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Partial Wh-Movement in North Italo-Romance and the FormCopy Analysis of Wh-Doubling

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Abstract:

This paper analyzes the syntactic derivation of so-called ‘wh-doubling’, a single-constituent question-formation strategy that features the overt occurrence of two wh-phrases (e.g. *kuza fa la ku'ze* (lit.) ‘what does she do what?’) in North Italo-Romance. We argue that the wh-phrases involved in the construction are best treated as being generated independently by External Merge (EM), rather than being bona fide syntactic copies constructed by Internal Merge (IM). This raises the theoretical issue why IM to scope position cannot take place in wh-doubling, despite IM being more economical than EM. We propose that the wh-element merged in argumental position undergoes partial movement to the edge of the v-phase, where it becomes ‘frozen’ upon entering into a Focus configuration. This makes the derivation of wh-doubling identical to the derivation of wh-in situ up to the v-phase as recently proposed for different wh-in situ languages. The derivation of wh-doubling then proceeds by EM of an additional wh-phrase that gives phonological content to the scope Q position in the left periphery. The single-constituent reading is obtained at Conceptual-Intentional (C-I) via the operation FormCopy (FC), which connects the independently generated wh-elements in the syntactic workspace. We moreover discuss issues pertaining to parametric variation.

Keywords: *FormCopy, Labeling, North Italo-Romance, Phase, Wh-Doubling*

1. Introduction

Apart from the familiar question-formation strategy of wh-fronting (1), some varieties of North Italo-Romance (NIR) may resort to additional strategies that feature either wh-in situ/partial wh-movement (2) or the overt realization of a wh-element in both the canonical left-peripheral position and in what *prima facie* looks like the in situ position (3). These constructions

are all identical from a semantic point of view, i.e. they are interpreted as single-constituent answer-seeking interrogatives.

- (1) *kɔha* fa -l
 what does-he
 ‘What does he do?’
 (Cologno al Serio; Manzini and Savoia 2011: (28a’))
- (2) fa-l *ko’he*
 does-he what
 ‘What does he do?’
 (Cologno al Serio; Manzini and Savoia 2011: (28a))
- (3) a. *se* fa la *ku’ze*
 what does she what
 ‘What does she do?’
 b. *kuza* fa la *ku’ze*
 what does she what
 ‘What does she do?’
 (Olgiate Molgora; Manzini and Savoia 2011: (20))
 c. *ki* tʃamet *ki*
 who you call who
 ‘Who are you calling?’
 (La Strozza V. Imagna; Manzini 2014: (29c))

This paper focuses on the syntactic analysis of the question-formation strategy in (3), known as ‘wh-doubling’ in the literature (Poletto and Pollock 2004, 2015; Manzini and Savoia 2005, 2011; Manzini 2014). One challenge posed by (1)-(3) is to account for the single-constituent reading of the interrogative, i.e., how the presence of multiple wh-elements can achieve the same semantic result as wh-fronting and wh-in situ.

For the sake of explicitness, we begin our discussion by illustrating the derivation of regular wh-fronting. This type of interrogative is standardly analyzed as involving Internal Merge (IM) of a wh-element from its argumental (theta) position to the scope (Q) position. Moreover, the Phase Impenetrability Condition (PIC) requires the wh-element to first undergo IM in any intermediate phase edge before reaching its final landing site – the relevant phases being C and v (Chomsky 2001). The single-constituent reading is implicitly assumed to be obtained by the relation of c-command and the featural identity holding of the IM-copies (Chomsky 1993).

More specifically, however, we follow Chomsky (2021) in assuming that sequences of copies are interpreted as such by means of FormCopy (FC), a non-structure building operation occurring in the syntactic workspace at the phase level and obeying conditions on Σ (Search; e.g., minimality, c-command, the PIC). FC thus creates sequences of wh-elements – syntactic objects sharing the same referential and thematic interpretation (a chain, in more traditional terms) – in a successive-cyclic manner. The derivation of a wh-fronting sentence like (1) can then be illustrated as in (4) (irrelevant details omitted).

