Carlo Cecchetto
University of Milan-Bicocca
carlo.cecchetto@unimib.it

Caterina Donati
Sapienza University of Rome
caterina.donati@uniroma1.it

RELABELING + NO LABELING = ISLANDS

0.Islands and successive cyclic movement

The reason why islands (with the exception of WH-islands, now uncontroversially reduced to Relativized Minimality effects: Rizzi 1990), almost fifty years after their first systematic description (Ross 1967) are still in need of a definitive explanation (for an overview cf. Goodluck & Rochemont 1992, Szabolcsi 2006, Boeckx 2003), is because such an explanation would require an understanding of an operation, successive cyclic movement, whose nature is also very poorly understood. In the framework of the theory of labeling developed by Cecchetto & Donati (2010) and Donati & Cecchetto (2011), this talk aims at providing a principled account for both phenomena, explaining why island configurations block successive cyclic movement.

1. Movement and labels.

The starting point is the notion of Label as in (1) and the Probing Algorithm in (2) as defined by Cecchetto & Donati (2010) (but see Adger (2003), Boeckx (2008), Chomsky (2008) and Pesetsky & Torrego (2006) and for similar proposals).

(1) **Labels**. When two objects α and β are merged, a subset of the features of either α or β become the label of the syntactic object $\{\alpha, \beta\}$.
A label:
(i) can trigger further computation
(ii) is visible from outside the syntactic object $\{\alpha, \beta\}$ for selection

(2) **Probing Algorithm**: The label of a syntactic object $\{\alpha, \beta\}$ is the feature(s) which act(s) as a Probe of the merging operation creating $\{\alpha, \beta\}$

What (2) says is that the label of any merge output is always the feature asymmetrically triggering the Merging operation. Cecchetto and Donati (2010) assume that the simple algorithm in (2) can capture the core cases traditionally described by X-bar theory if, following Chomsky (2008), every LI is endowed with a feature, call it edge feature, which forces the LI to merge with other material. If this is assumed, any time an LI is merged, it qualifies as a Probe by virtue of its edge feature. This means that an LI, being a Probe by definition, always activates the algorithm in (2) and its categorial feature can provide the label. For example, each time a head (=LI) is externally merged with its complement, the head is bound to project. This way, the system based on (2) captures the two empirical generalizations that any version of phrase structure theory must account for: namely, that the target of movement (a Probe) typically projects and that a lexical item projects when it is merged with a XP. Crucially for what follows, even when an LI is *internally* merged, it can project.

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2. Head (= LI) movement creates labeling conflicts

Head (= LI) movement is special, since it can "change" the label of the landing site of movement:

(3)　　a. I wonder what you read
　　　　b. I read what you read

In (3), a WH lexical item, 'what', is internally merged to a Probing C. The Probing Algorithm (2) correctly predicts that there should be a labeling conflict here. If the LI provides the label, the structure ends up being a DP, i.e. a free relative; if the probing C provides the label, the structure is a (interrogative) clause: as a result, the structure is systematically ambiguous, as shown by its compatibility both with verbs selecting for nominal complements (e.g. 'read' in 3b) and with verbs selecting for clauses, as in (3a).
No ambiguity arises when a phrase is WH moved: 'what book' in (4) does not qualify as a Probe, and only the target C is bound to project. (4) can only be an (indirect) interrogative clause.

(4)　　What book you read
　　　　a. I wonder what book you read
　　　　b. *I read what book you read.

Crucially, the phrasal/head status of the moving category is the only difference: in (3) and (4), WH-movement is probed in the same way (by a probing C searching for a WH-feature), and displays the same restrictions, for example it can apply long distance (provided that it is obeys familiar locality conditions):

(5)　　a. I wonder/read what you told me that I should read ~~what~~
　　　　b. I wonder/*read what book you told me that I should read ~~what book~~

3. Unprobed movement creates a label-less node

The fact that Merge typically results from a Probing operation does not imply that it has to. Rather, we assume with Chomsky (2008) that Merge, either external or internal (movement), is a costless operation applying freely.
However (2) severely constraints the application of free (=unprobed) Merge, as it is desirable (totally free Merge would be in conflict with the very notion of grammatical *constraints*). In fact, (2) implies that each time Merge is *not* Probed, its output will have *no* label. This is true both for external merge and for internal merge.
But, given (1), an object without a label has a very restricted distribution: it cannot be selected and no further computation can take place inside it. Given these restrictions, do label-less object actually exist? Probably, yes. There are at least three candidates for label-less objects:

> ➢ One candidate is objects that are complete, for example root clauses, since by definition they do not need to be further embedded. This makes some empirical

predictions. For example, this predicts that there should be cases of Merge to the root that are not possible in embedded positions. We go back to that prediction in section 4.

