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Island Constraints

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The Phenomena

Chomsky (1964) observed that there was a restriction on the family of displacement operations collectively known as A-bar movement or extraction (including topicalization, wh-movement, relative clause formation, and others), such that given two noun phrases (NPs), one embedded inside the other, only the topmost NP can be displaced. Ross (1967) suggested that this phenomenon is part of a larger pattern of constraints on movement that limit movement from certain kinds of constituents. In Ross's terminology, a syntactic constituent that disallows movement from within itself is known as an 'island.' The constraints that govern this behavior are known as 'island constraints.'

As a point of contrast, consider the following pair of grammatical sentences, where the second is taken to be a question version of the first:

(1a) I said [$_{CP}$ that John wanted [$_{TP}$ Mary to ask Bill [$_{TP}$ to bake **a cake**.]]]

(1b) **What** did you say that John wanted Mary to ask Bill to bake t?

Movement of the wh-word (*what*) that is the object of the verb *bake* is allowed to cross a large amount of structure. Now consider movement out of a similar sentence, but one where the starting place of the wh-word is in a clause that is inside an NP. Sentence (2) shows an example where the embedded clause is a complement to the noun; sentence (3) shows an example where the embedded structure is a relative clause:

(2a) I concealed [$_{NP}$ the fact [$_{CP}$ that John baked **a cake**].

(2b) ??**What** did you conceal the fact that John baked t?

(3a) I saw [$_{NP}$ the man [$_{CP}$ who baked **that cake**]]

(3b) *Which cake did you see the man who baked t?

The sentences in (2b) and (3b) are subject to what Ross called the '*Complex NP Constraint*' (CNPC), and are known as (complex) NP-islands. This constraint simply says that extraction out of a clause within an NP is ungrammatical.

NPs are not the only island, however; Ross observes that any element (including clauses) in subject position is also an island for extraction. This can be seen in (4); (4a) and (4b) show a pair where we are extracting an object out of a tensed clause in subject position.

(4c) and (4d) show the same thing with a nonfinite subject clause.

(4a) [$_{CP}$ That the police would arrest **several rioters**] was a certainty.

(4b) *What was that the police would arrest t a certainty?

(4c) [$_{TP}$ To read **Great Expectations** in peace] was all he wanted.

(4d) *What was to read t in peace all he wanted?

This is Ross's *Sentential Subject Constraint* (SSC).

Closely related to the CNPC and SSC is Ross's *Left Branch Condition* (LBC), which restricts movement of an NP that is the left branch of a larger NP.

(5a) I liked [$_{NP}$ [$_{NP2}$ **John**]'s friend].

(5b) *Whose did you like t friend?

Finally, Ross also proposed the *Coordinate Structure Constraint* (CSC), which disallows extraction of either member of a conjunction:

(6a) I liked **Mary** and **John**.

(6b) *Who did you like Mary and t?

(6c) *Who did you like t and John?

In addition to Ross's islands, a number of other island types have been proposed, including negative islands (Schafer, 1995) and wh-islands (Chomsky, 1973). The latter are perhaps the most important kind of island. Wh-islands involve displacement of two wh-elements. One movement is to the front of the embedded clause; the second crosses over the first, and puts the wh-element at the beginning of some higher clause. (7a) represents a declarative clause. (7b) and (7c) show that movements of both the embedded NPs are acceptable independent of one another. (7d) shows that movement of both NPs together results in ungrammaticality.

(7a) Bill said [$_{CP}$ **Mary** loves **pineapples**.]

(7b) Bill asked [$_{CP}$ **what**$_i$ Mary loves t_i.]

(7c) **Who**$_j$ did Bill say [$_{CP}$ t_j loves pineapples.]

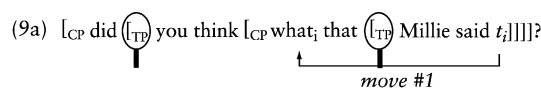(7d) *Who$_j$ did Bill ask [$_{CP}$ what$_i$ t_j loves t_i]

The Subjacency Condition
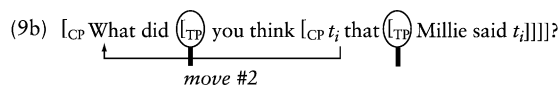
In the government and binding theory of the late 1970s and 1980s, an attempt was made to capture all of the island phenomena (or a significant portion thereof) with one formal constraint. The most successful attempt at this came in the form of the *Subjacency Condition* (Chomsky, 1973; Koster, 1978; Rizzi, 1982); this constraint limited wh-movement by specifying dominating categories as **bounding nodes**. Crossing too many bounding nodes in one swoop

resulted in ungrammaticality. A typical formalization of the subjacency condition is given in (8):

(8) A-bar movement may not cross two or more bounding nodes. Bounding nodes are NP and TP (= S).

