'-chain. Hence, by Relativized Minimality, t' is not antecedent-governed; it is not Theta-governed either, and therefore the structure is ruled out by the ECP. Notice that the same result holds if movement of *how* can proceed through VP adjunction, as in the system of Chomsky 1986b, and even if adjunction to IP is allowed as an intermediate step for *wh* movement. The relevant representation would be (19).

(19) How do you [ t' [ wonder [ which problem [ t'' [ PRO to [ t'''  
[ solve t t''' ]]]]]]]

Here t is Theta-governed, and t''', t'', and t' are antecedent-governed, but t'' is not: t' is too far away because a potential A' governor, the