T-TO-C MOVEMENT AND ACCUSATIVE CASE ASSIGNMENT.
A CORRELATION BASED ON WH-EMBEDDING

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ABSTRACT: This paper inquires into the asymmetrical phenomenon of the absence of T-to-C movement in embedded wh-interrogatives. In the light of the hypothesis that both matrix and embedded wh-interrogatives display a constant interpretative effect, it is shown that what surfaces as interrogativity in embedded clauses is not the result of a positively marked [+wh]-feature passed from a selecting verb to the complementiser. Instead, it is the derivative effect of CP's argumental decomposition due to the deficient case assignment between [V[v]] and [C]. What then in standard analyses is postulated to be a representational interrogative feature in complementary distribution with T-to-C movement, in the present analysis is shown to be the materialisation of the deficiency in accusative case assignment, analysed as a function inverse to T-to-C movement.

KEY WORDS: wh-interrogatives, T-to-C movement, accusative case.

MOVIMIENTO T-A-C Y ASIGNACIÓN DE CASO ACUSATIVO. UNA CORRELACIÓN BASADA EN LA INCRUSTACIÓN DE CLÁUSULAS QU-

RESUMEN: Este artículo indaga sobre el fenómeno asimétrico de la ausencia del movimiento de T a C en cláusulas interrogativas qu- incrustadas en inglés. A la luz de la hipótesis de que ambas, tanto las cláusulas interrogativas qu- principales como las incrustadas, manifiestan un efecto interpretativo constante, se demuestra que lo que se detecta como un efecto interrogativo en las cláusulas incrustadas no es el resultado de un rasgo [+qu] positivamente marcado y pasado de un verbo seleccionando al C. En cambio, se trata del efecto derivativo de la descomposición argumental de CP, debido a la asignación deficiente de caso entre [V [v]] y [C]. Consecuentemente, lo que en el análisis estándar se postula como un rasgo interrogativo representacional en distribución complementaria con el movimiento de T a C, en el presente análisis se demuestra que es la materialización de una deficiencia en la asignación de caso acusativo, analizada como una función inversa del movimiento T a C.

PALABRAS CLAVE: cláusulas interrogativas qu-, movimiento T a C, caso acusativo.

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INTRODUCTION[1]

One of the phenomena of English language whose analysis offered one of the cornerstones over which the generativist approach to grammatical descriptions was founded was auxiliary inversion in interrogative clauses (Chomsky 1957). The reason that made them a good candidate for a transformational, or generally speaking a derivational analysis, was the fact that the variant structural position of an interpretable feature, namely Tense, corresponded to distinct interpretations. Thus, the pair between a declarative and an interrogative clause was grasped as a reflection of an interpretative correlation between two clausal forms that only differ regarding the position where Tense surfaces:

1. Mary had bought the tickets
2. Had Mary bought the tickets?

Extending the transformational paradigm to wh-interrogatives where a wh-expression like *what* is involved, the interrogative clause was analysed as a derivative of two distinct transformational operations: Tense dislocation and wh-movement (Chomsky 1977). More specifically Tense moves from its original position into one above the subject and the wh-expression originates as an argument within the verb phrase but raises into the highest position of the clause:

3. Mary bought what
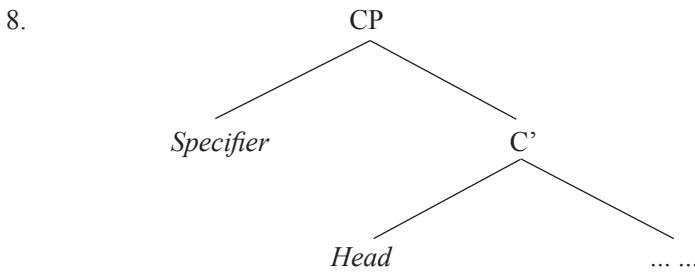4. What did Mary buy?
5. [CP   C [Mary [*i-T*] buy -*wh*]?

Treating the highest position of a clause as an interface between syntax and discourse, the domain that wh-movement and Tense movement target as a landing site was considered to fall into the universal categorisation of complementiser. The latter precisely represented the link between two domains: one embedding and one embedded. This link can take either the form of clausal subordination as in (6) where a matrix clause embeds a subordinate one or discourse embedding as in (7) where a matrix clause is directly embedded into discourse:

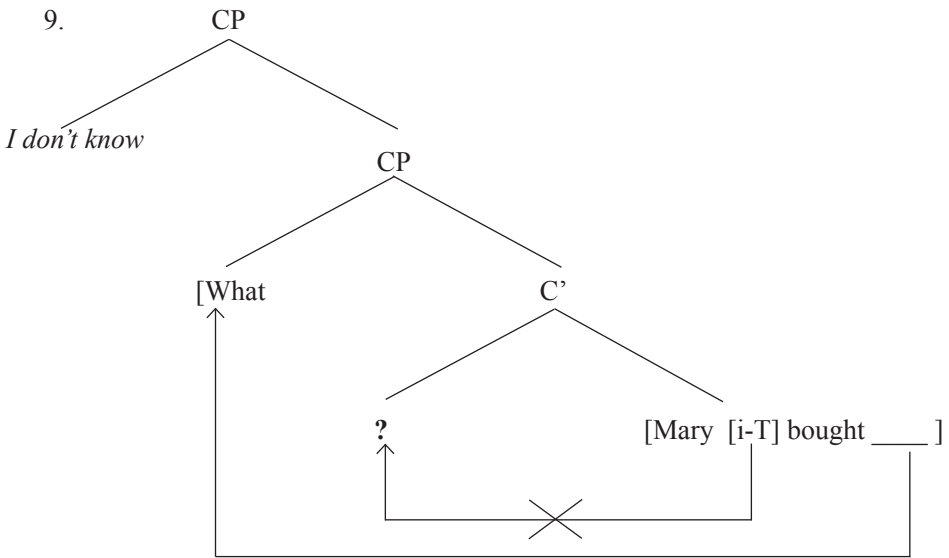6. [I don't know [what Mary bought]]
7. [DISCOURSE [what did Mary buy]]?

Although the postulation of complementiser position was a step forward in the direction of the theoretical corroboration of the concept of structural uniformity

(Rizzi 1988), it also posed new challenges regarding the empirical treatment of structural asymmetries within the same interpretative paradigm. More concretely, the very assumption that Tense movement into the complementiser, later formulated as T-to-C Movement (Pesetsky and Torrego 2001, 2004), does have an import to the interpretation of interrogative clauses as such runs into problems if the structural domain of complementiser is taken to universally include both a head and a specifier position as shown in (8):

8.

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                        CP
                       /  \
                      /    \
                     /      \
                Specifier    C'
                            /  \
                           /    \
                        Head    ... ...
```

This is so because there can be found structures where it seems as if the C-head position is not filled with anything. One example is embedded object wh-interrogatives where T-to-C Movement is not operative:

9.