➢ It has been proposed that successive cyclic movement is a second candidate. With the exception of few cases attested in the literature (e.g. Irish, Afrikaans), where successive cyclic movement leaves some morphological marking in intermediate positions (McCloskey 1979; du Plessis 1977), we observe that *a)* intermediate steps appear not to be probed; *b)* the intermediate positions created by these unprobed steps must be obligatorily vacated. So, Bluemel (2011), Chomsky (2011) and Thom (2011) claim that the intermediate movement positions need to be vacated because, being unprobed, they involve a label-less structure. We shall focus on this in section 5.

➢ A third obvious candidate for label-less structure is adjuncts, since, by definition adjoined XPs are not selected, hence they are not probed. Again, this cannot happen freely. The syntactic object obtained when the adjunct XP is merged with the rest of the structure would have no label, and this would block further steps of the derivation. However, there is a way out: adjunction might apply postcyclically, after the derivation, which crucially needs labels, is completed. We go back to this in sections 10 and 11.

Our account of island effects will capitalize on the existence of these types of label-less objects.

4. Phase Impenetrability Condition and the notion of (strong) phase

Phase Impenetrability Condition (PIC)
The complement of a phase α is not accessible to operations at the level of the next highest phase β, but only the head and the edge of α are.
(cf. Chomsky 2001)

What PIC says is that a clause in an inaccessible domain. This is indeed the intuition under the notion of phase itself: once you have built a syntactic object which can live on its own, a cycle, you get rid of its internal structure unloading your computational space and sending it to the interfaces. However PIC also contains a weird exception: the head and edge of the phase is maintained in the computational domain.
We would like to claim that this exception can be dispensed with. What needs to be visible and maintained in the working space for the derivation to proceed is only the label of the structure, namely a set of the features of the "head" (informally, the features that project, i.e. categorial features). What about the "edge" exception in PIC?
Notice first of all that clauses are very special objects, in that they can be root structures, and in this sense they are unique among all the syntactic categories. This uniqueness of clauses is what underlies the idea that clauses are phases, i.e. cycles.
As mentioned, this peculiarity of clauses may entail another peculiarity: arguably root clauses (=sentences) do not need labels. Given (1), if labels are needed for a derivation to proceed (labels can trigger further computation) and feed external merge (through selection), when a structure is neither embedded nor triggers further computation it needs no label.
This derives immediately that clauses can host unprobed instances of movement, as in (6).

(6)   [ø A book [_C Mary likes ~~a book~~]]

Here the element which is moved is a phrase, and thus cannot qualify as a Probe. Target C is not (obviously) endowed with a morphological feature hence there is no evidence that it probes the moved phrase either: the structure is thus unlabeled. This is not a problem insofar it is a root structure.

If we are on the right track, there should be cases of "dislocation" or "topicalization" that are restricted to the root and are not possible in embedded contexts. In fact, such cases are reported in the literature for a variety of languages. These include: Hanging Topic as distinct from left dislocation in Romance (cf. Cinque 1977), Left Dislocation as distinct from Topicalization in English (cf. Lasnik and Uriagereka 1988) and right dislocation in strict head-final languages like Japanese and Turkish (cf. Kural 1997 and Tanaka 2001).

5. Deriving the 'escape hatch' status of the edge of the phase

What happens if a label-less clause needs to be embedded? By definition, it will need a label, since it must feed selection. There are two ways to get a label out a label-less structure, we claim. The first is through movement and the second is through relabeling. We focus on the latter in session 6. Here we focus on the first option.

Suppose that you have derived (7).

(7)   [ø Which book [_C Mary likes ~~which book~~]]

In a parallel way, you build up the derivation for the matrix clause (8):

(8) [_T you think _]

When (7) and (8) must be merged, the label-less layer in (7) must be destroyed, since the matrix verb must be able to select for C. This can be done only by vacating the unprobed moved phrase. This entails that 'which book' in (9) needs to move.

(9) [_C [which book] do you think [[~~which book~~] [_C Mary likes ~~which book~~]]]?

