THE STRUCTURE OF PAIR-LIST ANSWERS

Aritz Irurtzun

EHU-U. Basque Country & HiTT

1. Introduction

This paper focuses on the structure of pair-list answers. These are the typical answers of multiple-Wh questions and questions with quantifiers like the ones in 1 and 2 respectively:

(1) a. Who kissed whom?   (2) a. Who kissed everybody?
     b. [John] kissed [Mary]…   b. [John] kissed [Mary]…

Abstracting away from the patterns of the answers to questions with quantifiers, the goal of this paper is to analyze the following questions: What is the nature and discourse function of the elements in brackets in sentences like 1b? What is the grammatical encoding of the information-packaging of these constructions?

To start, compare the sentences in 3b and 4b, and the questions they answer (3a & 4a respectively):

(3) a. Who bought beer?   (4) a. Who bought what?
     b. [John] bought beer.   b. [John] bought [beer]…

In the question-answer pair in 3, the question asks about the agent of the event of buying beer and the only element that is not given in the question that appears in the answer is the subject 'John', what is traditionally analyzed as being the focus of 3b (*cf. e.g.* Rooth (1985), Herburger (2000) and Krifka (2001) among many others). In 4, on the other hand, we have a multiple-Wh question in 4a and in its partial answer, two elements that are not expressed in the question; the subject 'John' and the object 'beer'. The question, as said, is what the nature and discourse function of these elements is.

In one of the most widely accepted analysis of the semantics of questions a question is taken to denote a set of propositions (*cf. e.g.* Hamblin 1973). For instance, the denotation of the question in 5a would be the set of propositions in 5b, where the Wh-phrase in the question has been replaced by different alternative values that are available in the context. Thus, an appropriate answer to the question in 5a will be one of the propositions in this set, for instance 5c:
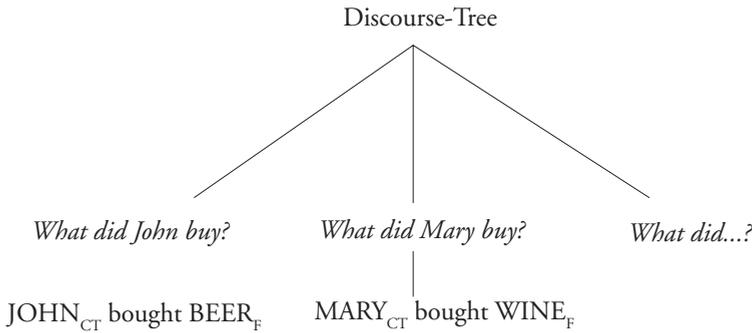
(5) a. Who got the flu?
     b. [[Who got the flu]]={[[Kepa got the flu]], [[Eider got the flu]], [[Adam got the flu]], [[Ibon got the flu]], …}
     c. Kepa got the flu.

According to this approach, then, a multiple Wh-question like 6a denotes a set of questions, that is, a set of sets of propositions like 6b. This question could be answered by the sentence in 6c:
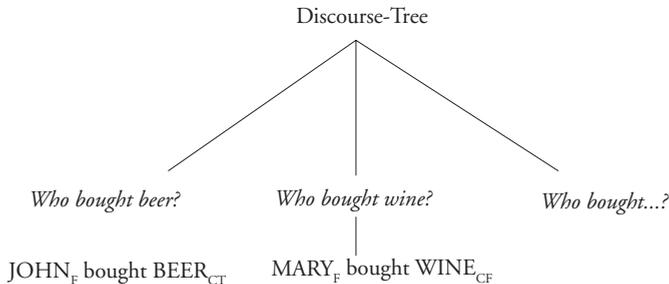
(6) a. Who cooked what?
     b. [[Who cooked what]]={{[[Adam cooked cod]], [[Adam cooked rice]], [[Adam cooked eggplants]]…}, {[[Julen cooked rice]], [[Julen cooked pasta]], [[Julen cooked tuna]]…} …}
     c. Adam cooked eggplants and Julen cooked pasta.

This type of semantics approach to questions is adopted by Büring (2003) in his analysis of discourse structuration and answerhood, proposing that in an answer to a multiple-Wh question we have different possible answer strategies like those represented in the discourse trees (or D-Trees) in 7 and 8 (in this case, the choice of strategy would imply whether to start answering by the agents of the event of cooking or by its themes).