```
            CP
           /  \
          /    \
   I don't know  CP
                /  \
               /    \
           [What     C'
                    /  \
                   /    \
                  ?    [Mary [i-T] bought ____ ]
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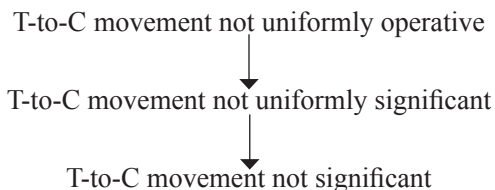
For structural analyses where uniformity is taken seriously, the challenge that embedded wh-interrogatives pose is that the one-to-one correspondence postulated between form and meaning is not overtly maintained. This is so, because embedded wh-interrogatives are interpreted as such without T-to-C Movement taking place. Thus, either uniformity does not hold or the interpretative import of T-to-C Movement is satisfied otherwise.

T-to-C Movement has been established to be an instance of *head movement* (cf. Matushansky 2006). The presence of Tense in the C-head being overtly supported by the insertion of the verb *do* is a good indicator that *what* indeed occupies the specifier of the CP and not C itself. But in the light of structural uniformity referred to above it is also plausible to consider the participation of T-to-C Movement in the interpretation of wh-interrogatives as such as doubtful. This is so because the absence of T-to-C Movement in embedded contexts is obligated in Standard English (SE henceforth) and in other English dialects like Belfast English (BE henceforth), if not prohibited, it is at least optional (Henry 1995).

Semantically vacuous optionality, theoretically being a big no in minimalist analyses (Chomsky 1995), clearly poses a problem on treating T-to-C Movement as having an attribution to the interpretation of wh-interrogatives as such. In other words, in the same way that we expect an interrogative wh-expression to land in the CP-Specifier both in matrix and embedded clauses, in much the same sense we would expect T-to-C Movement to be operative in both matrix and embedded wh-interrogatives. The line of argumentation seems to proceed in the following manner:

10.

<div style="text-align:center">

T-to-C movement not uniformly operative

↓

T-to-C movement not uniformly significant

↓

T-to-C movement not significant

</div>

But it seems that in any case the issue of optionality does come into play. Leaving aside for a moment the matrix-embedded asymmetry in wh-interrogatives, there is another asymmetry, interpretive in this case, that poses analogous problems. This is the case of the interpretive contrast between embedded wh-Interrogatives and embedded wh-free relatives:

11.   <u>Interrogative</u>
    I don't know what Mary bought ⎤
                        ⎬ superficially identical
12.   <u>Free-relative</u>
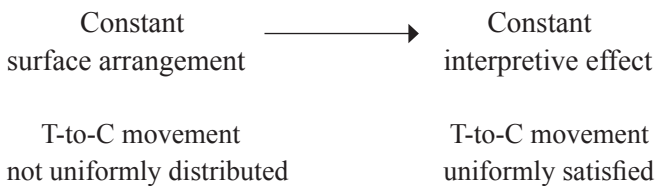   I don't want what Mary bought ⎦

Although no difference is observed in terms of surface arrangement, it is commonly assumed that in the former the wh-expression behaves as the specifier of the CP, whereas in the latter it somehow projects as the head of it. Chomsky (2008), in accord with a similar analysis in Donati (2006), has suggested that the two possibilities are predicted by an algorithm that somehow renders optionality an obligatory choice. In the case of an embedded wh-CP, when the internally merged expression is *what*, the

system is equally directed towards two choices: either the wh-expression projects as the CP-label, thus rendering a free-relative interpretation, or the C-Head itself projects, thus yielding a wh-interrogative interpretation. Such an analysis by default overrides any necessity of reference to auxiliary inversion, which is simply non operative in embedded contexts. Such an account feasibly relegates from the discussion the relevance of T-to-C Movement whose obligatoriness is exclusively met only in matrix interrogatives.

The question that arises then is summarised as follows: can in any sense T-to-C Movement be relevant to the distinction between wh-interrogative and free-relative interpretation although it is not met in the examples above in first place? And could this relevance be coherently and uniformly related to any interpretive effect also met in matrix interrogatives?
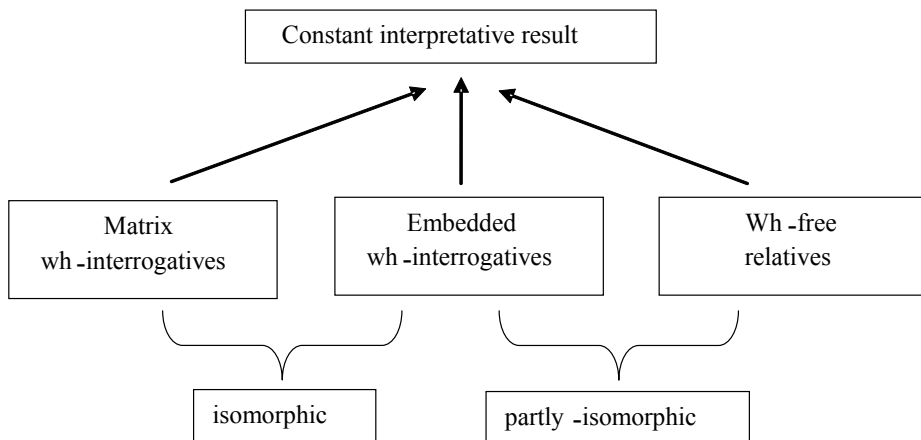
Accounting for this question requires a shift in the focus of the analysis regarding what is to be kept constant. I said before that the binary choice algorithm of Chomsky (op. cit.) implicitly focuses on the constant character of surface arrangement of the embedded wh-CP, thus resorting to the algorithm itself for yielding an interpretive asymmetry. But in effect this account does not have anything to say on the interpretation of matrix wh-interrogatives. What a comprehensive analysis needs then is incorporate the relevance of T-to-C Movement, by shifting its focus on the constant character of the interpretive result of wh-interrogatives in both matrix and embedded clauses, in order to account for the surface variation met:

13.

Constant surface arrangement	$\longrightarrow$	Constant interpretive effect
T-to-C movement not uniformly distributed		T-to-C movement uniformly satisfied

Crucially, matrix and embedded wh-interrogatives are taken to be *isomorphic* towards a constant interrogative interpretation. That first means that there must be an one-to-one correspondence between the structurally decomposed interrogativity between matrix and embedded wh-questions. Second, the free-relative interpretation must be based not on its superficial similarity to its interrogative counterpart, but on its partial isomorphism to it. This partial isomorphism is nevertheless able to disqualify the structure of free relatives for an interrogative interpretation, based on some minimal structural difference, as shown in (14):

14.

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                    ┌─────────────────────────────────┐
                    │  Constant interpretative result │
                    └─────────────────────────────────┘
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┌──────────────────┐   ┌──────────────────┐   ┌──────────────────┐
│   Matrix   │   │   Embedded   │   │   Wh -free   │
│ wh -interrogatives│   │ wh -interrogatives│   │   relatives   │
└──────────────────┘   └──────────────────┘   └──────────────────┘

┌──────────────────┐   ┌──────────────────┐
│   isomorphic   │   │ partly -isomorphic│
└──────────────────┘   └──────────────────┘

The aim of this paper is to show that an analysis of the relevant phenomena that keeps the wh-interrogative isomorphism as a constant can give an insight into the mechanisms of an interesting correlation: that between T-to-C movement and accusative case assignment. The former is taken to be the relation relevant to the matrix interrogatives, whereas the latter to the embedded ones. I will show how these two relations treated as derivative effects can be decomposed further into abstract primitives and how the matrices consisting of these primitives can display a one-to-one correlation with each other that results to their structural isomorphism.

