PHASE THEORY, CASE AND RELATIVE CLAUSES

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0. Introduction[1]

The goal of this paper is to put forward an analysis of relative clauses which builds on Pesetsky & Torrego's (2001) proposal concerning the C-T connection and the nature of Case. In so doing, a unitary answer to two long-standing puzzles of the relative clause realm will be provided: the absence of both *that*-deletion and overt relative pronouns (unless introduced by a preposition) in Romance languages, which are shown in (1).

(1) a. El   hombre *(que) vi.   (Spanish)
        The man   that see-PST.1SG
        'The man (that) I saw'
     b. El   hombre *(con) quien habló.   (Spanish)
        The man   (with) who   talk-PST.3SG
        'The man who talked' / 'The man to whom (s)he talked'

As I argue below, the solution to the data in (1) will further prove useful in trying to explain a more general paradigm of asymmetries between English and Null Subject Languages which seems to point to Case Theory as the *Locus* of parametric variation; in particular, evidence will be provided showing that languages may differ with respect to the derivational stage at which subjects get their Case checked, with non-trivial consequences for additional operations taking place in the CP phase.

The present proposal differs from previous ones (cf. Arregui 1998, Bianchi 1999, Brucart 1992, Law 2002, Ojea 1992, and Toribio 1992, *inter alia*) in dispensing with cartographic, government and Optimality Theory based accounts, underscoring the important role of Case and its bearing on computational processes. The paper is divided as follows: in section 1, I lay out the system and technical operations I assume throughout; section 2 focuses on the recent revival of Vergnaud's (1974) 'raising analysis' of relative clauses by Kayne (1994), and the subsequent refinements introduced by Bianchi (1999); in section 3, I put forward a minimalist analysis for

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relative clauses that highlights the role of Case and the syntactic dependency between C and T. Section 4 summarizes the main conclusions.

1. T-to-C Movement

Much research and comparative work stemming from Den Besten (1983) has shown that a key syntactic relation exists between the functional categories C and T in natural languages. Such dependency is sometimes abstract, although it has mainly been explored in terms of familiar phenomena: verb movement to C (in V2 languages) and *that*-trace effects.[2] The conclusion drawn from that evidence seems to be that a T element has to move to C, a fact which Pesetsky & Torrego (2001) encode as follows:

(2)   *Motivation for T-to-C Movement*
       C bears an uninterpretable T feature (henceforth [uT]) with the EPP property.
                                                    [from Pesetsky & Torrego 2001: 360]

By the 'EPP property' Pesetsky & Torrego (2001) understand a trait of a feature, not a feature itself; put differently, if a feature F is endowed with the EPP property, it will trigger overt movement (what Chomsky 2004 dubs *internal-Merge*).[3]

In the context of the present discussion, it is important to step back a little bit and introduce the basics of an operation crucially related to movement:[4] *Agree*. Minimalism makes a central distinction between interpretable and uninterpretable features. As Pesetsky & Torrego (2004b) point out, this cut does not capitalize on features *per se*, but rather on whether a given feature makes a semantic contribution in the lexical item in which it appears. In this vein, Chomsky's (2000, 2001, 2004) attention is placed in the Case/Agreement systems, taking these notions to be the two sides of the same coin: φ-features (i.e., nominal inflectional features like gender, number and person) are interpretable in nouns, not in verbs; therefore —Chomsky argues—, uninterpretable φ-features placed in verbal morphology enter syntax without a value, which makes them act as a Probe seeking for a Goal, (typically) a DP down in the tree endowed with interpretable φ-features: the Goal's φ-features value those of the Probe, and, as a result, it receives structural Case. Chomsky (2000) calls this operation *Agree*.[5] Note that, as stated, all *Agree* cares about is valuation, not movement, but it is an empirical fact that valuation is followed by *internal-Merge* of the Goal under certain circumstances, creating a SPEC: this is precisely the role of the EPP property.

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[2] Cf. Koster (2003), Pesetsky & Torrego (2001), Rizzi (1990), and references therein.

[3] A reviewer asks what the difference between the EPP being a feature proper or a trait of a feature is. Technically, the difference is important: only *bona fide* features (e.g., φ-features) can *Match* other features by means of *Agree*. On the other hand, the EPP property, as understood in Pesetsky & Torrego (2001), cannot *Match* anything: it is simply a mechanism parasitic on *Agree*.

[4] I put aside the modifications in Chomsky (2005), where overt movement does not always invoke *Agree*.

[5] This process of long-distance checking dispenses with Chomsky's (1995) *Attract*, which was viewed as head-movement. Cf. Boeckx (2003a, 2003b, 2004) for dicussion.

    With this theoretical background in mind, I assume, following Pesetsky & Tor-
rego (2001), that whenever *internal-Merge* occurs, the relevant Probe has the EPP
property (making it 'strong', a notion supposed to capture the overt/covert nature of
operations in previous models).[6] Let us consider the examples in (3) in order to see
the role of the EPP property. Adopting the view that the traditional EPP (i.e., the
need for SPEC-T to be filled in) is related to T's φ-features, a language like Catalan
has the two options depicted in (3), depending on whether the EPP property is ac-
tive or not:

(3)   a. $[_{TP} [_T \text{Canta}_i [_T T_{[u\phi]}]] [_{v*P} \text{en } \text{Joan}_{[i\phi]} t_i]]$ (Catalan)
           sing-PRS.3SG   the Joan
           'Joan sings'
      b. $[_{TP} [_{DP} \text{En Joan}_{j\, [i\phi]}] [_T \text{canta}_i [_T T_{[u\phi,\, EPP]}]] [_{v*P} t_j\, t_i]]$ (Catalan)
           The Joan   sing-PRS.3SG
           'Joan sings'

    In (3) T's φ-Probe scans its complement domain looking for a Goal: the sub-
ject DP *En Joan*. The main difference between (3a) and (3b) has to do with *internal-
Merge*: in (3a) T's φ-features are not endowed with the EPP property (hence valua-
tion alone suffices), whereas in (3b), they are, triggering *internal-Merge* of the subject
DP.[7] [8]
    Let us now return to Pesetsky & Torrego's (2001) proposal. To start with, con-
sider the next paradigm, originally noted by Koopman (1983):

(4)   *T-to-C Asymmetry in Matrix Interrogative Clauses*
      a.   What did Mary buy?
      b.   *What Mary bought?
      c.   *Who did buy the book? [*unless *did* is focused]
      d.   Who bought the book?
                                              [from Pesetsky & Torrego 2001: 357]

    Descriptively speaking, what is going on in (4) is very clear: *do*-insertion is
blocked whenever a subject DP undergoes *wh*-movement to SPEC-C. Contrary to
Koopman's (1983) approach, which relied on government (a device no longer avail-
able within the current framework), Pesetsky & Torrego (2001) account for the ex-
amples in (4) by claiming that what we call 'Case' is an uninterpretable Tense feature
on D heads. Let me elaborate. For Chomsky (2000, 2001, 2004, 2005), Case fea-
tures have no matching counterpart whatsoever, they are purely formal uninterpret-
able features: when the φ-features of T and *v** are valued, the nominals they agree

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    [6] Cf. Chomsky (1993, 1995), Nissenbaum (2000), and Pesetsky (2000).
    [7] Note that this analysis does not invoke an expletive *pro* in SPEC-T, disregarding the universal-
ity of the EPP. Since this issue is orthogonal to the focus of this paper, I will put it aside. Cf. Boeckx
(2003b).
    [8] A reviewer is concerned about the preverbal vs. postverbal position of the subject DP and its bear-
ing on information structure. In the analysis I am assuming, those interpretive effects follow from T's
φ-features having (or not) the EPP property: if the subject is preverbal, it receives a topic interpretation;
if it is postverbal, a non-contrastive focus interpretation arises (cf. Belletti 2004). Accordingly, I take ef-
fects on information structure (what Chomsky 2004 calls *edge-semantics*) to follow from *internal-Merge*.

with get Case, period. The asymmetry is blatant, as Pesetsky & Torrego (2004b: 10) correctly note:

> The [Minimalist Inquiries]/[Derivation by Phase] framework does not view structural case as the uninterpretable counterpart of an otherwise interpretable feature. Instead, it is a *sui generis* feature with a special relation to the φ-features: it gets valued only as a by-product of φ-feature agreement. Thus, when the unvalued φ-features of finite T probe, on this approach, and find a suitable goal —for example, a DP with a full set of φ-features— the unvalued case feature of that DP gets valued as a kind of 'bonus'.