- (4) a. $\{_{VP} \text{fa}, kɔha\}$ (*generation of VP*)
 b. $\{v \{_{VP} \text{fa}, kɔha\}\}$ (*generation of v-phase*)

- c. $\{_{v_p} k\grave{o}ha \{v \{_{v_p} fa, k\grave{o}ha\}\}\}$ (*IM of wh to edge of v*)
 d. $\{C \{_{i_p} fa-l \{_{v_p} \{_{v_p} k\grave{o}ha \{v \{_{v_p} fa, k\grave{o}ha\}\}\}\}\}\}$ (*generation of C-phase*)
 e. $\{_{c_p} k\grave{o}ha \{C \{_{i_p} fa-l \{_{v_p} k\grave{o}ha \dots\}\}\}\}$ (*IM of wh to edge of C*)

At each phase level the operation FC applies and generates copy-pairs (e.g. <k\grave{o}ha, k\grave{o}ha> in the v-phase), ultimately forming the sequence <k\grave{o}ha, k\grave{o}ha, k\grave{o}ha> at the end of the entire derivation. Application of FC determines on the one hand deletion of lower members of the wh-sequence at the Sensory-Motor interface (S-M) and, as noted, their identical referential and thematic interpretation at the Conceptual-Intentional (C-I) interface on the other.

In a nutshell, the analysis to be developed in section 3 maintains that the single-constituent reading in wh-doubling is also obtained by means of FC. However, unlike wh-fronting we argue that the wh-elements in wh-doubling enter the derivation independently, by External Merge (EM). This is because the lower wh-element in a wh-doubling configuration undergoes partial movement to the edge of the v-phase, where it crucially enters into the labeling of a ‘criterial’ (or scope-discourse) configuration and subsequently freezes in that position (Chomsky 2015; Rizzi 2015). Being frozen at the edge of v, the wh-element is unavailable for further movement. The derivation of wh-doubling is then continued by externally merging an additional wh-element that ultimately gives phonological content to the Q criterial configuration, as demanded by parametric requirements (cf. Section 4). Regardless of how the wh-elements have entered the derivation, they can be connected via FC, provided that they can receive an adequate interpretation at the interfaces. In fact, an important property of FC is that it is Markovian – it does not have access to how items in the syntactic workspace have entered the derivation, i.e., whether by EM or IM.

Partial wh-movement to the edge of v renders the initial derivational stages of wh-doubling identical to the derivation of wh-in situ up to the v-phase, as independently argued for other wh-in situ languages (e.g., Manetta 2010, Kato 2013, Bonan 2021). In the case of wh-in situ the major issue is of course how the correct scope reading is achieved. Though reasons of space prevent us from pursuing this issue here, we note that the analysis to be developed favors an account of scope construal in terms of unselective binding (e.g., Heim 1982, Nishigauchi 1990), i.e. by an interrogative operator that is independently merged from the wh-element. In other words, fronting of the wh-element is not required for reasons of scope. We therefore reject the main alternative accounts of scope construal in wh-in situ, such as covert LF movement (e.g., Huang 1982) or covert syntactic movement with the spell-out of the lower copy at S-M (e.g., Brody 1995; Tsoulas and Yeo 2017; Seguin 2023) (cf. Bayer and Cheng 2017 for an overview of analyses of scope construal in wh-in situ).

This paper is organized as follows. Section 2 provides a brief discussion of the main doubling data to be captured by any analysis of the phenomenon. Section 3 develops the syntactic derivation of wh-doubling, with externally merged wh-elements connected via FC; it moreover provides some intra- and cross-linguistic evidence for movement to and freezing into the Focus configuration at the edge of the v-phase. Section 4 discusses issues relating to parametric variation and suggests a possible way in which patterns of wh-doubling may be captured. Finally, section 5 concludes the discussion.

2. Patterns of wh-doubling: main data

From a descriptive point of view, wh-doubling can be characterized as a heterogeneous phenomenon. As described in Poletto and Pollock (2015) and Bonan (2019: 33ff.), three different types of doubling can be distinguished depending on the nature of the wh-elements

At least type A and B are also attested in long-distance interrogatives (9), and in indirect questions (10).

- (9) a. *koza* penset (k) el fayε *ko'ze*
 what think.you that he do what
 'What do you think he's doing?'
 (La Strozza V. Imagna; Manzini and Savoia 2005: 591)
- b. *ki* penset ke l veje *ki*
 who think.2S that he comes who
 'Who do you think will come?'
 (Borgo di Terzo; Manzini and Savoia 2005: 591)
- (10) a. so mia *kome* i fa *ko'mε*
 know.I NEG how they do how
 'I don't know how they're doing it'
 (La Strozza V. Imagna; Manzini and Savoia 2005: 593)
- b. al so mia *se* fa *ku'ze*
 it know.I NEG what do what
 'I don't know what to do'
 (Civate; Manzini and Savoia 2005: 593)

Doubling has not been attested with the counterparts of *why* in NIR (cf. (11));

- (11) **Parchè* veto via *parchè*?
 why go-you away why
 (Illasi; Poletto and Pollock 2015: 146)

On the other hand, doubling of complex wh-phrases (i.e., wh + NP) is attested in all doubling configurations (12). A generalization is that the order between doubler and doublee cannot be reversed in examples like (12), where the wh-PP occurring clause-internally is doubled by a simple wh-element in scope position.