The rest of the paper is organised as follows: in sec.2 I put forth the hypothesis that there is a specific structural effect associated with T-to-C Movement which consists in decomposing the argumental unity of a CP wherein it applies, which in turn is concomitant to the articulated Logical Form representation of a wh-interrogative. This interpretative result must be kept constant in both matrix and embedded wh-interrogatives, towards which any asymmetries must be accounted for; sec.3 re-evaluates the relevance of selection to the asymmetry and it concludes that although selection is the structural context wherein the asymmetry is observed, it does not constitute the determinant factor. This leads me to review Rizzi's (1996) analysis on wh-criterion and conclude that what is postulated to be a positive [+wh]-feature that is passed from [V[v]] to C and obviates the need for T-to-C movement is actually a case of default wh-raising. Dispensing with the need for a [+wh]-feature leads my analysis in sec.4 to a further neutralisation on the role of selection, taking T-to-C movement to be an instance of CP-internal selection; sec.5 takes a closer look at accusative case assignment as a derivative and substitutes it for [+wh] as the determinant factor of the asymmetry. Analysing CP-external accusative case assignment as a function inverse to CP-internal T-to-C movement, I explore the possibility that deficient case assignment induces CP-internal argumental decomposition. The latter generates the projection of the raised wh-expression that probes for a value into discourse; sec.6 takes over

the analysis of the functional significance of the deficiency under discussion, based on the dual participation of the wh-expression in argumental as well as discourse interpretation; sec.7 gives the concluding remarks.

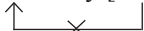## 2. T-to-C Movement and argumental unity

Pesetsky and Torrego (2001, 2004) have argued that T-to-C Movement has a licensing effect over the extraction of a CP. Crucial to their analysis is the assumption that Complementiser *that* is a realisation of an instance of interpretable Tense which has moved from its original position in T into C. They generalise, stating that an argument must bear Tense. They consider Tense then to be an indispensable condition over the *argumentisation* of a grammatical unit like a CP, which subsequently enables a *that*-CP to move as a grammatical unit:

15. [$_{CP}$ That Mary [i-T] bought the tickets] makes me happy.

16. *[$_{CP}$ Mary bought the tickets] makes me happy.

But it seems that this condition as stated does not hold unqualified. Taking auxiliary inversion to be a typical and undoubted instance of T-to-C Movement, we can observe that its application in wh-interrogatives definitely degrades the extraction of a CP from its original position, even in BE examples where as we saw T-to-C movement in embedded wh-interrogatives is generally allowed:

17. [$_{CP}$ What Mary bought] is unknown

18. *[$_{CP}$ What did Mary [i-T] buy] is unknown

It seems then that T-to-C Movement has a blocking effect over CP-extraction instead. Extraction of an element feasibly locates the latter as a unit. The inability of a wh-CP to raise as a subject when T-to-C movement applies CP-internally tells us something about an intrinsic link between T-to-C Movement and argumental unity. That interestingly leads to a direction opposite to that drawn by Pesetsky and Torrego. I argue then that what we observe as a blocking effect induced by T-to-C movement in wh-interrogatives consists precisely in the decomposition of the argumental unity of the grammatical object wherein it applies.

Aligning the structural effect of decomposition with the LF-articulation of an interrogative wh-clause, I argue that T-to-C movement plays an instrumental role in the generation of this articulation, semi-informally shown in (19) bellow (cf, Chomsky 1981):

10.   What did Sophie buy?
      There is an *x*, such that Sophie bought *x*

In accord with the Copy theory of Movement (cf. Chomsky 2001) the operator-like properties of a wh-expression bind the copy at the original position, thus creating an operator-variable binding relation, which in essence can be formulated as a probing operation (op. cit.) between the higher instance of the wh-expression and its lower copy. But this is not all that there is in the structure under analysis. The values over which the binder *x* can range must be restricted by a quantificational domain, namely a restrictor. This domain is given by the CP-Complement that is restrictive over the value-assignment function in which the wh-expression participates. The wh-expression itself displays a dual probing operation, one inwards and one outwards. Although linked with its lower copy whose embedding into the clause's vP restricts the set of possible *x*-values, in principle the wh-expression as an underspecified referential expression is unrestricted, probing directly into the universe of discourse for a value. This is precisely how the semantic attribution of a specifier in wh-interrogatives should be analysed. The wh-expression searches to restore its [wh]-underspecification in discourse, such that the CP-complement, namely TP, is true for the denotational value that the wh-expression gets. This analysis is compatible with earlier formulations found in Katz and Postal (1964; also Koutsoudas 1968), where the wh-expression is not specific or non specific, but *under-specified* regarding its reference. This means that a wh-phrase naturally requires a specification over an *open sentence* of the form P(*x*) which represents a function inherent to the wh-expression such as *supply a value of x such that P(x) is true*. I take then a wh-expression to be in principle accessible to discourse due to the under-specified definiteness of its reference (see also Ioannou 2013 on the elaboration of this idea). This double probing ability of a wh-expression is depicted in (20) below:

20.
discourse
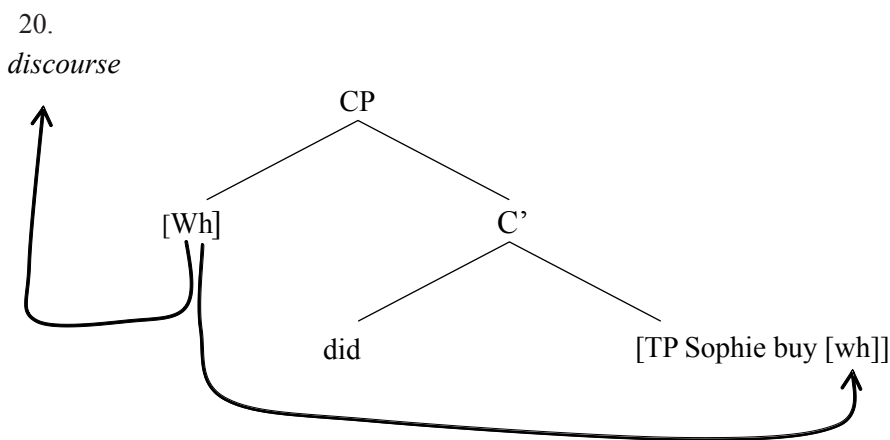
The question that arises then can be stated as follows: In embedded wh-interrogatives where the superficial arrangement of a CP is identical to that of a wh-free relative

clause, what is the distinctive factor that bans the collapse of the wh-expression into the CP-Head? If T-to-C movement's interpretive effect is aligned to the argumental decomposition effect, then how does the latter remain constant in embedded wh-interrogatives where T-to-C Movement in SE is not operative?

3. THE RELEVANCE OF SELECTION

The first question that must be addressed is the following: is selection the distinctive factor that obviates the need for T-to-C Movement in embedded wh-interrogatives? In first place, selection seems to be at stake, at least setting the structural context within which the necessity for T-to-C Movement is obviated. But it is also too much an unrestricted condition to qualify as a procedure that operates complementarily to T-to-C Movement. Its unrestrictive character has two facets: The first concerns the absence of a uniform featural interaction between [v[V]] and [C][2] in all environments where extraction of a wh-expression is observed.