An alternative view on Case like Pesetsky & Torrego's (2001) is interesting inasmuch as it holds that all grammatical features have some potential semantic value. This is conceptually preferable and, furthermore, restores the asymmetry of Chomsky's view about structural Case: both T (formerly, Case) and φ-features have matching counterparts. The bottom line of this view can be stated as in (5):[9]

(5)   *The Nature of Case*
      Case is [uT] on D

Now, have a look at (4) again. What must be answered is why the subject's *wh*-movement does not trigger *do*-insertion, which is itself an instance of T-to-C movement within this system. According to Pesetsky & Torrego's (2001), *do*-insertion is barred because the nominative Case feature (that is, [uT]) of the subject DP can delete C's [uT], rendering *do*-insertion as redundant. Graphically:

(6)   a. [$_{CP}$ Who$_{i\ [uT]\ [iWh]}$ C$_{[uT, EPP]\ [uWh, EPP]}$ [$_{TP}$ t$_i$ bought the book]]
      b. *[$_{CP}$ Who$_{i\ [uT]\ [iWh]}$ did$_j$ C$_{[uT, EPP]\ [uWh, EPP]}$ [$_{TP}$ t$_i$ T$_j$ buy the book]]

Under (6) lies a core property of the computational system: economy. As the reader may easily see, if one operation suffices to check two uninterpretable features, no extra operations are needed. In (6a), the T feature of the subject DP is closer to C than T itself (taking strict c-command to signal closeness, cf. (8) below),[10] and, in addition, it can also be used to check the [uWh] feature:[11] by a principle of computational economy like (7), moving the subject DP should be enough to satisfy C's requirements, and it is indeed, as (4) shows. On the other hand, when object DPs move, T is always closer to C, so pure T-to-C movement (i.e., *do*-insertion) must occur.[12]

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[9] Cf. Svenonius (2002) for a similar view on Case.

[10] That is, what matters for being a closer Goal is strict c-command (putting aside equidistance-based definitions; cf. Chomsky 2001). This can be spelled-out as in (i), from Pesetsky & Torrego (2001: 362):

(i)   *Closeness*
      Y is closer to K than X if K c-commands Y and Y c-commands X.

[11] I assume that matrix interrogative C bears an uninterpretable [Wh] feature endowed with the EPP property. Things are different in Chomsky (2005), for all A'-Movements are triggered by EPP/*edge*-Probes. Since nothing I have to say here crucially hinges on this notational alternative, I will ignore it.
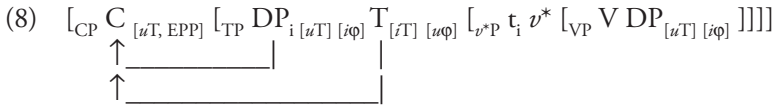
[12] At first glance, there is a non-trivial drawback to this proposal: how can it be the case that C's [uT] be valued by the subject's [uT], since both features are unvalued? First of all, it must be noted that this possibility is severely restricted, for an unvalued feature can be used to value another unvalued feature only within the phase it has been marked for deletion, as Pesetsky & Torrego (2004a) argue. Second, in

(7)   *Economy Condition*
       A head H triggers the minimum number of operations necessary to satisfy
       the properties (including EPP) of its uninterpretable features.
                                                    [from Pesetsky & Torrego 2001: 359]

As (8) shows, subject DPs are indeed closer to C than T, under strict c-command
(object DPs are obviously too buried in the structure, as noted):

(8) $[_{CP}$ C $_{[uT, EPP]}$ $[_{TP}$ DP$_{i\,[uT]\,[i\varphi]}$ T$_{[iT]\,[u\varphi]}$ $[_{v*P}$ t$_i$ $v*$ $[_{VP}$ V DP$_{[uT]\,[i\varphi]}$]]]]]

Are there any other cases of T-to-C movement? In Pesetsky & Torrego (2001),
that, the morpheme assumed to fill in the C position, is analyzed as a clitic head
doubling T which deletes C's [uT]. By parity of reasoning, the same should hold for
the so-called 'prepositional complementizers' (cf. Bresnan 1972, Kayne 2000 and Pe-
setsky & Torrego 2001, 2004a). Interestingly enough, this take on complementizers
derives *that/for*-trace effects straightforwardly:

(9)   a.   Who$_i$ did John say $[_{CP}$ t$_i$ C$_{[uT, EPP]}$ $[_{TP}$ t$_i$ called Mary]]?
       b.   *Who$_i$ did John say $[_{CP}$ t$_i$ that$_j$ C$_{[uT, EPP]}$ $[_{TP}$ t$_i$ T$_j$ called Mary]]?

(10)   a.   Who$_i$ would John like $[_{CP}$ t$_i$ C$_{[uT, EPP]}$ $[_{TP}$ t$_i$ to buy the book]]?
       b.   *Who$_i$ would John like $[_{CP}$ t$_i$ for$_j$ C$_{[uT, EPP]}$ $[_{TP}$ t$_i$ to$_j$ buy the book]]?

If *that* deletes C's [uT] and deletion of uninterpretable features is required for
convergence at the interfaces, one might now wonder what to do with *that*-de-
letion (cf. (11) below): how is C's [uT] deleted in those cases? Pesetsky & Tor-
rego (2001) argue that both TP and the DP in SPEC-T [13] are equally able to de-
lete C's [uT], since, c-command-wise, both are equally close to C (that is, they are
'equidistant').[14] [15]

(11)   a.   John thinks $[_{CP}$ that$_j$ C$_{[uT, EPP]}$ $[_{TP}$ Mary T$_j$ is gorgeous]]
       b.   John thinks $[_{CP}$ Mary$_{i\,[uT]}$ C$_{[uT, EPP]}$ $[_{TP}$ t$_i$ is gorgeous]]

For the purposes of the present section, we can stop at this point. I have presented
the main aspects of Pesetsky & Torrego's (2001) analysis of Case features (hence-
forth, [uT] features) and the C-T interaction. As we have seen, their proposal accounts for
some well-known phenomena in a unitary fashion, with the additional advantage of
giving Case a more coherent treatment within a Probe-Goal system.

Pesetsky & Torrego (2004b), a possible way out is sketched: all instances of T features form a sort of ab-
stract syntactic dependency (technically, *Agreement* is regarded as *Feature Sharing*; cf. Frampton & Gut-
mann 2000) so that an unvalued link is not 'alone' when valuing another unvalued feature appearing up-
stairs in the tree: the chain works 'together', as a whole, in valuation. Another possible implementation of
this technical solution is Hiraiwa's (2001) *Multiple Agree*. Cf. section 3 for more relevant discussion.
    [13] Although I say TP here, it is actually the T head that can move to C, being spelled-out as *that*.
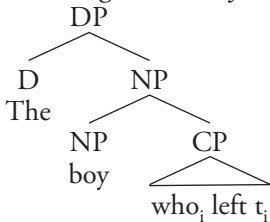Cf. Pesetsky & Torrego (2001) for details about 'equidistance' between TP and SPEC-T.
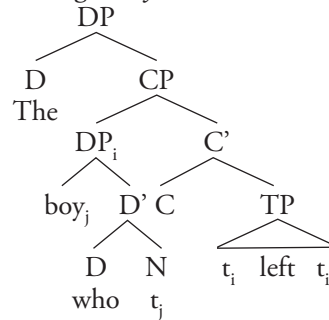   [14] Another possibility would be for C to delete its [uT] feature by mere *Agree*.
    [15] Cf. Chomsky (1993, 1995, 2000) and Hiraiwa (2001) on 'equidistance'. If this notion is elimi-
nated, as in Chomsky (2001), the possibility to use subject DPs' [uT] to value C's [uT] could still take
place in a *Multiple Agree/Feature Sharing* fashion, but I put this aside here.

2. The Raising Analysis of Relative Clauses

In this section I introduce some evidence in favor of the 'raising analysis' of relative clauses (originally proposed by Brame 1968 and developed later on by Schachter 1973, Carlson 1977, and specially Vergnaud 1974), focusing on Kayne's (1994) and Bianchi's (1999, 2000) particular implementations.