In order to see how this accounts for islands, it is worth showing how it allows for long distance wh-movement as in (1). The underlying idea is that movement is *cyclic*. Although the movement in (1) appears to be long distance, it actually happens in shorter hops. Each hop lands in the specifier of a CP. As such, most cases of movement will only cross one bounding node (a single TP). This can be seen in (9) below, where each bounding node is circled. Each step in the movement crosses only one bounding node.
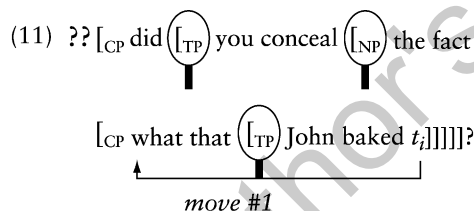
(9a) [CP did ([TP] you think [CP what$_i$ that ([TP] Millie said t_i]]]]?
move #1

(9b) [CP What did ([TP] you think [CP t_i that ([TP] Millie said t_i]]]]?
move #2
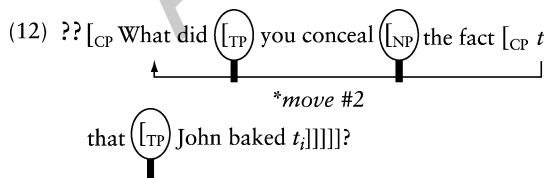
Contrast this with an NP-island, such as (2b), the structure of which is given in (10):

(10) ?? [CP **What** did [TP you conceal [NP the fact [CP that [TP John baked t]]]]]?
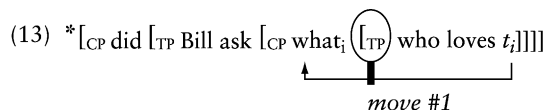
Successive cyclic movement will allow the first movement of the wh-word to cross only a single bounding node, which is acceptable:

(11) ?? [CP did ([TP] you conceal ([NP] the fact
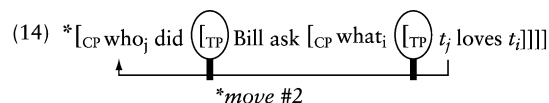
[CP what that ([TP] John baked t_i]]]]]?
move #1

However, subsequent movement to the highest CP specifier will result in a Subjacency violation, crossing both the NP node and the higher of the two TP nodes:

(12) ?? [CP **What** did ([TP] you conceal ([NP] the fact [CP t
move #2

that ([TP] John baked t_i]]]]]?

A similar account can be given to wh-islands: movement of the first wh-word does not violate the constraint:

(13) *[CP did [TP Bill ask [CP what$_i$ ([TP] who loves t_i]]]]
move #1

Movement of the other wh-word will necessarily result in a Subjacency violation, because it will not be allowed to stop in the embedded specifier of the CP (which is occupied by *what*), so it will cross two TP bounding nodes:

(14) *[CP who$_j$ did ([TP] Bill ask [CP what$_i$ ([TP] t_j loves t_i]]]]
*move #2

The subjacency constraint also explains the left branch condition, the sentential subject constraint, and some cases of the coordinate structure constraint (although not all). An important outgrowth of the research into subjacency was the observation that there was crosslinguistic variation in what counted as a bounding node. For example, Rizzi (1982) observed that CPs (S′) and not TPs (S) in Italian were bounding nodes. This kind of observation was influential in the development of casting crosslinguistic variation in terms of narrow parameters.

The Empty Category Principle and the Condition on Extraction Domains

Huang (1982) observed that extraction from adjuncts and specifiers was consistently worse than that of extraction of complements. Huang proposed the *Condition on Extraction Domains* (CED), which limits grammatical extraction to positions that are governed. (Roughly, government corresponds locally c-commanded by a lexical [theta role-assigning] head or by an antecedent.) The heart of this idea is contained in Chomsky's (1981) *Empty Category Principle* (ECP), which requires that the traces of A-bar movement be governed. Chomsky (1986) attempted to unify the ECP, subjacency, and other locality conditions (such as the binding conditions) in a system called *Barriers*. At the time of the writing of this entry, Barriers is widely considered to have been a failure.

Relativized Minimality

Rizzi (1990) first observed that every kind of movement (A-bar movement, A-movement (or NP-movement) and head movement) has some kind of locality constraint on the relationship between the displaced item and its starting position or trace. In each case, the moved item must c-command the position it moves to; and there can be no potential intervening candidate for the element at the top of the movement chain. In other words, given a structure such as (15), where Y and X are of a like type of category (wh-element, or NP or head), then a movement chain formed between X and Z is ungrammatical.

(15)
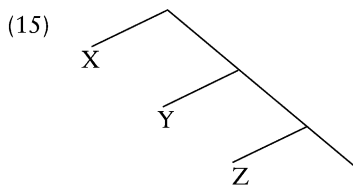
This differs from previous approaches where what was at stake in locality conditions was the nature of the categories that dominate the trace. Here, what is of relevance is the nature of the categories and positions that c-command the trace.