Rizzi's (1996) treatment of the asymmetry involves the postulation of a positively marked [+wh]-feature on the selecting verb as well as on T. In embedded contexts this is passed over its selectee [C], thus exclusively complementing T-to-C Movement. In order to evaluate this assumption, a brief reference to Rizzi's formulation is at stake. Rizzi's (1996, 1997) treatment of the complementiser which eventually became a standard analysis in the field regards its participation in a criterial configuration, requiring that a wh-interrogative clause display the following representation at its edge, with *wh*-op being an interrogative operator and [+wh] an interrogative feature:

21.
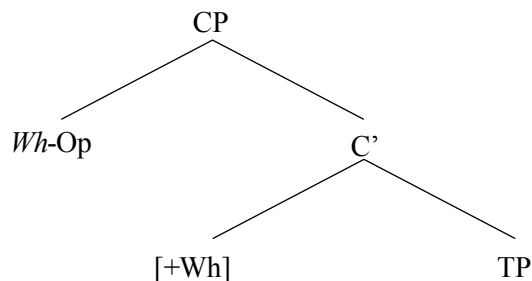
In embedded clauses the exclusion of T-to-C Movement in SE is accounted for by positing a complementiser carrying a positively marked [+wh]-specification due to its selection by an interrogative verb like *wonder*. With wh-movement alone the wh-criterion is then satisfied:

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[2]   According to standard assumptions [v[V]] results from the raising of the lexical verb V into the light verb v (cf. Chomsky 1995)

22.

$$\overset{\textit{Selection}}{\overbrace{}\downarrow}$$
Wonder [wh-Op [+wh] [TP….
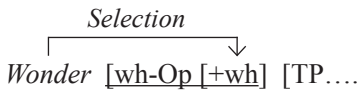
In turn, addressing the obligatoriness of T-to-C Movement in matrix clauses, Rizzi stipulates a [+wh]-feature in the inflectional head in T. T-to-C Movement in this sense transfers the [+wh]-specification of the clause as high as necessary for satisfying the wh-criterion:

23.
[wh-op [+wh] [TP….[T +*wh*]…….
$$\underset{\textit{Movement}}{\underbrace{}}$$
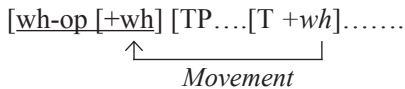
This featural arrangement based on a representational criterion has its licensing within the structure, but its operational trigger out of it. Criteria render an interpretive result evaluated only *after* the result has been observed, and Rizzi defends a system not strictly adhering to derivational mechanisms (cf. Roberts 2000). A further challenge then concerns the treatment of the observed asymmetry as an obviation of an operation whose function can be seen as a derivative decomposed into further primitives; this would also imply that the postulation of a [+wh]-feature on T is possibly redundant and that the wh-criterion itself is not valid as a representational requirement.

A first observation concerns Rizzi's generalised assumption on the role of an interrogative verb in triggering movement of a wh-phrase and at the same time marking the selected complementiser as [+wh] thus satisfying the wh-criterion. I want to argue that a careful disentanglement of the two is due that casts some doubt on the generalised applicability of the wh-criterion as a representational configuration. This is so because if a verb like *wonder* or *ask* selects a complementiser marking it as [+wh], it is more plausible to assume that the role of *wonder* and *ask* is actually restricted to *banning* the wh-expression from crossing over the embedded [+wh]-C and not being the trigger of the movement, as the following examples suggest:

24.   I asked who bought the tickets.
25.   *Who did you **ask** _____ bought them?
26.   Who do you **think** _____ bought them?

It seems as if wh-movement in English is the default option for the system, independently of the interrogativity inherently born by the verb. In this light, the ban on it should actually be regulated by a further stipulation that makes reference to an additional feature.

If wh-movement is the way for the wh-expression to get the proper position required for taking over interrogative interpretation in accord with the LF-representation in (19) above, then the interrogative feature lying in a selecting verb like *wonder* is irrelevant.

This is so because the referential underspecification itself of the wh-expression and the default movement option suffice to generate this result, as is evident in the following example:

27. I will not say who bought the tickets.

We can conclude then that wh-movement is the default choice for the wh-expression's underspecification to structurally realise its inherent ability to access discourse and take over a proper interpretative type that is wh-interrogativity itself.

The default character of wh-raising turns out furthermore to be plausible in the light of successive cyclic extraction where many times no intermediate step involves an interrogative verb:

28. I won't say [what John believes [_____ Sophie thinks [_____ Mary bought _____]]].

Thus an interrogative verb like *ask* in (25) above has a blocking effect over the general ability of a *wh*-expression to raise, rather than a licensing one. What must then be accounted for first is how this generalised ability is connected by default to the phenomenon of embedding and not how an interrogative verb blocks it. Chomsky's account (2000, 2001) incorporates the phenomenon in the theory of *Phases* in the context of a generalised EPP but leaves aside the operational reason behind raising. For Rizzi (2006) this reduces to an intermediate *wh-feature* holding a formal relevance to discourse and corresponding to a non-substantive version of a *WH*-feature that is the only interpretable feature lying in the criterial position. Nevertheless, no account is given for the exact link between successive raising and any generalised property of CP-specifiers that renders them appropriate "escape hatches" (Chomsky 2004).

Additional problems must be addressed regarding wh-interrogative embedding that cast doubt on the postulation of a [+wh]-feature in C as the licensing of wh-movement. Let's assume that in the context of clause-embedding and in accord either with general locality considerations (Rizzi 2004) or some constraint adhering to *impenetrability* (Chomsky 2001) of the CP domain to anything that lies above the embedded C-head, it is not the verb itself that attracts the wh-expression but C derivatively, due to it being marked as interrogative:

29. Mary asked [CP [C +wh] [TP you bought *what*]]

Nevertheless, wh-movement in Rizzi's analysis is triggered by the necessity of a wh-expression's occurrence in the SPEC-position of a positively [+wh]-marked head. As a matter of symmetry, it would be expected that a parallel trigger should hold of matrix wh-interrogatives. With no higher structure above matrix-C except for the domain of discourse itself, it is not clear how C inherits its [+wh]-specification.

Rizzi stipulates a [+wh]-feature on T and thus T-to-C Movement gives the required SPEC/Head configuration marked for [+wh], thus satisfying the wh-criterion. But in matrix clauses COMP is not marked for [+wh] in the same way it is in embedded interrogatives. Rizzi's analysis crucially does not account for the underlying reasons of the asymmetry between matrix and embedded clauses that render the former defective regarding the C-head's [+wh]- specification.

Finally, [+wh]-specification alone cannot trigger T-raising. This is because wh-relative and exclamative clauses all belong broadly to the wh-class, and yet do not trigger inversion[3]:

30.   [What I know] is that he didn't buy anything.
31.   *[What do I know] is that he didn't buy anything.
32.   What a nice dress she bought!
33.   *What a nice dress did she buy!