Taking the base position of their head as a classifying criterion, it can be said that relative clauses have received two main approaches in the literature:[16] the 'matching' and the 'raising' analyses. In the latter, the nominal head is generated inside the relative clause prior to its movement to SPEC-C; in the former, it is generated outside, and the relative clause is an adjunct. Consider these differences in (12):

(12a) *Matching / Wh-Analysis*[17]

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              DP
           /      \
         D         NP
        The      /    \
               NP      CP
              boy     /  \
                   who_i left t_i
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(12b) *Raising Analysis*

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                 DP
              /       \
            D          CP
           The      /      \
                 DP_i       C'
                /   \      /    \
             boy_j  D' C  TP
                   /  \      /  |  \
                  D    N   t_i left t_i
                 who   t_j
```

Due to the technical limitations imposed by the Antisymmetry framework, Kayne (1994) adopts the raising account: since right adjunction is not an option under Kayne's (1994) LCA, the relative CP and the D head must directly undergo *external-Merge*, as depicted in (12b). There is robust evidence in the literature supporting this analysis (cf. Bhatt 2002, Bianchi 1999, 2000, Brame 1968, Kayne 1994, Sauerland 2000, Schachter 1973, *inter alia*). Consider some examples from binding (13a), definiteness effects (13b), and idiom interpretation (13c):[18]

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[16] For a historical review cf. Bianchi (2002a, 2002b). For evidence suggesting that both analysis (i.e., *external* and *internal-head-Merge*) actually exist, cf. Sauerland (2000) and Szczegielniak (2004).

[17] The main difference between the *Matching* and the *Wh-* analyses is that the former involves two NPs (one of which gets deleted and replaced by a relative pronoun), whereas the latter involves just one. Importantly, both analyses share the idea that the relative clause is an adjunct to the NP: a constituent creating a two-segmented category (cf. Chomsky 1986), without altering the nature (i.e., the *label* or *type*) of the element it adjoins to.

[18] Citko (2001) points out some problems for the 'raising analysis', the most important one having to do with anti-reconstruction effects (cf. Chomsky 1993, 2004, and Lebeaux 1991). There is some controversy on these data (cf. Bianchi 1999: 109-115), but the contrasts seem rather clear: in (i), the R-expression *John* can take *he* as its antecedent. As (ii) shows, the same pattern holds in Spanish:

(i) [Which picture of Bill_z [that John_j liked]]_i did he_{j/*z} buy t_i ?

(ii) ¿[Qué   libro [que María_j recibió   ayer]]_i   crees   que pro_j leerá t_i antes?   (Spanish)
    What book that María get-PST.3SG yesterday think-PRS.2SG that read-FUT.3SG before
    'Which book that María got yesterday do you think she will read first?'

Under Chomsky's (2004) analysis of adjuncts, (i) and (ii) do not pose any problems for a raising account, since reconstruction only applies at the point where *Transfer* takes place (that is, reconstruction

(13) a. Mary bought the [picture of himself]$_i$ [$_{CP}$ that John$_j$ saw t$_i$]
   b. The men$_i$ [$_{CP}$ that there were t$_i$ in the garden] were all diplomats.
   c. The headway$_i$ [$_{CP}$ that John made t$_i$] proved insufficient.

In a nutshell, the data in (13) support an analysis in which the head is not external to the relative clause: instead, it must be generated in a clause internal position and then undergo *internal-Merge* with C. Consider the binding datum in (13a) in more detail, for instance: under fairly standard assumptions about Condition (A) (cf. Chomsky 1993), the anaphor *himself* must be c-commanded by its antecedent (*John*, in the case at hand) at SEM; crucially, for that scenario to emerge, *himself* must be reconstructed into a clause internal position, an operation consistent with the 'raising analysis'. The same logic applies in the other cases.

Going back to Kayne's (1994) proposal, it is important to highlight two of its aspects: it treats relative pronouns (e.g., *who*, *which*, etc.) as determiners of the relative head and it assumes that the derivation of relative clauses unfolds in two basic steps: 1) *wh*-movement of the relative DP to SPEC-C and 2) movement of the head to SPEC-D, stranding the relative D. Bianchi (1999) adopts the basics of Kayne's (1994) analysis, introducing some qualifications to which I return; before going into that, though, let me dwell on the D stranding operation for a moment: what I want to underscore here is the fact that such a process is optional, in the sense that relative clauses do not always contain a relative D, as is clear from the relativization patterns noted in Bianchi (1999):

(14) a. The book [$_{CP}$ *that*   I read]   *that*-relative
   b. The book [$_{CP}$ *which* I read]   *wh*-relative
   c. The book [$_{CP}$ ∅   I read]   *zero*-relative

The examples in (14) differ in the formal element introducing the relative clause: the complementizer *that*, the relative D *which*, and a null head. As I said, regardless of their theoretical affinities, Bianchi's (1999) analysis departs from Kayne's (1994) in non-trivial respects. I will consider two aspects here, those related to the examples I started this paper with (cf. (1)). The first one has to do with the analysis of *zero*-relatives (or, alternatively, the *that*-deletion option, cf. (14a,c)), while the second one affects an asymmetry concerning what I will call 'oblique relatives', that is, *wh*-relatives that display a preposition (e.g., *The man to whom I talked*).

Let us consider the analysis of *zero*-relatives before tackling the asymmetries of (1). Contrary to Kayne (1994), who argues for NP raising to SPEC-C when there is no relative D, Bianchi (1999), building on Longobardi (1994), postulates a null relative operator heading the constituent, a turn that correctly qualifies the operation as a sub-case of A'-Movement:

(15) a. [$_{DP}$ The [$_{CP}$ [$_{NP}$ book]$_i$ [$_{CP}$ (that) [$_{TP}$ I read t$_i$]]]]   Kayne (1994)
   b. [$_{DP}$ The [$_{CP}$ [$_{DP}$ D$_{REL}$ book]$_i$ [$_{CP}$ (that) [$_{TP}$ I read t$_i$]]]]   Bianchi (1999)

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only affects spelled-out copies, which are 'simplified' —reintroduced into the primary plane— by the time *Transfer* sends chunks of structure to PHON and SEM; cf. Chomsky 2004 for details).

By the end of the derivation, the internal null relative determiner D_{REL} incorporates into the external one by a government-based morphological process applying at PHON (when the relative D is overt, such incorporation does not obtain). Importantly, if a preposition intervenes between the external D and the internal one (i.e., D_{REL}), the derivation crashes, for incorporation fails, as (16b,c) show:

(16) a.   The man to whom I talked.
       b.   *The man to that I talked.   c.   *The man to I talked.

At the outset of this paper I pointed out that there are two remarkable differences between English and Romance relative clauses. The first one concerns *zero*-relatives: these are impossible in Romance, but not in English. Consider the case of Catalan:

(17) El   llibre *(que) vaig   comprar.   (Catalan)
      The book (that) AUX-1SG buy-INF
      'The book (that) I bought'

At the same time, only English allows *wh*-relatives —Romance must introduce them by using a preposition. This is the second asymmetry:

(18) The book which John read. (English)

(19) a. *El   libro el   cual   Juan leyó.   (Spanish)
          The book the which Juan read-PST.3SG
          'The book which Juan read'
      b. *L'uomo   il   quale veniva.   (Italian)
           The-man the which come-PST.3SG
           'The man who came'
      c. *L'homme lequel   venait.   (French)
           The-man the-which come-PST.3SG
           'The man who came'

That is, overt relative Ds must be introduced by a preposition in Romance for the derivation to converge. (20) confirms this.

(20) a. El   libro con el   cual   Juan estudió.   (Spanish)
          The book with the which Juan study-PST.3SG
          'The book with which Juan studied'
      b. L'home   amb el qual   va   venir.   (Catalan)
          The man with the which AUX-3SG come-INF
          'The man with whom (s)he came'

Adopting Rizzi's (1997) 'CP-Split Hypothesis', Bianchi (1999) postulates the next parameter in order to provide an explanation for these facts:

(21) *Topic Parameter*
       ± Topic optionally supports the features [+declarative] and [+relative]
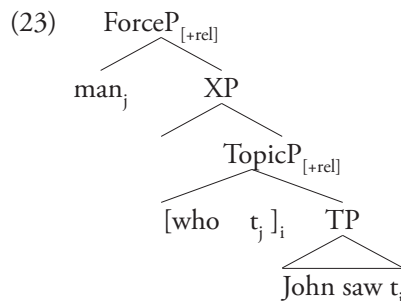   [from Bianchi 1999: 186]