- (12) a. *se* l fet *kuη* *ku'ze*
 what it you.do with what
 'What do you do it with?'
 (Olgiate; Manzini and Savoia 2011: (32))
- b. *koha* l fe:t *koη* *ko'be*
 what it you.do with what
 'What do you do it with?'
 (Grumello; Manzini and Savoia 2011: (31))
- c. *che* l'è-t fat *con che ròba?*
 what it have-you done with what thing
 'With what did you do it?'
 (Mendrisio; Poletto and Pollock 2015: 147)

In what follows, we develop a syntactic derivation that underlies all types of wh-doubling. The availability or otherwise of specific patterns of wh-doubling will be relegated to idiosyncratic facets of the lexicon and/or conditions of the Sensory-Motor interface (cf. Section 4).

3. Analysis

As an initial hypothesis, one might postulate that wh-doubling is generated via IM of a wh-phrase from its argumental position to the scope position (eventually passing through phase heads under Phase Theory; e.g. Chomsky 2001), with language-specific rules dictating the overt realization of the syntactic copies (in the sense of Chomsky 1993). Such an account has in fact found consensus for the analysis of wh-copying, a similar construction to wh-doubling found in Germanic varieties, as illustrated in (13) (e.g., Felser 2004), and has also been suggested explicitly by Bošković and Nunes (2007) for NIR.

- (13) *Wen* glaubst du *wen* sie liebt?
 who believe you who she loves
 ‘Who do you think she loves?’

Such an IM-analysis might readily extend to cases like (3c), where the wh-elements involved are identical, as predicted by the Copy Theory of movement. However, note that wh-doubling in NIR often features a morphophonological asymmetry between the left-peripheral and clause-internal wh-elements (see, e.g., (3a, b) and further data in Section 2). Hence the IM derivation becomes problematic in that it requires an account of how syntactic copies can acquire distinct morphophonological realizations.² In some cases, the lexical properties of the wh-elements involved also seem to differ; for instance, (3a) involves a clitic wh-element in the scope position, whereas (3b) makes use of the non-tonic form of the clause-internal wh-pronoun. In line with previous scholarship on wh-doubling (e.g., Poletto and Pollock 2004; Manzini and Savoia 2011), we therefore assume that the two wh-elements enter the derivation independently – i.e., by EM – rather than being bona fide copies generated by IM.

More specifically, according to Poletto and Pollock the two wh-elements involved in a wh-doubling configuration are generated as part of the same phrase in argumental position, effectively importing into wh-dependencies a model independently proposed for so-called clitic doubling (cf. Kayne 1991). They therefore propose that the full wh-pronoun is the Spec of a clitic wh-head, e.g. [*ku'ze* [D *se*]] in (3a).³ Subsequent movement operations, including remnant IP-movement (in the sense of Kayne 1998) are postulated to derive the attested word orders (the reader is referred to the cited works for details).

On the other hand, Manzini and Savoia (2005, 2011) specifically argue against ‘the big DP’ and remnant movement analysis both in terms of the general complexity of Kayne’s (1998) model and on the basis of specific predictions (cf. Manzini 2014). Adopting a representational view of grammar (e.g. Brody 2003), they propose that the wh-elements of a doubling configuration are each generated independently in their surface position, i.e., in the scope position and in situ, and are subsequently connected via interpretive rules at C-I. Our analysis will be close in essence to Manzini and Savoia’s (2011), though we crucially recast it in the derivational framework of Chomsky (2013, 2015, 2021).

Note however that the assumption that wh-doubling features independently EM-ed

² This problem in fact also arises for wh-copying in some varieties. See Manzini and Rugna (2023) for an analysis of wh-copying that does not make recourse to IM of the wh-elements.

³ Poletto and Pollock (2009) acknowledge the fact that one of the two copies is not necessarily a clitic, as in e.g. (3b). However, they maintain the ‘big DP’ analysis, based on the assumption that one of the two copies is at best a weak pronoun (in the sense of Cardinaletti and Starke 1999).

wh-elements raises a theoretical problem in our minimalist derivational framework. Specifically, Chomsky (2021) argues that IM is more economical than EM whenever available. This is because Σ (involved in locating the items to which Merge applies) is restricted to a syntactic object within the current workspace under IM, whereas under EM Σ has access to the entire workspace as well as the lexicon. Assuming this to be correct, the question arises as to why wh-doubling grammars resort to EM of an additional wh-element instead of internally merging the wh-element already available in the syntactic workspace to the scope position (leading to wh-fronting as in (1)).