Rizzi, adressing the issue, introduces another feature, purely interrogative, itself *dependent* on the *wh*-feature. He calls it *Q* and sub-classifies wh-structures as follows (1996):

34.   a. Wh-interrogatives: [+wh [+Q]]
35.   b. Wh-relatives/exclamatives: [+wh [-Q]]

Although this featural geometry may make sense in what I effectively describe as the marked case of embedded wh-interrogatives where a verb like *wonder* selects a COMP marking it as [+wh [+Q]], it also implies a rather unnecessary accumulation of features on T. Why should a T-head in English contain a Q-feature in first place?[4] One could argue that Q is found in C only when the latter is selected by an interrogative matrix verb. But if both matrix and embedded clauses are characterised by a functional isomorphism satisfied through selection and movement respectively, why should there be this featural mismatch between C and T, with the former containing [[+wh] +Q]] and the latter just [+wh]? And if this is the case, then how is the interrogative interpretation gained in matrix wh-interrogatives where there is no [+*Q*]-marking? Finally, supposing [+Q]-marking on matrix C, how is this requirement satisfied through movement of a category not containing a Q-like feature?

Rizzi's [Wh]/[Q] distinction stems from two important works: Baker's "Q-Universal" (1968, 1970) and Bresnan's analysis of wh-complementation (1972). These analyses seemed to be mutually exclusive (op.cit.) as at the time competition was taking place between lexical insertion in the form of a phrase structure rule generalising a clause's expansion to a complementiser and its sentential complement, and a transformational rule inserting a dominating Q-morpheme. What is important

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[3]   But see Sag 2010.
[4]   Languages like Kikuyu, Chamorro, Palauan etc. arguably display such morphology (see Clements 1984, Chung 1982, Georgopoulos 1985, 1991). Rizzi's argumentation partly refers to that evidence.

is that although Bresnan's proposal had a generalised applicability, Baker's rule was structure-specific. In the light of Rizzi's distinction, [Q] is indeed dependent on [Wh]. It follows then that taking *wonder* to have a marked blocking effect over a generalised license condition that in principle enables wh-movement is theoretically more appealing. It remains to see the specific operations involved in the licensing of wh-raising. Let's start by considering the elements that appear to be inextricably linked to a felicitous treatment of the asymmetry met in embedded wh-interrogatives.

I conclude then that Rizzi's refinement of the featural system through the addition of [Q] as a further sub-featural qualification in the system that signifies interrogativity leaves us with a [+wh]-feature that the only thing that represents is wh-extraction itself. Additionally, embedding verbs like *think* do not display any obvious feature marked for interrogativity, although wh-extraction does take place. The [+wh]-feature then represents the default case. Consequently, if an interrogative verb like *ask* selects a complementiser marking it as [+Q], it is more plausible to assume that the role of *ask* is actually linked with the phenomenon of degrading the grammaticality of structures where the wh-expression crosses over the embedded [+wh]-C. This disqualifies it as the trigger of the movement, as the opposition between verbs like *ask* and *think* in the examples suggest, which correspond to the marked and unmarked case respectively. This leads my analysis to the plausible assumption that what is represented in Rizzi by a [wh]-feature must be represented somehow in the [v[V]]-[C] Relational Matrix itself uniformly as an underspecification that corresponds to the underspecification of a wh-expression regarding its referentiality.

4. T-to-C movement as CP-internal selection

Another reason that disqualifies selection as the distinctive factor complementing T-to-C Movement is the possibility that T-to-C Movement is itself an instance of CP-internal selection. Crucially, my analysis takes T-to-C Movement to be manifestation of the selectional properties of C when a higher Selector is absent, satisfied inwards. Support to this comes from Belfast-English data where the complementarity of the presence of complementiser "if" and Tense is accompanied by interpretive identity. When T-to-C movement operates in embedded interrogatives, not only cannot "if" and Tense co-occur, a structural indication that they both compete for the same position, but also, without the embedded clauses being indirect speech in any case, they both have the same interpretive outcome:

35.   I don't know if Mary stole the tickets.
36.   I don't know did Mary steal the tickets.

In (36) then T-to-C Movement can be treated as an operation initiated by C's ability in principle to satisfy its selectional properties inwards, as an inverse manifestation of selection:

37.

[[V[v] ———— ✕ ——— • [C] ⟩———————→ [T]

Derivatively then selection is a property operative in both embedded and matrix wh-interrogatives. Furthermore, the [v[V]-[C] relation lacks any positively marked [+wh]-feature that could be at stake in determining interrogativity by marking the selected embedded [C]. Conceiving the relations between [v[V]]-[C] and T-to-C Movement as relational matrices comprising featural primitives, we reach the conclusion that both relations apply in the context of selection:

38.   [V[v]] -C Matrix   T-to-C Matrix

         ⎡   ⎤   ⎡   ⎤
         ⎢   + Selection   ⎥   ⎢   + Selection   ⎥
         ⎣   ⎦   ⎣   ⎦

I said above that the feature stipulated in Rizzi as [+wh] being operative in the selecting relation between [v[V]] and [C] must be actually conceived a default characteristic of it and even more that it may well be not a primitive feature at all. I will argue that what is recognised as a [+wh]-feature in the [v[V]]-[C] context is actually a functional derivative of the specific composition of the [v[V]]-[C] matrix itself. I will further equalise it with the notion of specifier-generation, which in turn is the crucial structural outcome that first renders a wh-CP interrogative and second allows cyclic wh-extraction.

5. Accusative Case as a derivative

Let's continue our inquiry into what is the specific feature that constitutes the distinctive factor obviating the need of T-to-C movement in embedded contexts. I start by assuming that in English accusative case assignment can be seen itself as a derivative of two conditions: One structural and one featural. The assumption is based partly on the observation that although both the [v[V]]-[D] relation between a verb and the D-head of a selected nominal and [v[V]]-[C] display the same structural relation with the head of the [v[V]]-complement being the sister of it, it is only the latter that fails to be assigned a featural marking proper to accusative case assignment. This fact essentially bears on the generalised inability of a CP to be assigned case. According to Stowell's Case Resistance Principle (1981, 1982; Safir 1985) C in English does not tolerate case assignment:

39.   Mary [V bought [v]] [them].
                        └———↑

40. *There has been a report of [CP that Mary stole them].

According to Stowell (op. cit.) this is so because C is marked for [+Tense], itself a Case-assigning feature, a useful insight to be amended as I proceed. We have then the following featural distribution, with Feature marking representing the part of accusative case assignment process that represents the featural dependency between [V[v]] and C:

41.

Relation	Selection	Feature marking
[V[v]]-[D]	+	+
[V[v]]-[C]	+	-

On the other hand, taking F-marking and selection as the primitives of our relational matrices, we observe that T-to-C Movement satisfies both the structural and featural condition on accusative case assignment. The C-head's selectional properties are satisfied in the structural context of sisterhood and Tense tampers with its featural constituency overtly marking it for Tense. In this light, T-to-C movement is an instance of a marking relation between two heads that have established a selectional relation between each other, namely C and T. The attributions then of the [C]-[T] Matrix wherein T-to-C Movement applies is given as shown in (42), with both selection and F-Marking having positive values:

42.

Relation	Selection	Feature marking
[C]-[T]	+	+

Notice in this connection the interesting correlation between accusative case assignment and the concomitant inability of the selectee T to surface fully specified for Tense. There seems to be a complementarity between Tense and accusative case to be elaborated further as we proceed, manifested also in the following asymmetry that holds even in BE where T-to-C movement in embedded wh-interrogatives is in principle possible:

43. I wonder what the kid ate.
44. I wonder what did the kid eat (grammatical only in BE).
45. I wonder **about** what the kid ate.
46. *I wonder **about** what **did** the kid eat (ungrammatical both in SE and BE).