According to (21), Rizzi's (1997) Topicº can be endowed not only with a [+topic] feature (the default scenario), but also with [+declarative] and [+relative] ones. Crucially, such a repertoire is possible only in English, not in Romance. Furthermore, since it is null, this functional head is supposed to play a key role in *that*-deletion by Bianchi (1999): if Topicº bears [+declarative], an embedded declarative clause obtains (e.g., *Mary said John had left*); if it bears [+relative], then a *zero*-relative does (e.g., *The book John read*). However, notice that Topicº alone is not enough to derive *wh*-relatives: an extra head is needed, one which is supposed to carry [+relative] features by default —Rizzi's (1997) Forceº. Things being so, English (a language for which (21) is marked positively), but not Romance, has two different heads being able to bear a [+relative] feature: Forceº and Topicº. This is the key of Bianchi's (1999) analysis.

The facts in (18)-(19)-(20) have been addressed in the recent literature by many authors —some of them within the Government-and-Binding framework— (cf. Arregui 1998, Brucart 1992, Gutiérrez-Rexach & Mallén 2003, Law 2000, Ojea 1992, and Toribio 1992, *inter alia*). It is quite telling that Kayne (1994: 90) himself acknowledges that he does not understand what is going on; he just notes that Romance languages seem to lack 'enough room' in the CP-field for the head to strand the relative D:

> The contrast between English, on the one hand, and French and Italian, on the other, can be stated by allowing English to use the specifier position of the *wh*-determiner itself as a landing site […] (*At present, I have no account of why French and Italian differ from English in this respect.*) <Emphasis added: AJG>

Under Bianchi's (1999) account, therefore, *wh*-relatives have no problem in English, for this language has a positive setting of (21). In particular, Bianchi's (1999) analysis of (22) is as in (23) (irrelevant details omitted):[19]
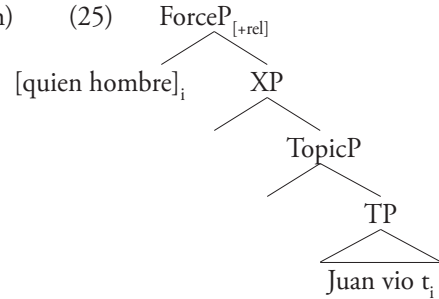
(22) The man who John saw.

(23) ForceP$_{[+rel]}$
     man$_j$ XP
              TopicP$_{[+rel]}$
     [who t$_j$]$_i$ TP
                        John saw t$_i$

Given that Romance languages only have one of the two required landing sites for *wh*-relatives (again, due to (21)), the derivation of (24) is doomed.

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[19] Note that the derivation of *wh*-relatives by Bianchi (1999) is different from Kayne's (1994) in that the relative head does not land in the SPEC of the relative D, but rather in the SPEC of Rizzi's (1997) Forceº.
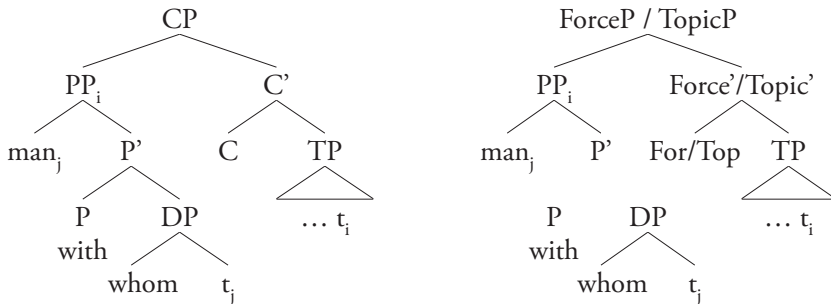
(24) *El hombre quien Juan vio.   (Spanish)   (25)   ForceP$_{[+rel]}$
         The man   who   Juan see-PST.3SG
         'The man who Juan saw'   [quien hombre]$_i$ XP

                                                                                            TopicP

                                                                                                      TP

                                                                                                Juan vio t$_i$

In (25), the relative DP *quien hombre* (Eng. *who man*) reaches the first available SPEC (namely, SPEC-Force), but then the relative head (i.e., *man*) cannot move any further, for there is no available SPEC with the [+relative] feature upwards in the tree.

As for 'oblique relatives', both groups of languages are able to license SPEC-P as a landing site for the relative head. The only remarkable difference concerns the landing SPEC of the moved PP: Kayne (1994) uses a standard CP structure, whereas Bianchi (1999) takes both TopP and ForceP to be potential landing sites.

(26) *Oblique Relatives* [from Kayne 1994]   (27) *Oblique Relatives* [from Bianchi 1999]

                              CP   ForceP / TopicP

                  PP$_i$ C'   PP$_i$ Force'/Topic'

            man$_j$ P'   C   TP   man$_j$ P'   For/Top   TP

                      P   DP   … t$_i$ P   DP   … t$_i$
                  with   with
                         whom   t$_j$ whom   t$_j$

In this section I have summarized the basic properties of Bianchi's (1999) and Kayne's (1994) 'raising' proposals. In principle, both analyses (specially Bianchi's 1999) seem to account for the main data, but they fail to provide a principled explanation of the asymmetries teasing English and Romance languages apart. In this respect, notice that one important drawback to Bianchi's (1999) analysis is that it must stipulate the *Topic Parameter*, which, despite building on Rizzi's (1997) 'CP-Split-Hypothesis', seems to contradict it, for it goes against one of the central claims by Rizzi (1997): each projection checks a unique feature, satisfying a dedicated *Criterion*. Given these problems, I will explore an alternative analysis in the next section.

3. The Proposal: a T-to-C Movement Account

Having seen the most recent analyses of relative clauses, now I turn to a proposal that assumes Pesetsky & Torrego's (2001) findings regarding T-to-C movement and

Case Theory. Importantly, I also assume (28) as a principle of cyclic derivational dynamics:

(28) *Timing of Deletion of Uninterpretable Features*
      An uninterpretable feature [uF] marked for deletion (i.e., $\overline{[u\text{F}]}$) within a completed phase P, is deleted the moment a new head H is merged to P.
                                                    [from Pesetsky & Torrego 2004a: 516]

In plain English, (28) can be paraphrased as follows: uninterpretable features can enter in checking processes within the phase they have been marked for deletion, but not beyond —when a new phase starts, all the features of the previous one become inert/useless for computational purposes.

What features does C have in relative clauses? I propose that, apart from [uT], C be endowed with an additional uninterpretable relative feature [uRel], whose nature is similar to a typical [Wh] feature.[20] This feature works as expected: as a Probe looking for a Goal in its c-command domain. Let us see how the three types of relative clauses in (14) would be analyzed under this proposal. Consider *wh*-relatives first.

(29) a. The man who loves Mary.
      b. [$_{DP}$ The [$_{CP}$ C$_{[u\text{T, EPP}] [u\text{Rel, EPP}]}$ [$_{TP}$ [$_{DP}$ who man]$_{[i\text{Rel}] \overline{[u\text{T}]}}$ loves Mary]]]
      c. [$_{DP}$ The [$_{CP}$ [$_{DP}$ who man]$_{i\ [i\text{Rel}] \overline{[u\text{T}]}}$ C$_{\overline{[u\text{T, EPP}]}\ \overline{[u\text{Rel, EPP}]}}$ [$_{TP}$ t$_i$ loves Mary]]]

How are C's features deleted in (29)? I argue that both [uRel] and [uT] are deleted by moving the relative subject DP: just like in matrix interrogative questions, and following Pesetsky & Torrego (2001), I assume that, in English, the [uT] of a subject DP can be used to delete C's [uT]. But we are not done yet; once we have arrived this far, what triggers the next movement? (i.e., what makes the N *man* in (29) strand the relative D *who*).[21] For Kayne (1994) and Bianchi (1999) the answer is clear: the head must be in a configuration where it can receive Case, either by government or by another checking mechanism.[22] Either way, we need some motivation for the head to move. Being extremely naïve about it, there are three candidates that come to mind:

(30) a. The external D.
      b. An extra head between the CP and the external D.
      c. C itself.

We can dismiss the third option right from the beginning: it would require not only to posit a new feature on C, but also to suppose that *Agree* can engage an ex-

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[20] The proposal assumes that the [Rel] feature is interpretable in relative pronouns (as seems plausible), but not in C. This is consistent with the way of identifying relative clauses: by locating a relative operator. In other words: clauses are not relative or interrogatives *per se*, but rather because they contain an element which bears the [Rel] or [Wh] dimension as a defining characteristic.
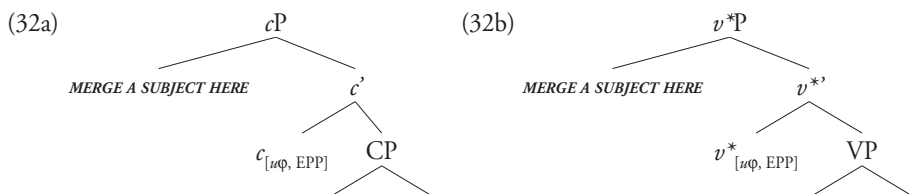
[21] Notice that this D stranding process is very bizarre. If correct, this may indicate that relative DPs are not phases, at least not in Chomsky's (2000, 2001) terms (recall that phase heads cannot be stranded).

[22] Actually, in Bianchi (1999, 2000), the entire process is even more obscure, since the head also moves in order to check a strong categorial feature that the external D is endowed with.

ceptional probing procedure (Probes can only scan their c-command domain, which does not include SPECs). Since the first option is essentially Kayne's (1994) and Bianchi's (1999) (or a slightly modified version of it, whereby the head moves to check its Case —an analysis incompatible with the Case Theory I am assuming here) let us explore the second one: an extra head. I will dub this head "c" in order to capture the fact that it is reasonably analogous (though not identical) to v^* within the VP-system, in the sense that it introduces a 'subject of predication'.[23]

(31) $[_{cP}$ man$_j$ $[_{c'}$ $c_{[u\phi,\ EPP]}$ $[_{CP}$ [who $t_j]_{i\ [iRel]\ [uT]}$ $[_{C'}$ $C_{[uT,\ EPP]\ [uRel,\ EPP]}$ $[_{TP}$ t_i left t_i]]]]]

The final picture would be as in (32), which focuses on the EPP property I associate to the ϕ-features of both v^* and c:

(32a)   cP   (32b)   v*P

MERGE A SUBJECT HERE   c'   MERGE A SUBJECT HERE   v*'

                  $c_{[u\phi,\ EPP]}$ CP $v^*_{[u\phi,\ EPP]}$ VP

So far, nothing has been said about the fact that relative clauses do not show *that*-trace effects when subjects are relativized. I will assess this matter right now, since it is related to Bianchi's (1999) *that/zero*-relatives. The relevant structures are the ones in (14a,c), repeated here as (33a,b) for convenience:

(33) a. The book $[_{CP}$ *that* I read]   *that*-relative
      b. The book $[_{CP}$ ∅   I read]   *zero*-relative

In the system I am assuming, *that*-trace effects follow from *that* being a T head, as Pesetsky & Torrego (2001) hold. As for *that*-deletion, it involves the merger of the subject DP with C. This was previously shown in (11), repeated here as (34):

(34) a. John thinks $[_{CP}$ that$_j$ $C_{[uT,\ EPP]}$ $[_{TP}$ Mary T$_j$ is gorgeous]]
      b. John thinks $[_{CP}$ Mary$_{i\ [uT]}$ $C_{[uT,\ EPP]}$ $[_{TP}$ t_i is gorgeous]]

All other things being equal, then, one would expect that relativization of subjects produce the same results that moving subjects do elsewhere (e.g., *that*-trace effects and the possibility of dropping complementizers), but things are not equal: no *that*-trace effects obtain and complementizers cannot be dropped[24].

(35) The boy *(that) called Mary.

---

[23] Like v^*, c has the property of creating SPECs that go beyond s-selection. Unlike v^*, however, c does not seem to display different semantic flavors nor assign Case. Beyond that, notice that nothing really hinges on the label: I use c, but it could perfectly turn out to be that the most appropriate one is Bowers's (2001) Pred°. In fact, if this proposal is on track, c and v^* may be simply phasal counterparts of Pred°.

[24] In Bianchi's (1999) system, the anti-*that*-trace effects are explained through a much more complex set of assumptions that rely on a cartographic approach and the government mechanism, unavailable in the current framework. Cf. Bianchi (1999: 231-237) to see the details.

Note that the issue only arises with *that/zero*-relatives, which are analyzed as involving a null relative D by Bianchi (1999), as indicated in (36):

(36) a. The boy that called Mary.
      b. [$_{DP}$ The   [$_{CP}$ [$_{DP}$ D$_{REL}$ boy]$_j$ [$_{CP}$ that [$_{TP}$ t$_j$ called Mary]]]]
      c. [$_{DP}$ The+D$_{RELi}$ [$_{CP}$ [$_{DP}$ t$_i$ boy]$_j$ [$_{CP}$ that [$_{TP}$ t$_j$ called Mary]]]]   (at PHON)

Recall that, in Bianchi (1999), *that* corresponds to Rizzi's (1997) Force°, but we must follow a different route, given what I have been assuming all along (i.e., *that* is a T head). Here I would like to argue that there is a way of accounting for the impossibility of dropping the complementizer in (35) and the lack of *that*-trace effects in a unitary fashion. First, I hold that the operation in (36b) is not possible, since a covert operator cannot pied-pipe lexical material, as argued by Chomsky (2001):[25]

(37) [An] EC [Empty Category] disallows pied-piping

[from Chomsky 2001: 28]

The good news of (37) is that it also accounts for the data in (38): (38b) and (38c) are out because the null relative D cannot pied-pipe the preposition *in*.

(38) a. The school in which I studied.
      b. *The school in I studied.   c. *The school in that I studied.

Things being so, suppose that relative DPs, when headed by a null D, never reach SPEC-C, obligatorily remaining in their first-Merge position. At this point, two questions emerge: 1) how does the head appear before *that*? and 2) how are C's [uRel] and [uT] deleted? I would like to suggest that the relative head moves to SPEC-*c* in order to delete *c*'s φ-Probe; as for the second question, I claim that C's uninterpretable features are deleted as follows: [uT] by moving a T head (i.e., *that*) and [uRel] by mere *Agree* between [uRel] and the null relative D. If the derivation unfolds as just indicated, the lack of *that*-trace effects receive a straightforward answer. Moreover, note that we also derive why *that* must be present: because there is no other way to check C's [uT] (the subject DP is too far away this time). The whole process is indicated in (39):

(39) [$_{cP}$ boy$_k$ [$_{c'}$ $c_{[u\varphi, EPP]}$ [$_{CP}$ that$_i$ C$_{[uT, EPP]}$ $_{[uRel]}$ [$_{TP}$ T$_i$ [$_{v*P}$ [$_{DP}$ D$_{REL}$ t$_k$]$_{[iRel]}$ saw Mary]]]]]

What about cases in which object DPs are relativized? As before, different options are available:

(40) a. The car [$_{CP}$ *which* John sold]   *wh*-relative
      b. The car [$_{CP}$ *that*   John sold]   *that*-relative
      c. The car [$_{CP}$ ∅   John sold]   *zero*-relative

---

[25] A reviewer wonders what happens with bare nouns if (37) is correct: how can they be pied-piped? The logic of the proposal forces us to assume that regardless of whether bare nouns are just NPs (cf. Chomsky 2000) or else they contain a DP layer (with possible N-to-D movement), it must be N that gets pied-piped.

The derivations would be roughly as in (41), which already incorporates the additional cP layer:[26]

(41) a. $[_{DP}$ The $[_{cP}$ car$_j$ $c_{[u\phi, EPP]}$ $[_{CP}$[which t$_j]_i$ $_{[iRel]}$ John$_{z[uT]}$ C$_{[uRel, EPP]}$ $_{[uT, EPP]}$ $[_{TP}$ t$_z$ sold t$_i]]]]$
     b. $[_{DP}$ The $[_{cP}$ car$_j$ $c_{[u\phi, EPP]}$ $[_{CP}$ that$_i$ C$_{[uRel]}$ $_{[uT, EPP]}$ $[_{TP}$ John T$_i$ sold $[_{DP}$ D$_{REL}$ t$_j]_{[iRel]}]]]]$
     c. $[_{DP}$ The $[_{cP}$ car$_j$ $c_{[u\phi, EPP]}$ $[_{CP}$ John$_i$ C$_{[uRel]}$ $_{[uT, EPP]}$ $[_{TP}$ t$_i$ sold $[_{DP}$ D$_{REL}$ t$_j]_{[iRel]}]]]]$

Note that, when in SPEC-C, the relative object DP of (41a) can only check C's [uRel]: other strategies must be used to delete C's [uT], for the [uT] feature of object DPs is never alive long enough to do that job.[27] As usual, the candidates to delete C's [uT] are T itself and the subject DP. However, for reasons that are not clear to me, only the latter possibility yields a correct outcome.[28]

(42) a. *The car which that John sold.   b. The car which John sold.

Finally, witness how other constituents show different relativization strategies as well. In (43) and (44), we have 'oblique relatives', with and without pied-piping:

(43) a. The person whom John lives with.   *wh*-relative
     b. The person that   John lives with.   *that*-relative
     c. The person   John lives with.   *zero*-relative

(44) a. The person with whom John lives.   *wh*-relative
     b. *The person with that   John lives.   *that*-relative
     c. *The person with   John lives.   *zero*-relative

(44b) and (44c) are directly ruled out under (37), but the remaining patterns are all possible. Given that I assess 'oblique relatives' in the remainder of this section, I do not delve into the derivational details of (44a) and (43a,b,c).

Let us then go back to the mysterious paradigm in (18)-(19). To begin with, recall Bianchi's (1999) explanation of the problem: English has the two landing sites needed to derive *wh*-relatives —namely, SPEC-Force and SPEC-Topic. Given that her analysis cannot be recast in our terms, an alternative explanation must be found. An empirical fact worth considering in connection with such an asymmetry is preposition stranding: Romance lacks it. However, promising as it may seem at first sight, this cannot be the solution: languages like Bulgarian and Russian, which also lack preposition stranding, display regular *wh*-relatives.

(45) a. Ira govorila s mal'čikom, kotoryj govorit po-ispanski.   (Russian)
        Ira speak-PST.3SG with boy who speak-PRS.3SG Spanish
        'Ira spoke to the boy who speaks Spanish'

---

[26] According to (37), in (41b) and (41c) I am assuming that the relative DP, being headed by a null D, must stay in its first-Merge position (i.e., its theta-position). If this is so, C's [uRel] must be deleted by *Agree*, but then a problem emerges: [uRel] has to scan within v*P's domain, overriding Chomsky's (2000, 2001) *Phase Impenetrability Condition*. A possible way out to this drawback is to suppose covert *internal-Merge* of the relative DP to an outer-SPEC-v* (cf. Pesetsky 2000 and Nissenbaum 2000): since, strictly speaking, pied-piping is not invoked, the process does not violate (37).

[27] Recall that under Pesetsky & Torrego's (2001) proposal, the [uT] feature of object DPs is always deleted at the v*P phase level, so it is by definition impossible for it to delete C's [uT].

[28] There is still another possibility: C's [uT] is deleted by *Agree* alone.

b. Edin chovek koito govori s Bill.   (Bulgarian)
    A person who talk-PST.3SG to Bill
    'A person who talked to Bill'

Crucially for my purposes here, the restriction on *wh*-relatives of Romance languages is also found in one specific environment of English, as noted by Bhatt (1999), Cinque (1982), Huddelston et al. (2002), and Pesetsky (1998): infinitival clauses. As these authors point out, the phenomenon has not received any satisfactory account.[29] Consider, in this sense, Bhatt's (1999) surprise when noticing the asymmetry:

> With finite relative clauses and contra reduced relatives, object infinitivals permit relative pronouns cf. 14a.

(14)   a.   A Knife [[with which] $_i$ C° [PRO to cut the bread t$_i$]]
       b.   *A knife [[which] $_i$ C° [PRO to cut the bread with t$_i$]]
            (compare with *A Knife which John cut the bread with*)
       c.   *The book [[which] $_i$ C° [PRO to read t$_i$]]
       d.   A Knife [Op$_i$ C° [PRO to cut the bread with t$_i$]

> However, unlike finite relative clauses, overt material can be present in the [Spec, CP] of an infinitival only if it is part of a pied-piped PP. *It is not well understood why this difference exists between finite relative clauses and object infinitival relatives.* <Emphasis added: AJG>. [from Bhatt 1999: 13]