(7) a. *Who bought what?*
     b. [[*Who bought what?*]]^{ct} = {{x bought y | y ∈ D$_e$}|x ∈ D$_e$}

Discourse-Tree

What did John buy?   *What did Mary buy?*   *What did…?*

JOHN$_{CT}$ bought BEER$_F$ MARY$_{CT}$ bought WINE$_F$

(8) a. *Who bought what?*
     b. [[*Who bought what?*]]^{ct} = {{x bought y | x ∈ D$_e$}| y ∈ D$_e$}

Discourse-Tree

Who bought beer?   *Who bought wine?*   *Who bought…?*

JOHN$_F$ bought BEER$_{CT}$ MARY$_F$ bought WINE$_{CF}$

Thus, when answering a complex question like 7 or 8, a speaker can opt between whether to answer by 'buyers' or by 'buyees' and this, according to Büring, will determine the information-packaging nature of the elements not given in the question. Büring (2003) thus requires two independent discourse-configurational primitives: the 'contrastive topic' that would indicate the answer strategy to follow, and the 'focus'. Crucially, both information-packaging elements are analysed as having the very same semantic import: that is, rising alternative values *à la* Rooth (1985). Recall that according Rooth's 'Alternative Semantics' approach, a sentence with focus would have two denotations: the 'Ordinary Semantic Value', that will be the proposition obtained compositionally by montagovian function application (this proposition won't be affected by the focus), and the 'Focus Semantic Value', a set of propositions obtained by the substitution of the focused phrase with alternatives available in the discourse that match the focus in semantic type (*i.e.*, roughly. the semantic value of the question it answers in a Hamblin-type semantics of questions).

My concern here is that despite the representational interpretation in Büring (2003) captures in an elegant way the denotation of these constructions, the 'topicness' of the 'contrastive topics' proposed is not very well established; after all, both the 'focus' and the 'contrastive topic' are analyzed as having the very same semantic import. Furthermore, as Büring himself notes (Büring (2003: 512)), the so-called 'contrastive topic' doesn't behave in some relevant respects like other topics; for instance, its presence is mandatory and not optional (hence, they cannot be elided), and they answer (in part) the question instead of stating necessarily old/given information. Thus, I would want to suggest that we don't need the theoretical primitive of 'contrastive topic' in order to capture the semantics of these sentences. Therefore, the proposal to be developed in this paper is that in these constructions we have a *pair* of elements as the focus. For instance, in the case of the discourses of 7 and 8, the focal elements can be regarded as taking part in a relation denoted by the verb; the first element that stands for a Wh-word of the question sets the domain and the second one sets the range of the relation. Even more, as will be argued, with the adoption of the derivational analysis of the focus construction presented in section 2, the pairing semantics of these constructions will be derivative of their focal status in a straightforward way.

In a nutshell, then, in this paper I will be arguing that the semantic representation proposed by Büring (2003) is basically correct, but that we can dispense with the theoretical primitive of 'Contrastive Topic' for these constructions. Furthermore, I will argue that these elements should be better reanalyzed as being focal in nature. In order to do that, I will present in section 2 the derivational approach to the focus structure proposed in Irurtzun (2003b) and the neodavidsonian semantic representation for focus of Herburger (2000) as the theoretical framework in which I will base my analysis. Then, in section 3, I will present the derivation of split focus constructions and review some of the intonational, semantic and morphosyntactic properties of these sentences in different languages. I will argue that the behavior they display is to be expected, assuming the theory presented in this paper. A brief summarizing and concluding section follows.

2. Focus structure and interpretation

In this section I will present the theoretical framework in which I will base my analysis: in 2.1. I present the derivational approach to the focus structure of Irurtzun

(2003b), and in 2.2. the Neodavidsonian semantics for focus of Herburger (2000). The conjunction of these two theories will set the basis of my analysis of the answers to multiple-Wh questions of section 3.

2.1. A derivational approach to the focus structure

According to the minimalist theory of focus structure construction proposed in Irurtzun (2003b), the [+F] feature is an optional formal feature and it is potentially assigned to several tokens of the numeration. Hence, the focus structure, instead of being 'projected' at PF from the element that got the nuclear stress, it is constructed derivationally by means of Merge in the narrow syntax, and nuclear stress is just assigned to it in PF. That is, technically the focus structure is built up as follows: when an element α and an element β undergo Merge both of them bearing the [+F] feature, a new syntactic object will be created that in "Bare Phrase Structure" terms (*cf.* Chomsky 1995a), will be a set-theoretic object containing only [+F] featured lexical items:

(9) $\{\alpha_F, \{\alpha_F, \beta_F\}\}$

$$\alpha_F \qquad \beta_F$$

In that way, when a syntactic object/set of [+F] featured lexical items is merged with an element that does not itself bear the [+F] feature, the new syntactic/set-theoretic object will not be a set containing only [+F] featured lexical items, as the highest phrase in 10 shows:

(10) $\{\alpha_F, \{\gamma, \{\alpha_F, \{\alpha_F, \beta_F\}\}\}\}$

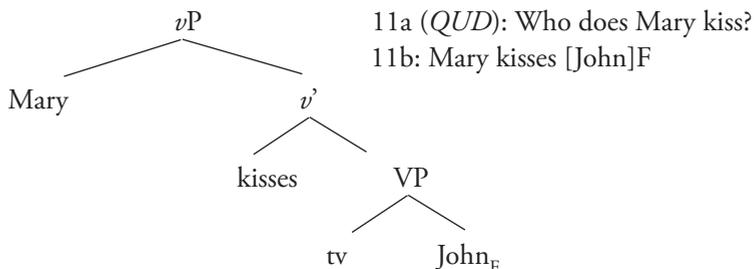$$\gamma \{\alpha_F, \{\alpha_F, \beta_F\}\}$$

$$\alpha_F \qquad \beta_F$$

Although the head (and even the label) of the structure in 10 is marked as [+F], the whole structure won't be a set containing only [+F] featured lexical items, since the element γ (a member of $\{\gamma, \{\alpha_F, \{\alpha_F, \beta_F\}\}\}$) does not bear the [+F] feature itself. Thus, precisely because of the lack of the [+F] feature of γ, in this structure we will have just $\{\alpha_F, \{\alpha_F, \beta_F\}\}$ marked as focal. Assuming such a derivational construal, we keep a direct mapping between syntax and semantics and build semantic interpretation in a strict compositional way. Furthermore, with this derivational analysis, we observe one of the core minimalist assumptions; the 'Inclusiveness Condition' (*cf.* Chomsky 1995b: 228):

> Any structure formed by the computation (in particular, π and λ) is constituted of elements already present in the lexical items selected for N; no new objects are added in the course of computation apart from rearrangements of lexical properties…

In order to show how the system works, let us say that we have the simplified numeration in 11, an that the *Question Under Discussion* is the one in 11a. When the
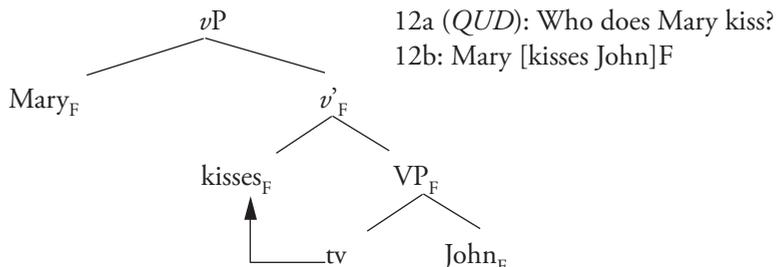
[+F] object (derived as in 10) is merged with the [+F] featureless verb, the new syntactic object (VP) won't be a set containing only [+F] featured lexical items. This will be so because the verb doesn't bear itself the [+F] feature. Such a configuration would end up in a sentence like 11b with $[Jon]_F$ as the only focal element:

(11): Lexical Array: $\{\{Mary\}, \{John_F\}, \{kiss\}, \{v\}\}$

vP

Mary v'

11a (*QUD*): Who does Mary kiss?
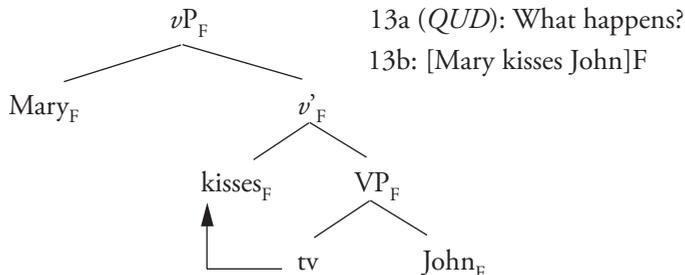11b: Mary kisses [John]F

kisses   VP

tv $John_F$

Right in the same way, if we have the numeration in 12, when the object bearing a [+F] feature is merged with the verb that itself bears the [+F] feature, the new object created (v') will be a set containing only [+F] featured lexical items, as in the sentence in 12b:

(12): Lexical Array: $\{\{Mary\}, \{John_F\}, \{kiss_F\}, \{v_F\}\}$

vP

$Mary_F$ v'_F

12a (*QUD*): Who does Mary kiss?
12b: Mary [kisses John]F

$kisses_F$ VP_F

tv $John_F$

Instead, if we have the numeration under 13, when the object and the verb are merged, a new syntactic/set theoretic object is created made out of only elements that bear the [+F] feature. Once this object is merged with the light verb, and the new element is merged with the DP subject that itself bears the [+F] feature, we end up with a derivation that is a set containing only [+F] featured lexical items; that is an out-of-the-blue sentence (13b):

(13): Lexical Array: $\{\{Mary_F\}, \{John_F\}, \{kiss_F\}, \{v_F\}\}$

vP$_F$

$Mary_F$ v'_F

13a (*QUD*): What happens?
13b: [Mary kisses John]F

$kisses_F$ VP_F

tv $John_F$

Therefore, recall that according to this proposal, for an element to bear the [+F] feature does not mean that it will be the *actual* focus of the sentence but just that it will take part in the composition of the focus structure, which will be composed out of all the [+F] marked material.

The system has some welcome predictions, among them, that it allows for the interface components to access the actual focus structure, since it is already set in the narrow syntax. Thus, for instance, the PF component will be sensitive to the already built F-Structure. As a brief example, many of the technical problems of a *Nuclear Stress Rule*-based theory of focus structure (*cf. i.a.* Cinque 1993, Neeleman & Reinhart 1998) are avoided if we allow the cinquean *Nuclear Stress Rule* (henceforth *NSR*) that assigns nuclear stress to the element with most grid marks (the most deeply embedded one) to apply just within the focus structure that we built up derivationally in narrow syntax. The definition of such a rule is in 14:

(14) *Nuclear Stress Rule*: Assign Nuclear Stress to the element with most grid marks within the focal structure.

This new *NSR*, will predict correctly and without any further stipulation the Nuclear Stress placement in different positions, given that different focus structures derive from different numerations (*cf.* Irurtzun 2003b for further discussion):

(15) a. John boiled [WATER]$_F$ d. [JOHN]$_F$ boiled water
     b. John [boiled WATER]$_F$ e. John [BOILED]$_F$ water
     c. [John boiled WATER]$_F$

Recall, furthermore, that having severed the seting of the F-Structure from the nuclear stress placement weakens immediately the problematic nature of the so-called Schmerling' examples. These are marked cases of sentence focus with nuclear stress on the subject, like in 16c, a possible answer to the *out-of-the-blue* question in 16a, given an appropriate exclamative context:

(16) a. What happened?   b. [Truman DIED!]$_F$ c. [JOHNSON died!]$_F$

According to the literature, the most neutral type of answer to a question like 16a would be 16b, with nuclear stress on the verb. This is captured immediately by a *NSR*-based theory of the focus structure, since the verb is in a more embedded position than the subject, hence, it gets more metrical grid marks, and hence, it gets the nuclear stress. Thus, the embededness of the verb allows it to project its focal status higher up in the structure. However, in a context where it is a surprise that Johnson died, 16c is a natural *out-of-the-blue* sentence. And this is highly problematic for *NSR*-based approaches to the F-Structure, since according to these theories the F-Structure is set *via* the projection of the focal status of the item that gets the nuclear stress. Thus, in the case of 16c, it should be impossible for the nuclear stress on the subject to denote sentence-focus; an economy principle should ban it since nuclear stress on the verb (the option by default) provides that possibility (*cf. i.a.* Cinque 1993, Reinhart 2006 for discussion). Note that on the other hand, the focal status of these sentences is unproblematic for the approach defended here, since it is set inde-

pendently of the nuclear stress placement. Nuclear stress will be just a way to interpret in PF the focus structure. Thus, the marked stress placement could be explained as a marked stress shift from its assignment position (as said, the verb) due to the fact that the construction is an exclamation about that specific subject's death. Furthermore, if this is a matter of a PF stress shift (and hence, a local operation), we can understand the impossibility of having more material between the subject and the verb, as in 16c:

(16c) *[JOHNSON suddenly died!]$_F$

2.2. Focus semantics: a Neodavidsonian approach

On the other hand, in order to provide a semantic representation for focus constructions at *logical form*, I will adopt the proposal of Herburger (2000). Herburger frames her analysis within the Neodavidsonian tradition and proposes that, taking sentences to be descriptions of events, at *logical form* the focal material is mapped into the scope of a restricted existential quantification over events. As in 17:

(17)

$$VP$$

$$V \quad DP_F \qquad LF: \quad [\exists e \text{ [RESTRICTION] [SCOPE]]}$$
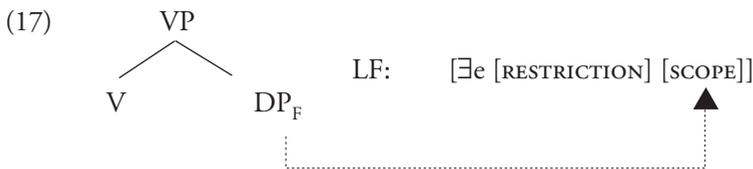
For instance, the sentence in 18a as an answer to the question in 18b will have the Logical Form in 18c, where the non-focused chunk is the restrictor of the existential quantification (*i.e.*, the sentence's 'aboutness') and the focus is in the scope (*cf.* Herburger 2000):

(18) a. Mary bought [BEER]$_F$.   b. What did Mary buy?
      c. $\exists e$ [Agent(e, mary) & Buy(e) & Past(e)] Theme(e, beer) & Agent(e, mary) & Buy(e) & Past(e)]

As said, the restriction will give the sentence's 'aboutness' information whereas the nuclear scope will give the focus (*cf.* von Heusinger (1999) for a similar analysis in *Discourse Representation Theory* terms). Thus, as argued earlier, marking an element as [+F] in the numeration doesn't mean that it will be the actual focus of the sentence but rather that it will take part in the syntactic derivation of the focus structure in narrow syntax, and that it will take part in the focus interpretation at *logical form*.

As presented in this section, the derivational analysis of focus structure construction proposed in Irurtzun (2003b) provides a narrow syntax setting of the actual focus structure and allows for its interpretation in both interface levels. At PF we just have to modify the mainstream *Nuclear Stress Rule* to make it focus-sensitive and we get immediately the correct nuclear stress placement in every focal structure. At *logical form*, and following Herburger (2000), I will assume that all the focal material is mapped into the scope of an existential quantification over events and that

the focus interpretation is obtained by the computation of all the [+F] featured material.

However, one of the predictions of such an approach is that, in principle, nothing should prevent the appearance of a split focus structure obtained by the assignment of [+F] features to lexical items that don't merge together. I will exploit this possibility in the next section arguing that such configurations give raise to the patterns of answers to multiple-Wh constructions.

3. Split Focus Structures

In this section I will analyze one of the possibilities that arise with the adoption of the derivational construal of the focus structure just proposed: the possibility of having syntacically split focus structures. Then, I will discuss some of the intonational, semantic and syntactic properties of these constructions and argue that in these instances of split foci, we have pairing answers to multiple-Wh questions like those represented with D-Trees in section 1.
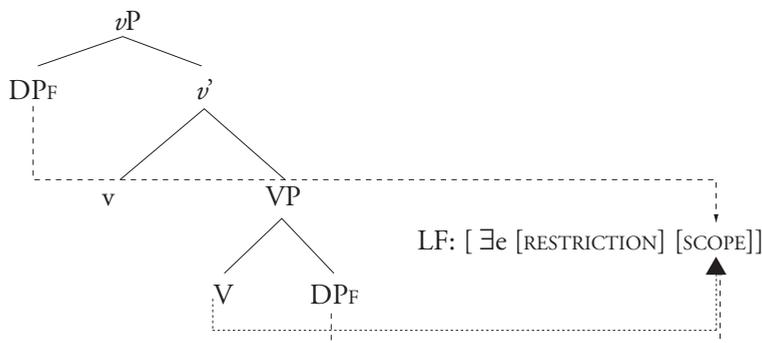
As just presented in section 2, I am assuming that the focal structure is built up in the narrow syntax with the dynamics of the derivation: when two focal elements are merged together the new syntactic object created will also be focal. However, such a theory has an interesting prediction: whenever two elements enter the derivation bearing each of them a [+F] feature but they don't merge together, two isolated focus structures will arise. For instance, a common case could be when a DP subject and a DP object enter the derivation being [+F] marked but the verb doesn't bear it; something like 19:

(19): Lexical Array: {{Mary}$_F$ {John}$_F$ {kiss}, {v}}

19a (*QUD*): Who kisses whom?
19b: [Mary]$_F$ kisses [John]$_F$.
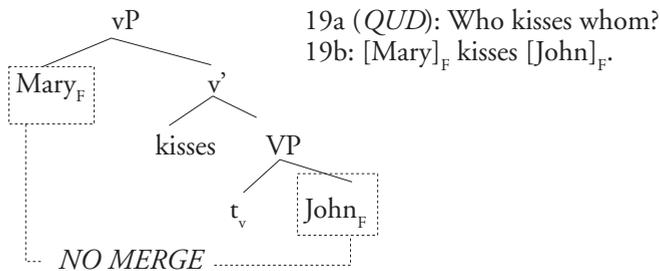
Thus, and following the type of semantic representation proposed by Herburger (2000), at the level of *logical form*, all the [+F] material will be mapped into the scope of a restricted quantification over events:

(20)

```
                     vP
            ┌────────┴────────┐
          DPF                 v'
           ┆          ┌───────┴───────┐
           ┆          v              VP
           ┆                   ┌──────┴──────┐
           ┆                   V            DPF
```

LF: [∃e [RESTRICTION] [SCOPE]]

Following this idea, in these constructions we don't have two independent foci, nor a 'contrastive topic' and a focus (as I will argue in 3.2), but just one focus that is derivationally split; *i.e.*, a pair. In fact, as argued in section 2, to be marked [+F] in the numeration doesn't entitle a lexical item to be the actual focus of the utterance, but it just will take part in the construction of the focus structure, be it in a direct compositional way as in 10-11-12, or in split focus constructions as in 19-20.

Having advanced the theoretical argument, let's review some of the properties of these constructions in order to clarify their split focus nature.

3.1. Intonational properties

In many languages, both elements that stand for a Wh-phrase in the question bear a pitch accent (*cf.* Bolinger 1958, Jackendoff 1972, Liberman & Pierrehumbert 1984 and Büring 2003 for English, Büring 1999 for German, Godjevać 2000 for Serbo-Croatian and Aske 1997, Elordieta 2001 and specially Irurtzun 2003a for Basque among many others).

However, even if it is true that each of the elements that stand for a Wh-phrase bear a pitch accent, the tunes associated to each of the elements are quite different. For instance, Jackendoff (1972) analyzes an answer to a multiple-Wh question as having two different pitch-accents that he calls 'A' and 'B' accents:

(21)

               FRED ate the BEANS
                B   A

The 'B accent' is characterized by a 'fall-rise' tune contour and the 'A accent' by a simple 'fall'. According to Jackendoff's (1972) analysis, the B tune is associated with a 'free' variable and the A tune to a 'dependent' variable, and the identification of the second variable will depend on the identification of the first one. These differences in tune-structure and 'liberty' of the variables have been analyzed as denoting that we're in front of two different informational-packaging primitives: a focus (characterized by the A accent), and a contrastive topic (characterized by the B accent (*cf.* Büring 2003).

However, notwithstanding the idiosyncrasies of focus-marking tunes in different languages, there is some regularity in the tunes for 'contrastive topics' across languages: right as with the 'B accents' of English, in other languages like Basque or Serbo-Croatian the so-called 'contrastive topics' are characterized by a final pitch rise. For Central Basque, I have analyzed elsewhere these constructions as involving a tune composed by a H* pitch accent and a H- boundary tone (*cf.* Irurtzun 2003a). However, in this respect, the most interesting language that I am aware of is Serbo-Croatian as analyzed in Godjevac (2000). In this language, in an answer to a multiple-Wh question each of the elements bears a L*+H pitch accent; and, akin to English or Basque, the so-called 'contrastive topic' phrase ends in a H- phrase accent and the 'focus' in a L-. However, there is one additional tonal event involved in these constructions: an initial %H in the 'focus'. This is shown in 22, as answering a question like 'Who gave a lemon to whom?':

(22)

```
        %L      L*+H    H-        %H      L*+H    L-
        |       |       |         |       |       |
        JE      LE      NA    je MA  RI       JI   dala.
              '[Jelena] gave it [to Mary].
```

Recall, that the %H boundary tone of 22 is not derived by the adjacent position of the H- phrase accent of 'Jelena', since, looking at 23 (where this adjacency does not hold), it seems that it is a categorical property of these constructions (since in normal/single focus utterances there is no %H at the left edge of the focus phrase):

(23)

```
    %L        L*+H    H-                  %H      L*+H    L-
    |         |       |                   |       |       |
    JE        LE      NA je dala ravan MA     RI       JI.
              '[Jelena] gave the flat one to [to Mary]'
```

In my view this evidence shows that on the one hand, in answers to multiple-Wh questions both elements that stand for a Wh-phrase bear a pitch accent. On the other hand, that the tune differences between both elements are usually phrasal, and there is a striking regularity across languages in that the tunes associated to 'contrastive topics' end in a high tone. Furthermore, as observed in Serbo-Croatian, the so-called 'foci' of the answers to multiple-Wh questions are not the same elements as foci that answer single-Wh questions.