Taking then selection and F-marking to represent an abstract structural and featural basis over which some operational completeness may be evaluated, we observe that
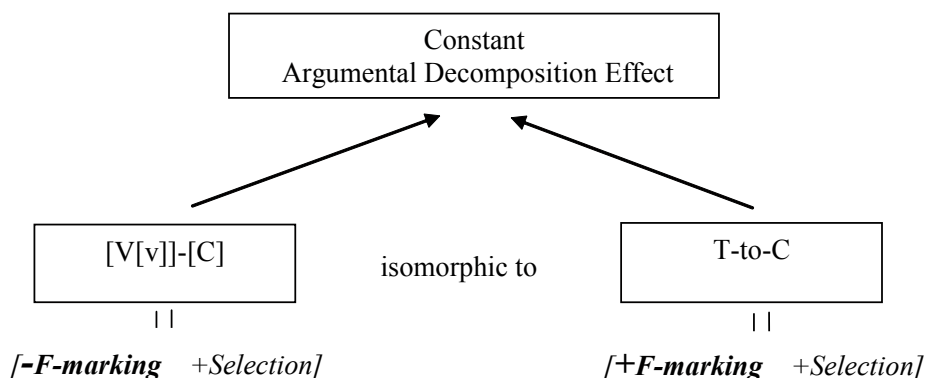
after cancelling the common factor of selection, what constitutes the differentiating characteristic between [v[V]-[C] embedding and T-to-C Movement is F-marking itself, which is absent or underspecified in the case of [v[V]]-[C] relation:
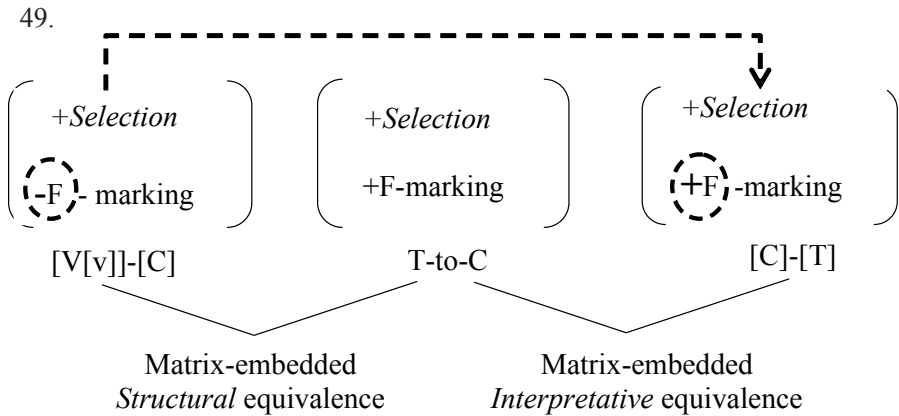
47.

Relation	Selection	Feature marking
[C]-[T] ↑__	+	+
[V[v]]-[C]	+	-

This implies the following: In the light of the interpretative isomorphism between matrix and embedded wh-interrogatives, taking the C-Head as the axis of our symmetry, underspecification of CP-external F-marking equals CP-internal F-marking. Crucially, the relation between the two is not that of complementarity. I remind here that Rizzi assumes operational complementary distribution between [+wh]-feature marking of C by [v[V]] and T-to-C Movement. But here the non application of F-marking does not mean the operational application of T-to-C Movement, but essentially its interpretive effect. This is precisely the way my analysis seeks to account for the obviation of T-to-C Movement in embedded wh-interrogatives:

48.

```
                    ┌─────────────────────────────┐
                    │          Constant           │
                    │ Argumental Decomposition Effect │
                    └─────────────────────────────┘
                         ↗                ↖
        ┌─────────────┐                      ┌─────────────┐
        │  [V[v]]-[C]  │   isomorphic to      │    T-to-C    │
        └─────────────┘                      └─────────────┘
              | |                                  | |
    [-F-marking   +Selection]          [+F-marking   +Selection]
```

Structurally, the isomorphism between matrix and embedded wh-interrogatives is evaluated between T-to-C Movement and some CP-external operation. Interpretively on the other hand, the isomorphism between matrix and embedded wh-interrogatives is evaluated between T-to-C Movement and some CP-internal effect equalised to T-to-C Movement:

49.

$$
\begin{array}{ccc}
\left(\begin{array}{c} +Selection \\ \text{-F - marking} \end{array}\right) & \left(\begin{array}{c} +Selection \\ +F\text{-marking} \end{array}\right) & \left(\begin{array}{c} +Selection \\ +F\text{-marking} \end{array}\right) \\
[V[v]]\text{-}[C] & T\text{-to-C} & [C]\text{-}[T]
\end{array}
$$

Matrix-embedded   Matrix-embedded
Structural equivalence   *Interpretative* equivalence

Re-composing the CP-external matrix to its derivative function, namely accusative case, the wh-interrogative isomorphism takes the following wording:

50. *Wh-interrogative isomorphism*
     Underspecification of CP-external accusative case assignment equals CP-internal T-to-C effect.

It follows that, taking the C-head as our axis of symmetry, accusative case and T-to-C Movement are functions inverse of each other:

51. Accusative Case = $[\text{T-to-C}]^{-1}$

It also implies that T-to-C movement is CP-internal accusative case assignment. Furthermore, what Rizzi stipulates to be a positive [+wh]-marking in the CP-external domain is actually an underspecification generating a CP-internal effect inverse of accusative case underspecification. In this light, the CP-internal effect somehow materialises the negative specification of CP-external feature marking. Interestingly, what my analysis has located is a point of contact between a property pertaining to argumental unity, namely accusative case assignment, and a property pertaining to A'-interpretation, namely the projection of a wh-Specifier. This property was formalised as an instrumental part of the dual ability of a wh-expression to probe both inwards and outwards, thus generating the articulation pertaining to the LF-representation of wh-interrogatives.

6. THE INTERPRETATIVE RELEVANCE OF DEFICIENT ACCUSATIVE CASE.

In the light of the conclusion that the projection of a [+wh]-specification is a derivative and not a positively marked feature, let's proceed to the analysis of the functional correlation between accusative and [+wh]-feature. I said before that it is feasible to assume that a wh-expression operates a double probing: one that links it with its

original copy in its argumental position and one that links it with discourse, seeking for a denotational value, the latter being an assumption that lies in the core of the nature of the interpretation of a wh-expression as such:

52.

discourse
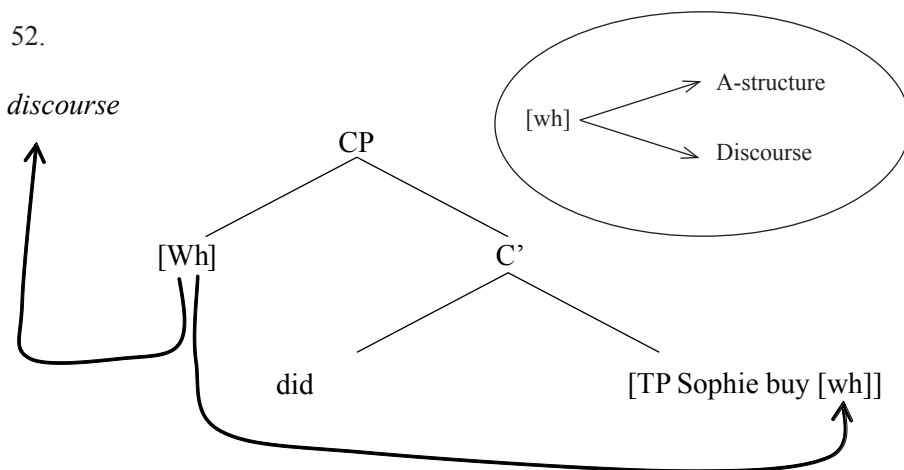
The interpretive effect of wh-interrogativity then must be linked with this dual probing ability of a wh-expression. The question then takes the following form: If wh-interrogativity is co-linear to the CP-decomposition effect, then how is the underspecification of case related to the ability of an embedded wh-expression to probe both directions, namely inwards and outwards?