Huddelston et al. (2002) make the same point:

> This construction is limited to somewhat formal style. It is found only with integrated relatives, and is subject to the following severe structural restrictions:
> [2]
>
> i. *The relative phrase must consist of preposition + NP.*
> ii. There can be no expressed subject.
>
> The first restriction excludes examples like *She's the ideal person whom to invite* and *I'm looking for an essay question which to challenge the brighter students with* (where the preposition is stranded rather than being part of the relative phrase). Condition [ii] rules out *She's the ideal person in whom for you to confide*, and the like. *There is no evident explanation for the first restriction*, but the second is predictable from the properties of wh relative clauses and infinitivals taken together: infinitivals allow subjects only when introduced by the subordinator *for*, but this cannot occur in wh relatives since both it and the relative phrase require to be in initial position. <Emphasis added: AJG>. [from Huddelston et al. 2002: 1067]

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[29] Bianchi (1999) explains the case of infinitival clauses in a way that is coherent with her proposal: infinitival clauses do not have a Topic Phrase, a projection which is needed in *wh*-relatives' derivation.

In this paper I would like to argue that the asymmetry in (18)-(19) does have to do with a parameter, but not with Bianchi's (1999) *Topic Parameter*. The gist of the analysis I want to put forward runs as follows: subject DPs in Romance languages (and those of English infinitival clauses) can never be moved to SPEC-C to check C's [uT] because their own [uT] has already been deleted (that is, it has not been just marked for deletion, but actually expunged). If attracting a subject DP is not an option, then attracting a PP is the most economical alternative to delete both [uRel] and [uT]. The reader may now wonder how a PP can help delete C's [uT]; in this respect, I assume, with Pesetsky & Torrego (2004a), that prepositions are a species of T, a claim that should not be controversial, since, after all, prepositions have usually been taken to be Case-checkers:[30]

> It is also a common observation that elements of the prepositional vocabulary are found in C. This led Emonds (1985: chap. 7) to suggest that the category C be understood as a species of P. Our treatment of English *for*, however, suggest that such elements are actually instances of T whose presence in C is due to movement —a hypothesis that might be plausibly extended to similar phenomena in other languages. What common property unites members of the supercategory that contains both prepositions and traditional instances of T? We suggest […] that this supercategory unites those predicates that situate events and individuals in time and space. [from Pesetsky & Torrego 2004a: 510]

If this reasoning is tenable, then there are three candidates to delete C's [uT] in infinitival clauses with a PP that contains a relative D, as indicated in (47):

(46) *Infinitival Relative Clauses*
[$_{CP}$ C $_{[uRel, EPP] [uT, EPP]}$ [$_{TP}$ PRO [$_{v*P}$ ... [$_{PP}$ [$_{DP}$ D$_{REL}$ …]] ...]]]

(47) *Candidates to Delete C's [uT]*
1. The subject DP (i.e., PRO)[31]
2. T (being spelled-out as a preposition, unless *Agree* is invoked)
3. The PP containing a relative D (assuming Ps are a species of T)

The problem for the first option is rather murky: it seems that PRO (unlike subject DPs in matrix interrogatives and embedded declaratives) cannot be used to de-

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[30] A reviewer asks a tough question: if P is a species of T, why do we get *do*-insertion even with PP-*wh*-questions? This is true: T-to-C movement occurs in English in those cases too (e.g., *To whom did you give the flowers?*). As I argue in Gallego (2006) this follows from the very analysis I put forward here: if v*P is a phase, then *wh*-phrases must stop at its *edge* (that is, v*'s SPECs) in their way to the CP layer, given successive cyclic movement; note that, once in SPEC-v*, a P pied-piped by a *wh*-phrase is not closer to C than T itself, so T-to-C movement (that is, *do*-insertion) is still compulsory. A completely different scenario is at stake in the case of Null Subject Languages: since TP qualifies as a phase —as I will claim by the end of this section— a P pied-piped by a *wh*-phrase is closer to C than T because it stops at SPEC-T (i.e., the phase *edge*), not SPEC-v*, so T-to-C movement can be blocked, and it is indeed, as I show in Gallego (2006). The facts, therefore, provide additional support for my analysis.

[31] Due to space limitations I cannot consider the issue of whether a raising analysis of control (cf. Hornstein 2003) is relevant for the facts under discussion.

lete C's [uT]. In fact, this might be related to the general impossibility of moving the subject of an infinitival clause, in both Spanish and English:[32]

(48) a. *No sé   quién comprar los libros.   (Spanish)
           Not know-PRS.1SG who buy-INF the books
           'I don't know who to buy the books'
      b. *I wonder who to solve the problem.

The second option (i.e., moving T) is also useless: it would require the appearance of the prepositional complementizer *for*, which, in turn, seems to force the presence of an overt subject DP, conflicting with PRO and its 'Null Case' (or whatever is responsible for its special behaviour; cf. fn. 30):

(49) a.   [$_{CP}$ For$_i$ C$_{[uT, EPP]}$ [$_{TP}$ Mary to$_i$ win the lottery]] would be great.
      b. *[$_{CP}$ For$_i$ C$_{[uT, EPP]}$ [$_{TP}$ PRO to$_i$ win the lottery]] would be great.

The remaining candidate is the only possibility left: moving the oblique relative phrase is the only option for infinitival relatives to converge. But why? I want to argue that the answer lies in the economy principles that rule the computational system. If a PP is attracted to C, all its uninterpretable features can be deleted at once: P, being a species of T, deletes C's [uT], while the relative D deletes C's [uRel].

Let us shift our attention to Romance languages, and, more specifically, to Spanish. Consider the relevant asymmetry one more time: *wh*-relatives must be introduced by a preposition.

(50) a. *El   hombre {quien/el cual}   habló.   (Spanish)
           The man   {who/the which} talk-PST.3SG
           'The man who talked'
      b. *El   libro el cual   Juan leyó.   (Spanish)
           The book the which Juan read-PST.3SG
           'The book which John read'

(51) a. El   hombre con quien hablé.   (Spanish)
          The man   with whom talk-PST.1SG
          The man I talked to'
      b. El   hombre a quien vi.   (Spanish)
          The man   to who see-PST.1SG
          'The man who I saw'

As I see it, there are three possible causes for this:

(1) The relative DP *quien hombre* or *el cual hombre* (Eng. *{who/the which} man*) cannot be generated.

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[32] Cf. Pesetsky & Torrego (2001: 416, fn. 69) for discussion. I put to the side facts like (i), noted by Torrego (1996), since they deserve a more careful consideration:

(i) No sabemos   {quiénes/cuáles/cuántos}   leer   este libro.   (Spanish)
     Not know-PRS.1PL {who/which-ones/how-many} read-INF this book
     'We do not know {who/which ones/how many}-of us read this book'

(2) *Quien hombre* can be generated, it moves to SPEC-C, but then *hombre* cannot been subextracted.

(3) *Quien hombre* can be generated, but it never reaches SPEC-C.

Here I argue that (3) correctly describes the problem. In Pesetsky & Torrego's (2001) system subject DPs' $[uT]$ features can remain 'alive' until the CP is built up. I argue that that of Spanish subject DPs cannot; this would explain why Spanish lacks the patterns in (52), since they both involve merging the subject DP in SPEC-C to check C's $[uT]$ (note that in (52a) this implies that *How intelligent* is in an outer-SPEC-C; as for (53b), cf. (11) in section 1).

(52) a. $[_{CP}$ How intelligent$_{i[\sqrt{Wh}]}$ $[_{CP}$ Mary$_{j[\sout{uT}]}$ C$_{[\sout{uWh, EPP}]\,[\sout{uT, EPP}]}$ $[_{TP}$ t$_j$ is t$_i$]]] !
b. I know $[_{CP}$ John$_{i[\sout{uT}]}$ C$_{[\sout{uT, EPP}]}$ $[_{TP}$ t$_i$ called her]]

Compare (52) with their Spanish word-by-word translations in (53) -as expected, they are impossible, for the Case feature of *María* and *Juan* cannot delete C's $[uT]$:

(53) a. *¡Qué inteligente María es!   (Spanish)
b. *Sé Juan la llamó.   (Spanish)

If all this is on the right track, then T must be the *Locus* of the asymmetry. If the T feature of subject DPs in Spanish become derivationally 'dead' by the time the CP is being assembled, this must mean that TP, and not v*P, is a strong phase in Romance languages. Consequently, the phase systems of English and Romance languages would be as depicted in (54):
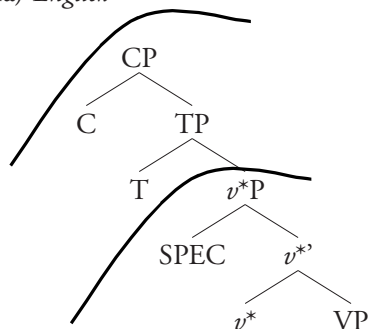
(54a) *English*   (54b) *Romance*
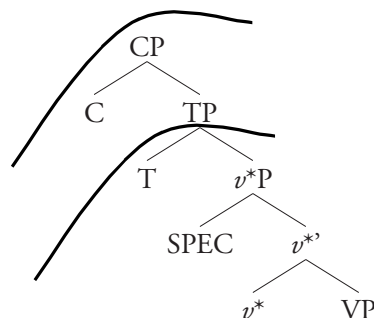
Note that (54) does not claim that Romance has more phases than English, but rather that the v*P phase is somehow 'pushed up' to the TP level.[33] [34] If correct, phe-