Here we propose that the derivation of wh-doubling cannot involve IM of the wh-element to the scope position due to its undergoing partial movement to the edge of the v-phase, where it enters into the labeling of a Focus configuration. The clause-internal wh-element thus freezes within the v-phase and becomes unavailable for further Merge. As we discuss below, such freezing opens up the derivational possibility of externally merging an additional wh-element in the scope position, despite EM being more costly in terms of computational resources than IM (Chomsky 2021). The single-constituent reading is then obtained via the operation FormCopy (FC; Chomsky 2021), which connects items in the syntactic workspace under their relation of c-command and, we argue, featural non-distinctness – regardless of whether such items are IM-copies or whether they are drawn from the lexicon independently (as Chomsky 2021 argues to be the case in control configurations).

Partial wh-movement is understood here as a type of ‘criterial’ freezing (in the sense of Rizzi 2006, 2015), namely merger (and halting) of an element in a position dedicated to the expression of some scope-discourse property. In particular, we assume that the relevant property in NIR is Focus (Manzini 2014; Bonan 2021). Moreover, in line with Belletti (2008), we take it that Focus is licensed at the edge of (some projection of) the v-phase.

That wh-elements can move to – and freeze at – the edge of vP has been argued for several languages for some time now (e.g. Mahajan 1990; Jayaseelan 1996; Manetta 2010; Kato 2013; Bonan 2021). In Hindi-Urdu, for instance, wh-elements consistently freeze in the preverbal position, regardless of whether they are dislocated to the matrix clause (14a), or whether they remain in the embedded clause (14b).

- (14) a. Sita-ne *kis-ko* soca: ki Ravi:-ne
 dekha:?
 Sita-ERG who-ACC thought that Ravi-ERG
 saw
 ‘Who did Sita think that Ravi saw?’
 b. Sita-ne *kya:* soca: ki Ravi:-ne *kis-ko*
 dekha:?
 Sita-ERG EXPL thought that Ravi-ERG who-ACC
 saw
 ‘Who did Sita think that Ravi saw?’

(Hindi-Urdu; Manetta 2010: 1)

The freezing preverbal position, which Manetta (2010) identifies with SpecvP, is not available to constituents in unmarked declaratives. Interestingly, however, such a freezing position is available to focused constituents (15), indicating a strict correlation in the structural positioning of interrogative and non-interrogative focused constituents.

- (15) Maiñ-ne kamre-meñ [inhi: ti:n laṛkoñ-ko] bhe:ja.
 I-ERG room-to [these.FOC three boys-ACC] sent
 ‘I sent *these* three boys to the room.’
 (Hindi-Urdu; Manetta 2010: 6, citing Sharma 1999: 10)

With respect to Romance languages, Kato (2013) argues that answer-seeking (as opposed to echo) *wh*-in situ in Brazilian Portuguese (BP), as in (16), is also the result of focus movement to the edge of *vP* (more precisely, to Belletti’s (2008) FocusP).

- (16) Você viu quem?
 You saw who
 ‘Who did you see?’

This conclusion is supported by both phonological and syntactic considerations. For instance, the intonation contour in BP answer-seeking *wh*-in situ is shown to be similar to the intonation contour of simple declaratives with postposed focalized subjects (see Kato 2013: 184). Moreover, in BP postverbal subjects cannot be licensed as arguments of transitive verbs (cf. 17a and 18a); as (18b, c) show, the distribution of *wh*-in situ with a postposed is subject to the same restrictions.

- (17) a. Telefonou [A MARIA]
 telephoned the M.
 ‘Mary called’
 b. Telefonou quem?
 telephoned who
 ‘Who called?’
- (18) a. *Compraram os CDs [os meninos].
 bought the CDs the boys
 ‘The boys bought the CDs.’
 b. *Comprou os CDs quem?
 bought the CDs who
 ‘Who bought the CDs?’
 c. *Comprou *o que* os meninos?

Going back to NIR, there is both morphological and syntactic evidence indicating that clause-internal *wh*-elements are merged in a position dedicated to the licensing of Focus. As Manzini (2014: 187-188) discusses, non-clitic *wh*-forms that take stressed -’*ε* morphology must necessarily appear clause-internally in a *wh*-doubling configuration; see the contrast in (19a, b).

- (19) a. *se/’kuza* fa la *ku’ze*
 what does she what
 b. **ku’ze* fa la *se/’kuza*
 what does she what
 ‘What does she do?’