Island Constraints in the Minimalist Program

The relativized minimality approach has been very influential in the formulation of constraints on island phenomena in the minimalist program. In the earliest versions of the program (e.g., Chomsky, 1994), island effects were captured by making reference to a version of relativized minimality, whereby there are economy constraints that compare derivations of sentences and look for the most economical. One such constraint is *Shortest Move* (SM). This constraint gives preference to derivations where each movement moves to the closest potential landing site. Skipping that landing site (for example, because it is filled with another wh-word) will result in a dispreferred derivation. In later versions of the program (e.g., Chomsky, 1995), SM is replaced by an absolute condition that is part of the definition of the movement operation (known as ATTRACT). This condition is the *Minimal Link Condition*, which for any given landing site always prefers the closest potential filler. Refinements to this approach can be found in Collins (1997), and criticisms can be found in Johnson and Lappin (1999). In the most recent version of the minimalist program (Chomsky, 2000), known as *phase theory*, island effects reduce to the way in which the syntactic tree is derived. Very small, local structures (known as *phases*) are generated piece by piece from the bottom of the tree. Operations may only apply within these phases, or from the topmost position within the phase (the phase edge); this ensures that each step in the movement will be limited to occur either within a given phase or between adjacent phases, giving rise to successive cyclicity.

Approaches to Island Effects in Other Theories

Outside of Chomskyan linguistics, other approaches to syntax have attempted to capture some of the same

results. Following the work of Gerald Gazdar (1981) in generalized phrase structure grammar, proponents of head-driven phrase structure grammar (HPSG) make use of the fact that the theory relies on licensing constraints on subtree structures (similar in many ways to the licensing constraints that hold of minimalist phasing). In HPSG, island conditions are at least partly stated as conditions on these licensing constraints. For example, the CSC falls out from the requirement that the rule which licenses coordination stipulates that neither conjunct may contain a gap (see Sag *et al.* [2004] for a textbook treatment, and Johnson and Lappin [1999] for a more in-depth analysis). In lexical functional grammar, long-distance dependencies are expressed in terms of the notion of functional uncertainty, whereby functional relations such as FOCUS (which governs wh-questions) search for a potential variable to satisfy their features. There are conditions on the search, called inside-out constraints, which limit the search space within the f-structure (see Falk, 2001 for an accessible introduction to these ideas). In the functionalist literature, the most common approach is to try to explain subjacency as a processing or memory constraint. For example, Pritchett (1991) suggests that subjacency reduces to the desire of the parser to match up displaced elements and gaps. When too many choices are available, the parser crashes. For a critical review of such approaches, see Lasnik (1999).

See also: Chomsky, Noam (b. 1928); Complement Clauses; Constituent Structure; Generative Grammar; Principles and Parameters Framework of Generative Grammar; Relative Clauses; Syntactic Variables and Variable-free Syntax; Syntactic Variation.

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Isle of Man: Language Situation

Editorial Team

Official languages on this self-governing crown dependency (estimated inhabitants: 77 655) of the United Kingdom are English and Manx. Manx Gaelic, a Goidelic language, was widely used earlier, but became extinct with the death of its last speaker in 1974. Thanks to a scholarly revival by enthusiasts, Manx has been formally taught in schools since 1992 and is now the second language of several hundred people. Government departments use English and Manx titles on all official documents, correspondence, and vehicles, and Manx is also used on town and road signs and increasingly by commercial businesses.

See also: United Kingdom: Language Situation.

Isolated Language Varieties

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The term 'isolation' and its corollary 'mobility' have continued to be key factors in the determination of the actuation, embedding, and trajectory of linguistic change. Although isolation has rarely been studied in and of itself as an independent linguistic variable (Chambers, 1995), dialectologists have been irresistibly drawn to isolated communities (and to isolated speakers for that matter) for their import descriptively and theoretically, since Gauchat's (1905) cornerstone study of the community of Charmey in the Swiss Alps. Such communities yield vital evidence into earlier stages of various dialects, including African American Vernacular English, Appalachian English, and even mainstream American English, to name a few. Additionally, insular and postinsular communities allow for rigorous investigation into language variation and change, particularly with respect to those language communities that are moribund – that is, those that are in danger of dying out within a generation or two. The case of Faetar, a Franco-Provençal dialect spoken in the villages of Gaeto and Celle in southern Italy and historically brought to the region by French immigrants in the 14th century, is such an example of a moribund language variety. Analysis of the phonological system of Faetar, particularly the phonological status of the schwa (absent in standard Italian), has provided rich data on the specifics of how language contact affects each of the languages in the contact situation (Nagy, 2001).

Quite recently, though, the concept of isolation and the assumed affects of isolation on dialect