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[33] Therefore, all languages have two strong phases. This said, it is not so clear that being 'propositional' is what defines 'phasehood' (cf. Chomsky 2000). Actually, the facts seem to support a view under which morphological 'convergence' is the relevant criterion (cf. Uriagereka 1999a); in particular, note that TP is the minimal domain in which all case features are assigned a value. Accordingly, TP is, case-wise, a convergent domain. Cf. Gallego (2006) for a development of this idea.

[34] A similar conclusion was reached by Rizzi (1982), who phrased his claim in terms of 'bounding nodes'. For more related proposals that ultimately signal to a similar parameter, cf. Gallego (2006), where I argue that this 'pushing up' is related to head movement, a controversial claim given the alleged phonological status of this operation (cf. Chomsky 2001).

nomena like *that*-trace effects, clitic climbing (as discussed in Kayne 1989),[35] subject inversion, and, interestingly, the relativization patterns of Romance languages regarding *wh*-relatives can receive a unitary account: since subject DPs cannot be attracted to C to delete its [*u*T] in Romance, the only way for the intended derivations to converge is by moving a T element: either T itself or a preposition.

All in all, we can stop this section here. The main goal of the preceding lines was to provide an analysis of relative clauses under Pesetsky & Torrego's (2001) system, paying special attention to the asymmetry in (18)-(19). As I have tried to show, those facts are not as isolated as one might think: on the contrary, they are closely related to an important parameter which has T (and Case Theory) as its *Locus*.

4. Conclusions and possible extensions of the analysis

In this paper I have put forward a minimalist analysis of relative clauses that endorses Pesetsky & Torrego's (2001) proposal concerning the syntactic interaction between C and T, and the nature of Case. I have reviewed the main aspects of the so-called 'raising analysis' of relative clauses, focusing on Kayne's (1994) treatment and Bianchi's (1999) subsequent modifications. It has been claimed that relative clauses do involve *internal-head-Merge*, and an extra functional head creating predication as well (i.e., a little *c*). The analysis has departed from government and cartographic based approaches, arguing that Chomsky's (2001) generalization about empty categories can explain the absence of *that*-trace effects in relative clauses. Finally, a new account for two long-standing asymmetries between English and Romance languages has been presented, one that capitalizes on the notion of *phase* (a hallmark of the Minimalist Program); in particular, I have argued that Case convergence obtains in an earlier derivational stage in Romance languages than it does in English: the [*u*T] of subject DPs is marked for deletion in SPEC-v^*, not SPEC-T (cf. Uribe-Etxebarria 1992), which renders it inactive for computational affairs in the CP phase. The strongest conclusion which one can arguably draw, therefore, is that phases (or computationally convergent domains) do not behave in a uniform way cross-linguistically. Note that although this may in principle seem problematic, it is still sound within minimalism, for it is consistent with the possibility that, besides Chomsky's (2000) conceptual motivation (i.e., reduction of computational load), phases may emerge by bare output demands, hence supporting the *Strongest Minimalist Thesis* that language is an optimal solution to interface conditions.

To conclude, I would like to speculate one possible extension of the analysis which concerns the 'island' status of relative clauses. Consider first the facts:

(55) a. *Which boy$_i$ did Mary talk to [$_{DP}$ the [$_{cP}$ person [$_{CP}$ who saw t$_i$]]]?
      b. *Where$_i$ did you see [$_{DP}$ the [$_{cP}$ boy [$_{CP}$ who works t$_i$]]]?
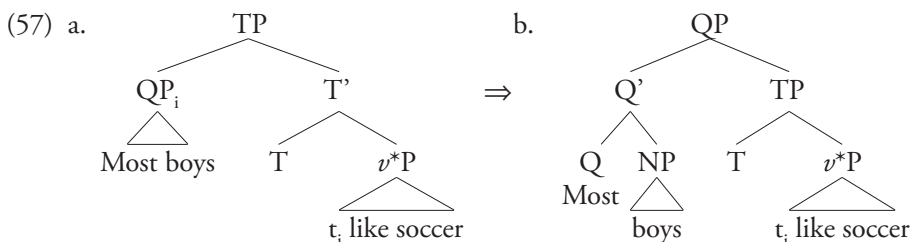
As (55) shows, relatives behave as 'strong islands' (cf. Cinque 1990 and Stepanov 2001), hence barring all types of movement. Under Chomsky's (2004) analysis,

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[35] Recall that Kayne (1989) argued that T (at that time, INFL) was able to L-mark the VP in Romance so that 'barrierhood' of VP was eliminated, allowing clitic climbing. As far as I can see, this is perfectly coherent with what I am saying, since 'barrierhood' shares obvious properties with 'phasehood'.

the problem in (55) would trivially follow from adjuncts being placed in a "parallel plane" within Narrow Syntax: since pair-Merge (the operation dealing with adjunction) is designed in such a way that it eliminates all canonical dependencies (e.g., dominance, c-command, etc.), no Probe-Goal dependency can be established, and, therefore, extraction from within the relative clause becomes impossible. Although this account seems plausible at first glance, it must be noted that it is rather unlikely that the argument-adjunct asymmetry plays a real role with regards to extraction. I say this because movement out of a complement CP is also barred:

(56) a. *Who$_i$ did John like [$_{DP}$ the idea [$_{CP}$ that people should vote t$_i$]]?
     b. *Why$_i$ will Mary listen to [$_{DP}$ the proposal [$_{CP}$ that John must be killed t$_i$]]?

(55) and (56) clearly suggest that the relevant factor is the 'nominal' nature of the structures.[36] In this respect, I would like to speculate that the internal-head-Merge analysis which I have assumed in this paper might shed some light on these facts. In particular, I would like to suggest that once the relative head has reached the *c*P layer, it triggers a process of syntactic type-shifting which Hornstein & Uriagereka (2002) dub *Reprojection*. In their proposal, Hornstein & Uriagereka (2002) focus on binary quantifiers (e.g., *all*, *most*, etc.), which, for the right semantics to obtain, must provoke a 'relabelling' at LF by which they are able to take the TP as their second argument (i.e., their nuclear scope). Roughly, the details are as in (57): first the QP *Most boys* raises to SPEC-T, and then the Q head 'relabels' the whole structure.

(57) a.
                        TP
                  ┌──────┴──────┐
               QP$_i$ T'
               △   ┌─────┴─────┐
          Most boys   T   *v*P
                                  △
                              t$_i$ like soccer

⇒

     b.
                        QP
                  ┌──────┴──────┐
                 Q'   TP
             ┌────┴────┐   ┌────┴────┐
             Q   NP   T   *v*P
            Most △   △
                 boys   t$_i$ like soccer

Given the logic of (57) one might wonder why *Reprojection* applies only at LF. Hornstein & Uriagereka (2002) argue that this derivational delay prevents computational tampering concerning (a) Chain Uniformity and (b) Checking Domains (in Chomsky's (1993, 1995) sense). Furthermore, since *Reprojection* is a semantics-driven operation, it is sound for it to apply at LF (i.e., the SEM component), where effects like (58), the ones Hornstein & Uriagereka (2002) want to capture, take place:

---

[36] Admittedly, this says nothing about why simple nominal complements (i.e., all non-specific object DPs) are not islands.

[$_{CP}$ Of which city$_i$ did John buy [$_{DP}$ a picture t$_i$]]?

I know of no explanation for the contrast between the data in (56) and (i). Plausibly, Richard's (2005) analysis on extraction provides a solution: in his system, only complement CPs which *Agree* with a higher *v** allow extraction. Obviously, relative CPs differ from both complement CPs and regular object DPs in that they do not agree with any functional category, remaining "opaque" for extraction.

(58) *Nobody gave most children a red cent.

<div align="right">[from Hornstein & Uriagereka 2002: 110]</div>

In (58) the desired LF licensing relation between *Nobody* and the NPI *a red cent* is blocked by the QP *most children*, which induces an intervention effect. Importantly, note that the problem goes away if we use a unary quantifier such as *two*, for it does not need to trigger *Reprojection* (cf. (59a)). Also, as (59b) indicates, the process does qualify as a covert one, for otherwise extraction of *What* should be out:
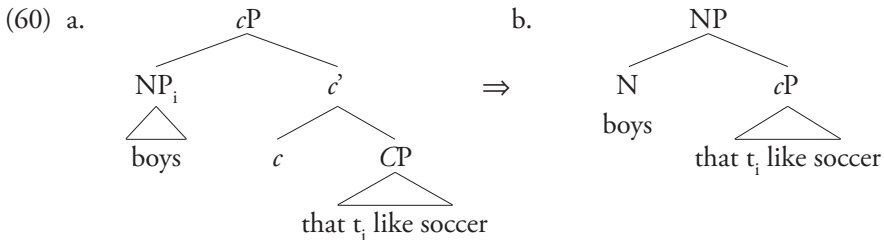
(59   a. Nobody gave two children a red cent.
       b. $What_i$ did nobody give most children t_i ?

<div align="right">[from Hornstein & Uriagereka 2002: 110]</div>

(58) and (59), then, support an analysis of LF-islands along the lines of Hornstein & Uriagereka's (2002): when binary quantifiers remerge as SPECs of T, we get a configuration in which they can take the TP as a regular dependent by means of *Reprojection*, turning it into a complex SPEC which is rendered out-of-sight for LF dependencies (e.g., *Agree*, *Attract*, XP covert movement, etc.).

There are grounds, however, to disregard the technical problems which force Hornstein & Uriagereka (2002) to delay *Reprojection* until LF. On the one hand, Chain Uniformity could be obviated if the system is strongly derivational and can 'forget' about immediately previous steps; on the other hand, the preservation of Checking Domains is no longer needed once their primitive status has been rejected (cf. Chomsky 2000).

This said, suppose *Reprojection* can apply as the derivation unfolds. At some point, the crucial step would be as indicated in (60), irrelevant details omitted:

(60) a.