In turn this explains why the edge of the strong phase is an escape hatch, without stipulating this as PIC does.

Embedded WH-questions, like (10), do not constitute a problem, given the assumptions we made so far:

(10)   I wonder [_{CP} which book [Mary likes ~~which book~~]]

Here the operation of merging 'which book' at the edge of the phase is probed by C (which is interrogative). As a result the structure receives a label on the basis of the labeling algorithm (2) and its edge does not need to be vacated.

Let us now double check that nothing goes wrong with the structures discussed in section 2, involving WH head movement:

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(11) I wonder [$_C$ what [you read ~~what~~]]
(12) I read [$_D$ what [you read ~~what~~]]

When WH-head movement is involved, there are indeed two labeling possibilities, neither of which requires further movement: either C provides the label (it is the probe of the movement operation) and the structure is a clause (cf. 11), or the lexical item provides the label (by virtue of being a lexical item), and the structure ends up being a nominal clause (a DP), as in (12).

With this in mind we are now equipped for accounting for islands effects. Let us start from relativization islands.

6. The Complex NP Constraint in free relatives: relabeling and no labeling are incompatible.

Consider first the sharp contrast in (14)-(15), modeled after examples in Rizzi (1982). Keep in mind that 'who' free relatives are totally OK in Italian, cf. (13).

(13)   Chi ha telefonato sarà punito
       Who has phoned will-be punished
       The person who made a phone call will be punished

(14) ? A quale ragazzo sai chi ha telefonato *t*?
       To which boy (you) know who has phoned
       Which boy is such that you know the person who made a phone call to him?

(15)   *A quale ragazzo punirai chi ha telefonato *t*?
       To which boy (you) will-punish who has phoned
       Intended meaning: Which boy is such that you will you punish the person who made a phone call to him?

The contrast shows that (strong) islandhood is immediately connected with labeling: both in (14) and in (15) we have an instance of an embedded WH-movement probed by the same C head. In interrogatives, where the WH-element does not provide the label, the structure is only mildly deviant as an instance of a RM violation (cf. 14); in free relatives, where the WH-element provides the label, the structure is completely out (cf. 15). Let us see why it is so.

First of all, it is clear that in both cases 'to which boy' has moved passing through an intermediate step at the edge of the embedded clause. This step involves a temporary unlabeling of the structure, which is then destroyed by successive cyclic movement. In (14) this is possible: we are assuming that *a clause* can be label-less, as far as it is not further embedded. So, 'to which boy' can move unprobed to the edge of the (not yet embedded) clause, if we assume that the derivation of matrix and embedded clauses proceed in parallel. Of course, as soon as the clause gets embedded, the label-less layer needs to be eliminated. This forces the WH-element 'to which boy' to further move, as illustrated in (14').

(14') A quale ragazzo sai [$_\varnothing$ ~~a quale ragazzo~~ [$_{CP}$ chi [$_{TP}$ ~~chi~~ ha telefonato ~~a quale ragazzo~~]]?

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In (15), on the other hand, 'who' provides the label to the embedded structure, so it is not a clause but a DP. A DP cannot be a root, in that it is not a complete cycle. Thus it cannot be label-less. The consequence is that 'to which boy' cannot move unprobed to its edge, as illustrated in (15').

(15') * [$_\varnothing$ ~~a quale ragazzo~~ [$_{DP}$ chi [$_{TP}$ ~~chi~~ ha telefonato ~~a quale ragazzo~~]]]

Another possible derivation needs to be excluded, namely the one illustrated in (15'').

(15'') *chi [$_\varnothing$ ~~a quale ragazzo~~ [$_{TP}$ ~~chi~~ ha telefonato ~~a quale ragazzo~~]]

In (15'') first "to which boy' moves unprobed at the edge of the clause. This step is possible since clauses can be root and do not need a label. However things get wrong when we try to move 'who': if the structure has no label, no further computation is allowed inside it, given the definition of label in (1). This means that C cannot Probe for 'who'. If 'who' moves unprobed and then provides the label by virtue of being a LI, then the output is bad because there would be a label-less object which is not the root.
In a nutshell, successive cyclic movement is not allowed in free relatives, due a conspiracy of two factors:
(i) if the WH-D moves first, the WH-phrase ultimately targeting the matrix COMP cannot move, since its unprobed movement would create an unlabeled layer on the top of a nominal structure.
(ii) if the WH-phrase ultimately targeting the matrix COMP moves first, the WH-D cannot move since a layer with no label cannot trigger further computation.