To understand this distribution, Manzini proposes that -’*ε* morphology is associated with the licensing of Focus. This conclusion is supported by the observation that -’*ε* morphology is

syncretic with the copula, specifically with the third person singular of the verb corresponding to *be*. Significantly, copulas participate in the construal of Focus in other aspects of the grammar in Romance (as in English), such as cleft constructions (e.g., Italian *cos'è che...* 'what is it that...'), and they can also lexicalize focus particles in other languages, like Somali (e.g., Frascarelli and Puglielli 2005). Assuming with Belletti (2008) that Focus is licensed in a dedicated position at the edge *v*, the contrast in (19) is then captured rather straightforwardly. Quite simply, in the presence of doubling, the Focus - *è* morphology is spelled out in the dedicated Focus position at the edge of *v*, whereas other interpretive properties, like Q, are spelled out in the left periphery, as roughly illustrated in (20).

(20) $[_{QP} se/'kuza [_{IP} fa la [_{FocusP} ku'z\epsilon [v [_{VP} fa ku'z\epsilon]]]]]$

Bonan (2021) discusses direct syntactic evidence that clause-internal wh-elements in (at least some varieties of) NIR undergo the kind of partial Focus movement, which she dubs WH-to-FOC, envisaged by Manzini (2014). The data in (21) show that in eastern Trevisian the Indirect Object (IO) represented by the wh-phrase *a ki* 'to whom' must surface above the Direct Object (DO) *i pomi* 'the apples', an option that is not otherwise available to non wh-IOs in unmarked declaratives (22). Conversely, non-wh IOs can surface above the DO when they are focalized (23).

- (21) a. ghe ga-tu dato a ki_i i pomi ___?
 3.DAT have=you given to who the apples
 'To whom did you give the apples?'
 b. *ghe gatu dato i pomi a ki?
 3.DAT have=you given the apples to who
 'To whom did you give the apples?'

- (22) a. ghe go dato i pomi_{DO} a džani_{IO}
 3.DAT have.1S given the apples to John
 'I gave the apples to John'
 b. *ghe go dato a džani_{IO} i pomi_{DO}
 3.DAT have.1S given to John the apples
 (Treviso; adapting Bonan 2021: 5, 7)

- (23) ghe go dato A džANI i pomi!
 3.DAT have1PS given to John the apples
 'It's TO JOHN that I gave the apples' (lit: 'I gave TO JOHN the apples')
 (Treviso; Bonan 2021: 9)

The morphosyntactic correlations between focalized constituents and clause-internal wh-elements can thus be captured under the assumption that clause-internal wh-elements are displaced onto a dedicated Focus position at the edge of *v*. The derivation of wh-doubling may then be characterized as being in relevant respects identical to the derivation of wh-fronting and wh-in situ up to the *v*-phase. More specifically, these types of wh-strategies all involve movement to the edge of *v*. However, while movement to the edge of *v* is transitory in wh-fronting, movement is terminal on present assumptions in the case of wh-in situ and wh-doubling. Hence the question arises as to what prevents IM of the wh-element at the edge of *v* to the scope position in the latter types of interrogatives.

Bonan (2021) analyzes terminal Focus movement in *wh*-in situ (i.e., WH-to-FOC) as an instance of Criterial Freezing (Rizzi 2006, 2015), according to which phrases entering into a configuration dedicated to the expression of some scope-discourse property (i.e., a criterial configuration) are unavailable for further movement. As such, Focus movement results in Focus freezing. In order to model this intuition, we depart from Bonan and follow Chomsky (2015) in assuming that movement out of a criterial configuration is prevented because such movement would disrupt the label – and hence the particular interpretation – associated with the criterial configuration (cf. also Rizzi 2015 for a different analysis of the freezing effect).⁴ Moreover, we adopt the Labeling Algorithm of Chomsky (2013), according to which XP-YP configurations can be labeled by an agreeing feature of X and Y.

Consider then a case of *wh*-doubling as in (24a). As noted, we assume that the first steps of the derivation of *wh*-doubling are identical to the derivation of *wh*-fronting and *wh*-in situ up to the *v*-phase, with EM of *koʒe* ‘what’ in argumental position and its subsequent IM to the edge of *v*. The crucial difference with respect to the derivation of *wh*-fronting is that, by assumption, the *wh*-element *koʒe* is frozen at the edge of *v* in *wh*-doubling (as it is in *wh*-in situ in the languages considered here). The labeling formalization of freezing effects that we adopt then requires *koʒe* and the phase head *v* to enter into Agree in some formal feature F in (24), as a result of which the *v*-phase is labeled by F. This is illustrated in (24b, d).