```
            cP
           /  \
        NP_i    c'
         /\    /  \
        /  \  c    CP
       boys        /\
                  /  \
             that t_i like soccer
```

⇒

b.

```
         NP
        /  \
       N    cP
       |    /\
      boys /  \
      that t_i like soccer
```

Note that the overt *Reprojection* in (60) can buy us what we want: the *c*P becomes a complex SPEC (an island; cf. Huang 1982 and Uriagereka 1999b) within Narrow Syntax. If the technical problems Hornstein & Uriagereka (2002) note can be put aside as I just said, then we arrive at a quite clean account for why relatives are strong islands; the analysis, moreover, has the advantage of accounting for the fact that the relative clause (like any other adjunct) behaves as if it was not there apart from semantic interpretation, which allows us to capture the fact that the entire construction has a nominal nature. There is, nevertheless, an important problem for (60): the process is unmotivated. In the cases Hornstein & Uriagereka (2002) discuss, this matter does not even arise, for binary quantifers must always take their second argument, so *Reprojection* is welcome (actually, it is needed). It is tempting to argue that the head-raising analysis of relative clauses only involve heads, for then we could claim that there is a process of 'projection' of the element that undergoes internal-Merge (in Donati's 2004 terms; cf. also Chomsky 2005); however, as we see, NP can

also do the job. I leave this question unsettled with no useful comment. The possibility of resorting to overt *Reprojection* processes seems to me to be a fair move (within certain limits, of course), but I realize that, in (60), a coherent motivation for it to apply is lacking.

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