7. Extending the account to other WH-structures: clausal adjuncts

It has been noticed that a number of adjunct clauses closely resemble free relatives in that they are introduced by a bare WH-element (this includes *when*-clauses, *where*-clauses and *how*-clauses) and their interpretation is roughly equivalent to a nominal + relative clause.

(16)   a. I sweat when he talks to the president t_{when}
        b. I sweat in the moment in which he talks the president

(17)   a. I fell where she fell t_{where}
        b. I fell in the place in which she fell

Interestingly, these clauses display the same ambiguity, and the same minimal contrast concerning WH-extraction just discussed.

(18) ?Who do you know when she meets ~~who~~?
(19) *Who do you sweat when she meets ~~who~~?

If we assume that these structures are indeed free relatives when they are interpreted as adjuncts, their strong islandhood can be explained along the same lines just presented: the relative interpretation is only obtainable if the WH-word moves to the edge of the embedded

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clause and provides a label to the structure: at this point the structure does not qualify anymore as a possible root, so unlabelled movement to its edge is banned (cf. 19'). If the WH-phrase ultimately targeting the matrix COMP moves first, the WH-D cannot move since a layer with no label cannot trigger further computation (cf. 19'').

(19') *[$_\varnothing$ ~~who~~ [$_{PP}$ when [$_{TP}$ she meets ~~who when~~]]]
(19'') *when [$_\varnothing$ ~~who~~ [$_{TP}$ she meets ~~who when~~]]

Finally, this analysis is likely to be extendable to clauses introduced by *after* and *before*, which appear to have an interpretation roughly equivalent to a nominal + relative clause (*I left before you called = I left in a moment preceding the moment in which you called*), embedded in a comparative construction.

8. The Complex NP Constraint in relative clauses: a HEAD raising analysis and its consequences

As we argued in previous work (Donati and Cecchetto 2011), full relatives can be fruitfully analyzed as involving head movement, as in (20). In (20) the movement of a head, 'journal', correlates with target relabeling: what moves is a N and the structure gets a N label, in accordance with the Probing Algorithm (2). This label matches the selection requirements of the externally merged D. This analysis inherits all the pros of the traditional raising analysis (the external head noun and the gap are transformationally related) but has the merit of explaining the fundamental properties of relative clauses, namely that they are clauses with a nominal distribution. We refer to our previous work for an analysis of cases in which the "head" of a relative clause looks like a phrase ("I like the journal *of linguistics* that reviewed that book").

More relevantly for our goal in this talk, this analysis makes full and free relatives alike in a fundamental respect. Both of them are cases in which a lexical item that moves "projects", namely relabels the target of movement. The fundamental difference is that what moves and relabels the target is D in free relatives but N in full relatives. The parallelism between full an free relatives is important, because it will allow us to use the same logic to explain island effects in both structures.

(20)   I like the [$_N$ journal [$_C$ that [$_T$ [$_D$ D ~~journal~~] reviewed that book]]]

Suppose we try to extract a WH-element out of a structure of this kind, triggering a familiar Complex NP Constraint Violation.

(21)   * Which book do I like the journal that reviewed?

In order to explain the ungrammaticality of (21), we first claim that, according to PIC, extraction of the WH-phrase 'which book' must involve an intermediate step at the edge of the embedded C. Since, given the raising analysis of relatives clauses that we are assuming, also the head 'journal' has to move, there are two derivations to be considered:

- "which book" moves before the head 'journal', as in (22):

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(22)　* [N journal　[ø　[which book] [C that [T [D journal] reviewed which book]]]]

In (22), however, the N 'journal' cannot be probed because a label-less syntactic object cannot probe anything given (1). If 'journal' moves unprobed and then provides the label, then the output is bad because there would be a label-less object which is not the root.
by virtue of being a lexical item, does provide the right label to this structure, which becomes an NP and can be merged with the external D 'the'. However, in (22) there is a label-less layer that is not at the root. The derivation crashes under the assumption introduced in section 4 that a label-less layer is permitted only at the root (of a clausal constituent).

- Another possibility if for 'journal' to move at the edge first, as shown in (23).