- (24) a. *koza fet koʒe*
 what do-you what
 ‘What do you do?’
 b. $\{_{VP} fa, koʒe_F\}$ (generation of VP)
 c. $\{v_F \{_{VP} fa, koʒe\}\}$ (generation of
 v-phase)
 d. $\{_{FP} koʒe_F \{v_F \{_{VP} fa, koʒe\}\}$ (IM of *wh* to edge of *v* + labeling by F)

Following a suggestion by Chomsky, the F feature on *wh*-elements and phase heads can be understood as a type of generalized “force feature F, subsuming Q as a special case” (2013: 47); *wh*-elements may then be compatible with a range of interpretations, “[their] interpretation as interrogative, relative, exclamative determined by structural position” (Chomsky 2015: 13 fn. 16).

Let us note further that labeling by F in the *v*-phase is not a necessary step, see for instance step (4c) in the derivation of *wh*-fronting. Recall that from a minimalist standpoint operations occurring in the syntactic workspace are optional: their licensing is strictly established at the interfaces (Chomsky 2021). However, labeling is a possible step. In fact, this is the null hypothesis on the natural assumption that the system lacks the look-ahead property that could instruct the derivation on how to proceed on the basis of contextual restrictions imposed from above (i.e. selection). In line with Belletti (2008), we then assume that labeling by F in the *v*-phase is licensed as a Focus configuration at C-I. Consequently, by entering into labeling, *koʒe* is frozen at the edge of *v* and becomes unavailable for further IM.

Proceeding with the construction of the interrogative C-phase, we propose that *wh*-doubling grammars may resort to EM of an additional *wh*-element in order to lexicalize *wh*-scope. We assume for simplicity that the *wh*-element *koza* ‘what’ is directly drawn from the lexicon at this

⁴The underlying assumption here is that IM-copies are invisible to the Labeling Algorithm (Chomsky 2013; see Rizzi 2015: 326, on why this assumption is compatible with the copy theory of movement).

point and merged at the edge of C.⁵ In consonance with our preceding discussion about labeling of criterial configurations, the Q criterial configuration is labeled by an agreeing F-feature shared by the wh-element *koza* and the C phase head, as in (24e).

- (24) e. $\{\text{FP } koza_F \{C_F \text{ fet } \{\text{FP } ko'ze \dots\}\}\}$

The derivation developed so far can thus account for why *ko'ze* must remain clause-internally. However, the left-peripheral *koza* is not assigned a θ -role at the edge of C. This is once again where the role of FC becomes crucial, which connects *koza* to the lower θ -role-bearing *ko'ze* by means of their c-command relation and identity of wh- and ϕ -features, creating the wh-sequence $\langle koza, ko'ze, ko'ze \rangle$. In other words, by virtue of FC *koza* can be ‘ θ -linked’ (Chomsky 2021: 26) despite being merged in an A'-position.

In the case of cross-sentential wh-doubling, like (9) above, the embedded sentence has the same derivation as that just seen in (24). Suppose however that unlike what happens in (24e) the higher wh-element does not Agree with C, and consequently does not enter into the labeling of the CP. The derivation can then be continued by IM of the higher wh-phrase, as sketched in (25) for the derivation of (9a). As usual, application of FC between *koza* and *ko'ze* licenses their being part of the same wh-sequence at C-I.

- (25) a. $\dots [_{CP} koza \text{ k } [_{IP} \text{ el faye } [_{FP} ko'ze [v_F [_{VP} \text{ faye } koze]]]]]$
 b. $[_{FP} koza \text{ penset } [_{IP} \text{ I } [_{VP} koza \text{ penset } [_{CP} koza \text{ k } [_{IP} \text{ el faye } [_{FP} ko'ze]]]]]]$
 ...

So far we have only considered cases where FC applies between items with identical ϕ -features. However, as Chomsky (2021) also suggests in considering cases of anaphoric binding, FC may apply between items that are not strictly speaking identical from a featural point of view. Doubling varieties that make use of an invariant scope-marker (‘type C’ varieties), as in (7) above, indeed provide support for the conclusion that FC need not apply just in the case of featural identity among the members of the copy-pair. We therefore propose that FC is not driven by featural identity but by the next most restrictive condition, i.e. non-distinctness. The degree of tolerance towards non-distinct features among the members of the wh-sequence is a matter that must be established at the S-M interface, according to language-particular rules (cf. Section 4).⁶

One question that arises is why FC does not ultimately lead to the deletion of the lower wh-elements in the case of wh-doubling, unlike what happens in the case of IM, as in, e.g., (25) above. In cases of doubling of type C, like (7) we may appeal to the classical notion of recoverability. For instance, in (7a), deletion of the lower wh-phrase would eliminate non-recoverable information about ϕ -features. However, this solution clearly does not generalize to

⁵ Alternatively, one may assume that a minimal wh-pronoun (in the sense of Kratzer 2009) is merged in this position, i.e. a wh-D with unvalued ϕ -features. The minimal pronoun may then enter into Agree with a lower wh-phrase and value its ϕ -features accordingly (cf. den Dikken 2018 for an analysis along these lines for Germanic wh-scope marking and wh-copying; cf. Manzini and Rugna 2023).