Let's first take a look at the way that possibly a derivation proceeds in a bottom up fashion when a referential expression is merged with a vP. The first operation that a referential expression participates into is a denotational function where crucially the expression takes over a value with direct access to an unrestricted set. As the derivation proceeds and the expression is merged with a verb phrase, the locus of the interpretation of the expression is transferred to the verbal cluster [v[V]] (cf. Cann 1993, Chierchia, G. and S. McConnell-Ginet 2000). Although the expression does not lose the atomic value that it was assigned once, the evaluation of its interpretation has been transferred. That means that its direct access to discourse has been blocked and the expression's interpretation is now given by its membership to the set that the verb denotes. We can call the inclusion of an expression into a verbal cluster that both selects and F-marks it *proper embedding* and it can be interpreted as a form of local binding between a case-assigning head and its sister-complement:
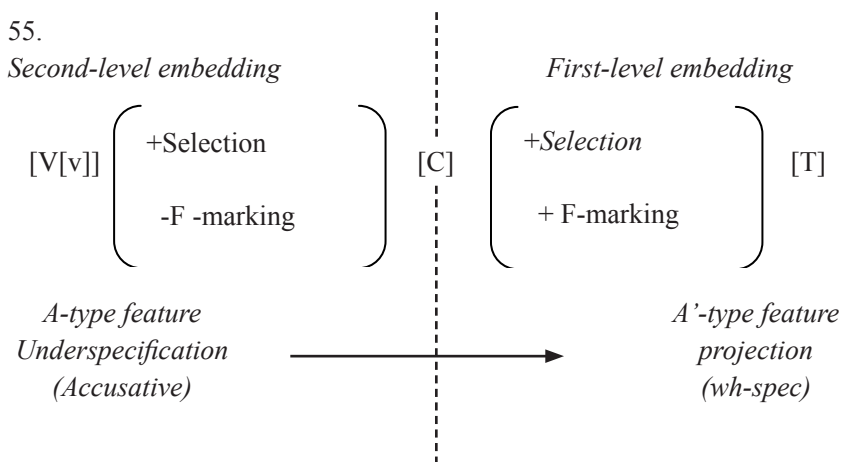
53.
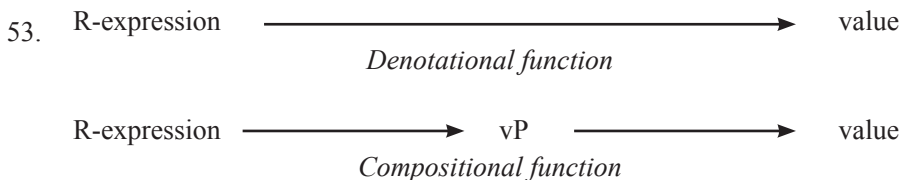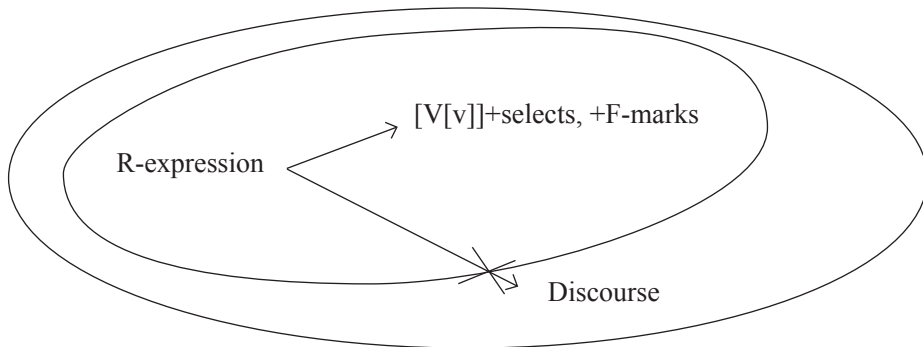
In the case now of a wh-expression, we can assume that the latter enters the derivation with an unspecified or underspecified value for what should be the outcome of the denotational function. As the derivation proceeds, the wh-expression is properly embedded into the set denoted by the verb, by virtue of the application of selection and F-marking. This renders the [wh]-underspecification born by the wh-expression inaccessible to a direct value assignment. In this sense it is blocked from accessing discourse. Although this does not infer any ungrammaticality in the case of a fully specified R-expression, in the case of a wh-expression it does. This is how the ungrammaticality of an in-situ interpretation of a wh-Interrogative may be accounted for. The wh-expression does have access to the semantics of the argumental structure but not to discourse:
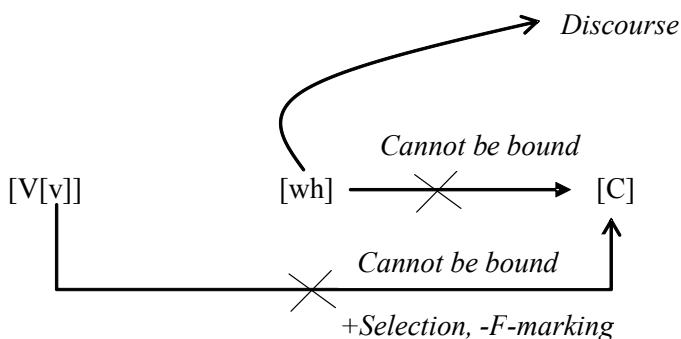
54.
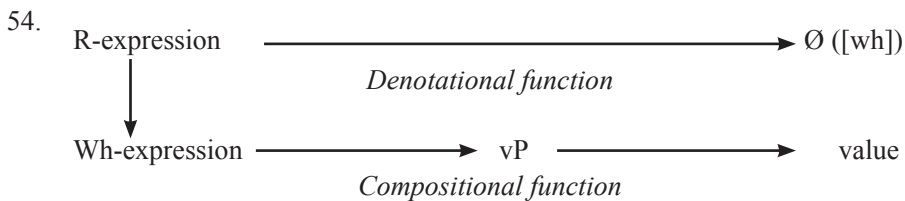
*Mary bought what
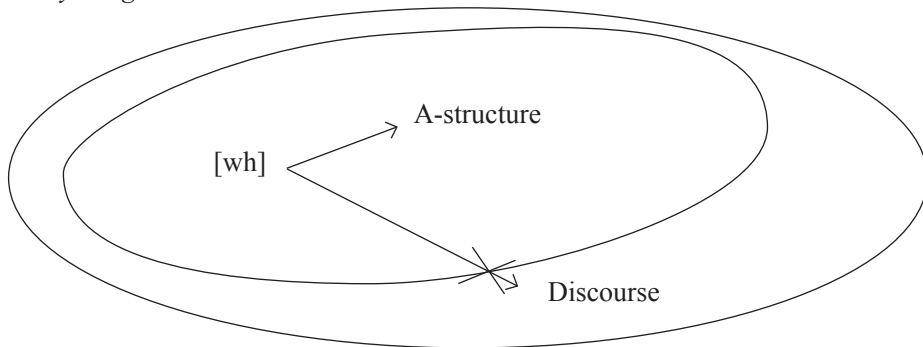
If discourse and argumental structure are two subsequent levels of embedding, then a wh-expression in order to be interpreted as interrogative must be disentangled from the second embedding that blocks its discourse-visibility. The curious connection then pointed at before between CP-external operational absence of F-marking and CP-internal interpretive presence of F-marking can be analysed as follows: An underspecification of an A-type feature CP-externally generates the projection of an A'-type feature CP-internally:

55.

Second-level embedding   *First-level embedding*

$$[V[v]] \quad \left(\begin{array}{c} +\text{Selection} \\ \\ -F\ \text{-marking} \end{array} \right) \quad [C] \quad \left(\begin{array}{c} +Selection \\ \\ +\ \text{F-marking} \end{array} \right) \quad [T]$$

A-type feature   *A'-type feature*
Underspecification $\longrightarrow$ *projection*
(Accusative)   *(wh-spec)*

This way, the underspecified value of a wh-expression is syntactically disentangled from its syntactic anchor/binder, thus getting anew access to the first level of embedding:

Discourse

Cannot be bound

$$[V[v]] \qquad\qquad [wh] \longrightarrow\!\!\times\!\!\longrightarrow [C]$$

Cannot be bound

+Selection, -F-marking

In this connection, an interesting possibility arises regarding cyclic Wh-extraction. Without postulating any intermediate features marked for a positive value, a mechanism employed in Rizzi's analysis for both the higher as well as the intermediate CP-heads, cyclic extraction may be more economically accounted for as simultaneous discourse visibility of all specifier positions. Discourse visibility is taken to be the result of a binding failure between the verb and the complementiser and not as a positive marking over the latter by the former. Instead of resorting to a linearly dependent chain then we
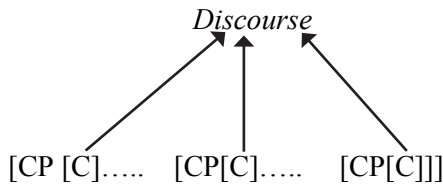
can assume a simultaneous dependence of separate heads on discourse, thus addressing the default character of wh-raising as treated in sec.3 earlier:

57.

    a. <u>Linearly dependent chain</u>

[CP [C, +wh]…   [CP[C, +wh]… [CP[C, +wh]]]
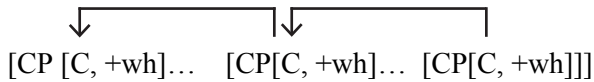
    b. <u>Simultaneously discourse-dependent heads</u>

Discourse

[CP [C]…..   [CP[C]…..   [CP[C]]]

A final remark is due. Returning to my preliminary observation that if there is any positive marking by the verb over the complementiser then this should have a blocking effect over extraction in the same way that accusative case blocks wh-extraction from a wh-free relative clause, I observe the following: A verb marked for interrogativity like *ask* or *wonder* does pass an interrogative feature over the complementiser. The relational matrix then between [v[V]] and [C] contains both Feature-marking and Selection, a fact that accounts for degrading the grammaticality of wh-exctraction in these cases:

58.   *Who did you ask [CP bought the tickets]?

[V[[v] Q]]   [CP [wh] [C]...

+Selection, +*Q-marking*
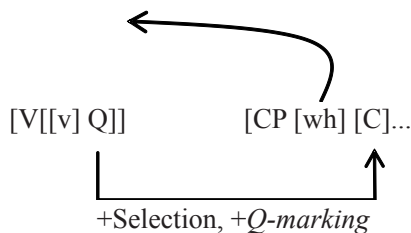
CONCLUSIONS

This paper raised the following question: on the condition that the interpretive effect of wh-interrogativity be kept constant for the whole range of the wh-interrogative type, how can we account for the absence of T-to-C Movement in embedded questions? T-to-C movement was shown to induce a decomposition effect over the CP-unit wherein it applies, which co-aligns with the generation of an articulation proper to the interpretation of the wh-interrogatives as such. This includes the generation of a wh-specifier that has the dual ability to probe both CP-internally, identifying itself with its lower copy, as well as CP-externally, seeking into discourse for a denotational value. Under the hypothesis of wh-isomorphism, it was assumed that embedded wh-interrogatives have to display the decomposition effect too as the key-operation generating the wh-articulation proper to wh-interrogativity. The question was then reformulated as to what generates this effect, preventing a wh-expression in embedded wh-interrogatives from collapsing into the selected C-head thus losing its ability to probe into discourse.

In this light, a parallelism was drawn between the relational matrices [V[v]]-[C] and [C]-[T]. It was found that, although the structural context wherein the asymmetry between matrix and embedded interrogatives is met, selection is not the determining factor in accounting for the asymmetry. Instead, the requirement that the decomposition effect over a CP hold of embedded wh-interrogatives too is satisfied by some defectiveness in the relational matrix between [V[v]] and [C]. Taking a closer look into it, it was shown that the defectiveness of their relational matrix lies in the inability of [v[V]] to pass some feature-marking on [C], which is precisely manifest in C's inability to receive accusative case, the latter treated as a derivative comprising the features [+Selection, +*F*-Marking] that are responsible for the interpretation of a CP as an argumental unit. If T-to-C Movement is somehow structurally isomorphic to a defective [v[V]]-[C] relation, and by the derivational definition of accusative case, it was concluded that defective CP-external case assignment interpretatively equals CP-internal T-to-C Movement. In other words, if a head defectively assigns accusative case to its complement CP, then the application of T-to-C Movement in CP is obviated, as the CP-internal decomposition has already been achieved.

The consequences are far-reaching. What we get is a point where the A/A'-distinction ceases to be as sharp as it is taken to be in general. What an analysis along the lines of the wh-criterion defines as a positively marked [+wh] specification is actually materialising the deficiency of an A-like underspecification. Cyclic wh-raising then is an operation that essentially does not need any interpretive trigger lying either outside the derivation in the form of a criterion or inside a derivation in the form of [+wh]. Wh-raising is applicable by default when *u*-wh originates under the scope of a deficiently expressed accusative case marking. In contrast, an interrogative verb selecting [C] does carry a positive specification like [+Q], that under the notion of case assignment as a derivative notion substitutes for F-Marking. Thus it renders the relational matrix between [v[V]] and [C] complete. [+Selection, +*F*-Marking] then

blocks wh-extraction, because it compositionally renders the CP that it selects and F-Marks quasi Case-marked, thus blocking *u*-wh's access to Discourse and generating an island-like effect (Ross 1967).

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