(23)　* [ø　[which book] [N journal　[C that [T [D journal] reviewed which book]]]]

In this position 'journal' can label the structure by virtue of being a lexical item, and the structure gets a nominal label. However, also the structure in (23) violates the constraint that a label-less layer is permitted only at the root of a clausal constituent, since the label-less node is at the top of a nominal structure and, by assumption, a nominal structure does not tolerate to be a root.
Concluding this section, we can say that successive cyclic movement is not allowed in *that*-relatives, due a conspiracy of two factors:
(i) if the head of the relative clause moves first, the WH-phrase ultimately targeting the matrix COMP cannot move, since its unprobed movement would create a label-less layer on the top of a nominal structure, and this is not allowed.
(ii) if the WH-phrase ultimately targeting the matrix COMP moves first, the head of the relative clause cannot move because this would embed an unlabeled layer.

9. The other side of the Complex NP Constraint. A generalized garden path effect?

As is well known, island effects are observed also when a WH-phrase is extracted out of what looks like the complement clause of a noun (but see Donati & Cecchetto 2011 for a different view about "noun complementation").

(24) * Which paper did you make the claim that Mary wrote *t* ?

In this talk, we would like to raise a red flag and propose that this type of island effects might be due to processing. Although at the moment we cannot provide any quantitative analysis supporting this, it seems pretty clear that relative clauses are much more frequent and more productive than completive clauses. For example, each noun that admits a complement clause admits to be modified by a relative clause, but clearly not the other way around (in fact, only a small subset of nouns can take completive clauses).
So, it is at least conceivable that, each time a speaker processes a structure like (25), (s)he goes for the relative clause interpretation and (s)he later needs to revise it, if 'that' is followed by a completive clause. Namely, each completive clause would introduce a garden-path effect.
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(25) The N that…..

If we are on the right track, it is clear why extraction from the complement clause of a N leads to a deviant output. Not only a garden-path is involved, but the analysis that needs to be revised involves an island violation (extraction from a relative clause, which we accounted for in section 8).
So, the processing cost with nouns taking complement clauses is very serious, because it involves re-analysis after an island effect has been triggered. We assume that this can explain the degraded status of sentences like (24).
A piece of evidence that we might be on the right track comes from the following contrast in Italian.

(27)   *Quale paese hanno dato l'ordine che invadessero ~~quale paese~~ ?
       which country have given the order that is invaded
       'Which country did they give the order that they invade?'
(28)   ?Quale paese hanno dato l'ordine di invadere ~~quale paese~~ ?
       which country they-have given the order to invade
       'Which country did they gave the order to invade?'

What the contrast appears to show is that it is more acceptable to extract from an *infinitival* noun complement clause, than from an inflected one. This contrast cannot be explained in terms of a general fact concerning extractability from infinitival clauses, as the data in (29) show.

 (29) a. *Cosa cerchi l'uomo a cui avevi affidato *t*?
           What you look for the man to whom you had given
        b. *Cosa cerchi l'uomo a cui affidare *t*?
           What you look for the man to whom to give

In relative clauses constructions, no asymmetry is displayed in extraction possibilities: extracting from a relative clause is as bad when the clause is infinitival as when it is inflected. The contrast with noun complement clauses calls for a different explanation. The garden path account we are proposing here provides a simple solution: extracting from a clause like (28) is not so bad because the 'interference' of the relative clause and the garden parth effect does not hold here: in Italian infinitival relative clauses cannot be introduced by *di*, as illustrated in (30).

(30)   *Ho comprato il libro di leggere con attenzione
       I bought the book to read carefully

10. *If* clauses
There are cases of strong islands that are less straightforwardly amenable to the kind of explanation that we have been proposing for full relatives, free relatives and islands like *when*-clauses.
A case at point is *if*-clauses:

(31)   If he talks to the president, I sweat

The reason why it is not straightforward to extend to (31) the account for free relatives should be apparent: 'if' is not a plain WH-word and, accordingly, it is not clear which gap it could leave inside the 'if' clause.

However, there are analyses in the literature that suggest that an extension of our account to *if*-clauses, is indeed possible.

First of all, 'if' may not be a plain WH-word but it does have an interrogative use in (some varieties of) English, cf. "I wonder if…". In fact, Kayne (1991) has argued that the conditional *if* and the interrogative *if* are one and the same element. As discusses by Bhatt and Pancheva (2006), that the "complementizer" introducing the protasis is a WH-word is even clearer in other languages including many Romance varieties (where the equivalent of *if* is the canonical complementizer of embedded yes/no question), German (where the equivalent of *if* is *wenn*, which also appears in *when* clauses) and Bulgarian (which also uses an interrogative complementizer to form a conditional clauses).