⁶ As noted in section 2, one wh-element that appears to be consistently ruled out in wh-doubling configurations is (the counterpart of) *why*. Luigi Rizzi (p.c.) points out that this generalization can be captured rather straightforwardly under our proposal by the assumption that *why* (and its cross-linguistic equivalents) can only be merged in the C-phase (e.g. Rizzi 2001).

cases where recoverability holds, like (5)-(6). We therefore assume that deletion at S-M may not target elements entering into the labeling of criterial configurations on pains of rendering such configurations illegible at the interfaces.

4. On parametric variation

In this section, we briefly consider issues pertaining to parametric variation. It is important to note at the outset that we take parameters to be descriptive statements relating to language-specific externalization systems. Parameters are therefore not (sets of) choices internal to the language faculty (cf. Chomsky, Gallego and Ott 2019: 244-245). It should go without saying that parameters so conceived must still adhere to – and not be in conflict with – the set of grammars defined by UG. Descriptive statements like those below therefore go towards showing that some basic learnability conditions (essentially, consistency with UG) are met by the grammars investigated.

A first question that must be addressed is why the *wh*-doubling derivation of NIR should not extend to closely related languages, like Italian, and derive e.g. (26).

- (26) **Cosa* hai visto *cosa*?
 what have.2S seen what
 ‘What did you see?’

The Focus position is available for labeling in Italian (Belletti 2008), hence the derivation might in principle be extended by EM of *cosa* in the scope position and its subsequent connection with the lower *wh*-element by FC. In fact, we assume that nothing in the syntax itself prevents the generation of (26). This is desirable on independent minimalist grounds, as the burden of explanation must be placed on interface-related conditions. For (26), we then assume that the derivation may go through in the narrow syntactic component, but crashes at the S-M interface on the basis of language-specific conditions. In particular, we may assume that a condition informally storable in the terms of (27) may hold at S-M.

- (27) Wh-doubling parameter
 Q and Focus spell-out independently: yes/no

The positive setting of (27), requiring that Q and Focus be split at S-M, derives *wh*-doubling grammars. Such grammars therefore enforce a derivation where criterial configurations are labeled (hence interpreted as such at the interfaces), regardless of whether labeling takes place after the *wh*-phrase undergoes IM (as in the most embedded vP) or EM (as in subsequent phases) in phase edges. The negative setting of (27) will instead derive *wh*-fronting and *wh*-in situ languages, where Q and Foc are not spelled out independently (28b, c).

- (28) a. $[_{FP} wh_F C_F [_{IP} \dots [_{FP} wh_F v_F]]]$ (wh-doubling)
 b. $[_{FP} wh_F C_F [_{IP} \dots [_{vP} wh_F v_F]]]$ (wh-fronting)
 c. $[_{CP} C_F [_{IP} \dots [_{FP} wh_F v_F]]]$ (wh-in situ)

The parameter distinguishing *wh*-fronting and *wh*-in situ languages may be captured by various means. Here we tentatively adopt the formulation in (29), according to which *wh*-in situ languages are characterized by the requirement of spelling out (and therefore labeling) the

Focus configuration. The negative setting of (29) instead derives the unmarked word order of wh-interrogatives in English and Italian among other languages. To account for languages like Brazilian Portuguese and Trevisian, where both wh-in situ and wh-fronting are legitimate strategies for answer-seeking interrogatives (Kato 2013, Bonan 2021), we may simply assume that (29) is not active in the relevant grammars. Optionality therefore arises, and the spell-out may target either the Q or the Focus configuration – but not both, due to the negative setting of (27).

- (29) Wh-in situ/fronting parameter
Spell-out Focus: yes/no

A related issue to consider is that, as far as we can see, there is no clear correlation between parameters in the wh-dependencies that we consider. That is, the positive setting of (27) does not entail the positive setting of the ‘wh-in situ’ parameter in (29) (or vice versa). Although the parameter involved in both wh-doubling and wh-in situ gives rise to the spell-out of Focus, there is no attested implicational relation between the two grammars. Indeed, as Manzini and Savoia point out, some NIR varieties like “Civate and Olgiate have wh-doubling but not wh-in situ”, and conversely “Cologno has wh-in situ but not wh-doubling (as does Bellunese)” (2011: 107).