Thus, and following the 'isolated focus-constructions' proposal of 3.1, I would want to suggest that in these constructions we don't have a 'contrastive topic' and a 'focus' (as proposed by Büring 2003), nor two independent foci (as answers to *Conjoined Questions*, see below) since the intonational patterns associated to them are not the same as those in sentences with a single focus. The conclusion would be that in these constructions, what we have is a single focus that is the *pair* of both elements, and the common high phrase accents could be analyzed as grammaticalized 'continuation rise' contours, something that would not be surprising under the analysis defended in this paper, whereby the focus structure is split among both elements bearing the [+F] features.

3.2. Semantic properties

As is widely acknowledged (*cf.* among others Bošković 2002, Büring 2003), in languages like English (24) or Basque (24) that show overt movement of (one of) the Wh words, sentences like 24b and 25b are *partial* answers of multiple Wh questions like 24a and 25a respectively:

(24) a. Who broke what?   b. John broke the door… (pair list)

(25) a. Zeinek erosi du zer?   b. Jonek atea hautsi du… (pair list)
      which buy AUX what   Jon door break AUX
      Who bought what?   John broke the door

In fact, in English, a question like 24 in a scenario that demands a single-pair answer is incongruent. Scholars like Wachowicz (1974, 1975) or Bolinger (1978) make a distinction between two types of multiple-Wh questions: *Matching Questions* and *Conjoined Questions*. Matching questions are the real multiple-Wh questions, those questions like 21 that demand a *pair list* answer. The nature of this need for a multiple event is a mysterious and remarkable fact (*cf.* Bošković 2002 for a possible analysis). Thus, 24 which allows or rather demands a pair list answer is a good example of matching questions but examples like 26 and 27 (below) are not. Arguably, this is due to the impossibility of having several events of killing Robert Kennedy (26) or keeping one single dollar at the same time in various banks (27):

(26) *Who killed Robert Kennedy when?

(27) *Who is keeping the silver dollar in which bank?

Comparing 26 and 27 to similar examples that allow the multiplicity of events like those in 28 (for 26) and 29 (for 27) make clear that the oddity of these sentences is strictly related to the necessity of having one single event and a pair-list answer:

(28) a. Who saw Robert Kennedy when?
     b. Who killed which Kennedy?

(29) Who kept the silver dollar in which bank?

On the other hand, we would have the conjoined questions; a conjunction of questions that demands for the independent identification of two variables. A case like these could be the one in 30, a grammatical variant of 26:

(30) Who killed Robert Kennedy, and when did he do it?

Here the question is perfectly natural because it demands independently and in two single-Wh questions for two pieces of information. Thus, putting aside the conjoined questions, what I want to argue is that the pairing pattern of multiple-Wh questions is explained straightforwardly with the analysis of the derivation and interpretation of the focus structure presented in section 2. Following a line of thought developped in Chomsky (1973), Higginbotham & May (1981) and Gutiérrez-Rexach (1999) among others, I will assume that at LF, in a multiple-Wh question like 31a, an operator absorption takes place creating a compound polyadic operator that quantifies over pairs of variables. This is represented in 31b:

(31) a. Who ate what?
    b. [WH *x,* WH*y*: person(x) & eatable thing(*y*)] *x* ate *y*

This LF representation for multiple-Wh questions is what will give us the *bijective* interpretation. Thus, the most natural assumption about the answers that these questions demand is to take both elements that stand for the pairs of variables in the question to be focal. The *uniqueness* of focus, the fact that each sentence has just one focus will be trivially obtained given the *logical form* representation assumed in section 2, whereby all the [+F] material will fall in the scope of an existential quantifier over events. In these cases the focus will be split, it will be the pair of elements being marked [+F], as they are mapped into the scope of the existential quantification over events. Basically, as depicted in 20, repeated here as 32 for convenience:

(32)
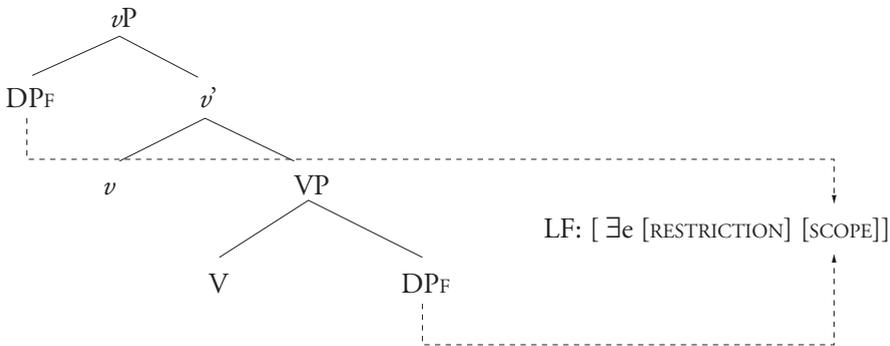
For instance, for the sentence in 33a (as a partial answer to 31a), we would have the *logical form* in 33b:

(33) a. John ate pizza.
    b. $\exists$ [Eating(e) & Past(e)][Eating(e) & Past(e) & Agent(e, John) & Theme(e, pizza)]

The corollary of such a proposal is that there will be just one focus per sentence, even if it has the form of a pair. Instead of introducing this as a principle, this fact will be derivative of the nature of the *logical form* representation of sentences with focus, *i.e.* that the quantification over events just has one scope. I think this is a nice prediction, and one of the advantages of this proposal comparing to previous approaches.

3.3. Some morphosyntactic properties: the 'contrast' particles of Japanese and Korean

Finally, with the analysis just sketched, we can also account for the usage/lack of usage of *contrast* particles of Wh-in-situ languages like Japanese or Korean, where multiple-Wh questions can be answered with either a single-pair or pair-list answer

(*cf.* Hagstrom 1998, Bošković 2002). Bošković (2002) gives the following scenario for triggering single-pair answers: *John is in a store and in the distance sees somebody buying a piece of clothing, but does not see who it is and does not see what the person is buying.* With this scenario, in a 'Wh-moving language' like English, a question like 34 is incoherent (since, as said earlier, it is inherently a matching question) whereas its counterpart in a 'Wh-in-situ language' like Japanese in 35 is fine:

(34) Who bought what?

(35) Dare-ga   nani-o   katta   no?
     who-nom   what-acc   bought   Q
     'Who bought what?'

Whichever the explanation for the lack of single-pair reading in Wh-movement languages, the case is that this reading is available in Wh-in-situ languages. The striking fact here is that in this type of languages, an answer to a multiple-Wh question is different when it is a single-pair or a pair-list answer (an asymmetry that up to my knowledge wasn't attested in the previous literature on the topic). In languages like Japanese or Korean that allow for the single-pair reading, the usage of some particles ('-wa' for Japanese, '-nun' for Korean) varies with the type of answer; the appearance of those particles is mandatory in the first element when asked for a pair-list answer but, remarkably, in both languages, when the question demands a single pair, the answer cannot bear such a particle (*cf.* 36a-b for Japanese and 37a-b for Korean):

(36) a. Takako-wa wain-o kaimashita... (pair list)
       Takako-WA wine-ACC bought
       'Takako bought wine…'
    b. Takako-ga wain-o kaimashita (single pair)
       Takako-GA wine-ACC bought
       'Takako bought wine…'

(37) a. Yenghui-nun wain-ul sassta.... (pair list)
       Yenghui-NUN wine-ACC bought
       'Yenghui bought wine…'
    b. Yenghui-ga wain-ul sassta. (single pair)
       Yenghui-GA wine-ACC bought
       'Yenghui bought wine'

Again, despite these particles have been analyzed as conveying the discursive notion of 'topic', in these cases we cannot talk about a topic, since it answers partially the question and might not be mentioned in the previous discourse. Furthermore, as argued recently by some scholars (*cf.* Munakata 2002, Kuroda 2003, Maruyama 2003), they should be better reanalyzed as marking 'contrast', one of the core properties of focal elements. Hence, the appearance of these contrast particles in pair-list answers but not in single-pair ones would follow from the matching type of the former ones and the conjoined type of the latter ones.

4. Summary and Conclusions

In this paper, I have analyzed the properties of the answers of multiple-Wh questions. I have argued that in these constructions, we have a split focal structure and that at *logical form*, it leads towards having a pair of elements as being the actual focus. This analysis provides us with a natural understanding of the question-answer pairings since all the material that stands for a variable in the question is taken to be focal in nature. Thus, treating these answers as instances of split foci, we can dispense with the theoretical primitive of 'contrastive topic' and gain in understanding of the interface phenomena observed crosslinguistically.

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