A second important observation is that, from an interpretative point of view, (31) is not fundamentally different from the correspondent *when*-clause, namely sentence (16b) above: "I sweat when he talks to the president". After all, (31), like (16b), can be roughly paraphrased by using a nominal + relative clause:

(32) I sweat in the situations/possible worlds in which he talks the president

Starting from this type of observation, Bhatt and Pancheva (2006) propose that *if*-clauses are just another case of free relative, where a WH-word (or a null operator) is a binder of a possible world variable. So, while a canonical free relative as "what John bought" is interpreted as the plural definite description ιx [John bought x], the *if*-clause "if he talks the president" is interpreted as the plural definite description ιw [he talks to the president in w]. Haegeman (2010) supports the analysis that posits an analogy between temporal clauses and *if*-clauses in a cartographic framework. All in all, if-clauses are not a serious challenge to the analysis we proposed.

11. *Because*-clauses: unprobed external merge?

Because-clauses are strong islands that introduce a different challenge. While temporal, locative and conditional clauses indicate that the event in the matrix and in the adjunct clause take place at the same time, place or situation, a *because*-clause does *not* say that the event in the matrix and in the adjunct clause take place for the same reason. Rather a *because*-clause indicates that the event in the matrix clause takes place as a direct consequence of the event in the adjunct clause. So, it does not seem to be the case that *because*-clauses are interpreted as plural definite descriptions of reasons or entities of that type.

(33)   I sweat because he talks to the president

In other terms, it is not likely for 'because' to bind a position inside the clause it introduces, and consequently a free relative analysis does not seem grounded in this.
We would like to explore an alternative analysis, capitalizing on the interpretive difference just mentioned and on a theoretical possibility we have left unexplored so far.

Let us briefly go back to Merge. If we take seriously the strong unification thesis according to which Internal Merge and External Merge are exactly the same operation, but for the fact that Internal Merge "remerges" a copy already present in one of the two objects that get merged, we expect that there should be cases where External Merge is not triggered and, under (1) and (2), it should produce a label-less object.

Adjuncts like *because*-clauses clauses might instantiate this configuration. Adjuncts, by definition, are not selected, hence they do not need to be probed. But, as in the case of successive cyclic movement, this has a cost. The syntactic object obtained when the adjunct XP is merged with the rest of the structure would have no label, and this would block further steps of the derivation. Therefore, by following this line of reasoning, we should conclude that adjunction is forced to take place post-cyclically, after the derivation, which crucially needs labels, is completed.

If this analysis is on the right track, an explanation for island-effects with adjunct clauses like *because*-clauses is at hand: *wh*-movement, being overt, cannot take place from a constituent that is inserted post-cyclically.

Notice that this account does not seem to be a viable alternative for the other adjuncts clauses we have discussed in this talk, such as *when/where/if/while* clauses, where the content of the clause is clearly integrated in the interpretation of the sentence and cannot be possibly left postcyclic. For example, under the analysis as a free relative, the interpretation of the trace of *when* in a *when*-clause depends on the interpretation of the matrix clause. Nothing like that happen in *because*-clauses. Since *because* (like a canonical complementizer) leaves no trace, the interpretation of the clause selected by *because* is independent from the main clause.

12. Very temporary conclusions

In this paper we have argued that a unified explanation for a large set of island effects is possible if one takes seriously the theory of labeling and asks what the few configurations in which labels are *not* necessary have in common.

There are island effects on which we said nothing. In some cases, notably weak islands resulting from Relativized Minimality configurations, we did so because we believe that there is already a well-established theory can account for them. In other cases, say subject island effects, we said nothing because they might be fundamentally different from strong islands, for which we tried to propose a unified account. Furthermore, we left open some important issues concerning adjunct islands.

Even if we were on the right track, one might ask why our approach (and other minimalist approaches as well) should be an improvement with respect to famous GB account of islands, say Huang (1982). We believe that those accounts were powerful and explicit empirical generalizations about the phenomena under consideration. What is needed (or is desirable) is an attempt to derive those generalizations from the primitives of the theory. We guessed that these primitives are a specific theory of labeling in syntax together with the familiar idea that the derivation must proceed by cycles in order to reduce the computational burden. We got some promising results but, admittedly, it remains to be seen how far this idea can be stretched.

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