Let us then turn to considering the parametric variation among the doubling varieties of type A, B and C described in section 2. The differences among these varieties amount to aspects of the lexicon and/or conditions holding at the S-M interface. Thus the parameter discriminating between varieties of type A and B, for instance, can be reduced to the availability of wh-clitics in the language. Quite simply, we may postulate that the presence of type A in a variety depends on the availability of wh-clitics in its lexicon. In the absence of wh-clitics, the grammar makes use of regular non-clitic wh-elements to construct the wh-sequence, giving rise to wh-doubling of type B (which may coexist alongside type A as it does in several varieties).⁷

An explanation in terms of lexical properties does not lend itself very straightforwardly to accounting for wh-doubling of type C, which makes use of an invariant *what*-like element in the scope position to construct the wh-sequence. For such varieties, it may be assumed that S-M conditions regulate the realization of the members of the copy-pair generated by FC, as in the parameter in (30) (cf. Chomsky’s 2001 Maximization Principle)

- (30) Type A/B vs C parameter:
In a copy-pair, maximize matching with respect to formal features (wh, ϕ , N...) (yes/no)

Specifically, we assume that elements in a copy-pair must enter into agreement (i.e., matching) relation if the parameter is set positively. This leads to type A/B varieties, which require maximal matching in the featural composition of the members of the copy-pair (31a). The negative setting of the parameter is instead exploited by varieties of type C (31b). The parameter in (30) can also remain unvalued, and therefore allow for multiple options, as attested at least in Mendrisio (cf. Section 2).

⁷ Though we cannot enter into details here, we note that lexical properties of the language are implicated also in the possibility of realizing criterial positions by phase heads, rather than by wh-phrases, as attested in e.g., Q-particle languages such as Japanese (Nishigauchi 1990) and Mandarin Chinese (Cheng 1991), among others.

- (31) a. %<[_{DP} *ki wh φ* _{+human}], [_{DP} *ki wh φ* _{+human}]> → OK at S-M if (30) is positive (type A/B))
 b. %<[_{DP} *koza wh φ*], [_{DP} *ki wh φ* _{+human}]> → OK at S-M if (30) is negative (type C)

Insofar as conditions of the type advocated here can be maintained, the core of the derivation developed above does not change. We leave it to future research, however, to provide a full-fledged account of further parametric differences.⁸

5. Conclusion

This paper argued that wh-dependencies may involve partial wh-movement to the edge of v and subsequent labeling of the configuration by the F(orce) feature. Being frozen in a labeled configuration, the wh-phrase cannot undergo further IM on pains of disrupting the label (Chomsky 2015). Grammars involving partial wh-movement thus instantiate derivations where IM of an element is blocked, despite being the more economical option under resource restriction (cf. the control analysis of Chomsky 2021).

Here, the possibility of freezing a wh-element is made available by (i) the third-factor principle of no-look ahead, potentially leading to labeling by Agree in the current phase; and (ii) language-specific S-M conditions, dictating whether or not a given criterial configuration must receive phonological content. More specifically, we proposed that doubling grammars are characterized by the requirement for the split spell-out for the Q and Focus criterial configurations (which is instead set negatively in wh-fronting/in situ; cf. Section 4). Due to the scope of this article we leave open to future research how more fine-grained parameters can be captured under the current proposal, as well as how Q-scope can be determined in wh-in situ (though we note in passing that the current proposal favors an unselective binding approach à la Nishigauchi 1990; cf. Cheng 1991).

Labeling of non-scopal configurations by Agree therefore opens up the derivational possibility, exploited in wh-doubling, of merging additional copies, which may extend the chain up to the scope position. The newly merged element, requiring a theta-role, obtains the latter via FC under conditions on Σ . We moreover proposed that FC is not restricted by featural identity between the members of the copy-pair, but by the most restrictive condition, i.e., non-distinctness.

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⁸For instance, doubling of type B in Pagotto appears to be restricted to the counterpart of *what* (Bonan 2019: 36 and references cited therein). It may then be postulated that the members of the copy-pair may not involve [human] features in Pagotto, thereby excluding doubling with *who* in this variety. Different types of featural agreement is also what characterizes differences in patterns of so-called wh-scope marking and wh-copying across Germanic varieties; see Manzini and Rugna (2023) and Rugna (2023: §5.4) for further details.

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