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Focus fronting vs. *wh*-movement: Evidence from Sardinian

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Abstract

It is commonly held that focus fronting exhibits similar properties to *wh*-movement. The syntactic parallelism between the two types of movement has been supported by the semantic analyses of *wh*-questions that assume that when *wh*-words function as interrogative operators, they are inherently focal. The main goal of this paper is to challenge this highly attractive picture of the relationship between *wh*-words, focus, and movement, and to claim that *wh*-phrases are not inherently focal. The results of a prosodic production experiment on the distribution of the nuclear pitch accent in Sardinian *wh*-questions, together with the syntactic properties related to the asymmetry between direct and indirect *wh*-questions, form the empirical basis of this study.

Keywords: focus fronting, *wh*-question, nuclear pitch accent, Sardinian, production experiment

1. Introduction

It is a commonly held view that focus fronting (henceforth FF) exhibits similar properties to *wh*-movement. A comparison of these two operations, however, reveals clear syntactic differences. In English, for example, *wh*-words undergo (obligatory) movement in *wh*-questions, but FF is not obligatory and is instead limited to special interpretations. Relying on evidence from weak crossover effects, however, Chomsky (1976) proposes a covert (LF) movement operation for FF. Even if the focus stays in situ (1b), the configuration gives rise to the same type of weak crossover effects as observed in *wh*-questions (2):

- (1) a. His_i mother saw John_i
b. *His_i mother saw JOHN_i
- (2) *Who_i did his_i mother see?

Sentences with narrow focus thus constitute an operator-variable structure, meaning that the representation of focus at LF is parallel to that of structures derived by *wh*-movement. The observable syntactic difference between *wh*-movement and FF can therefore be expressed simply in terms of a difference in the nature of movement: overt vs. covert movement. Consequently, several

treatments of question syntax assume a parallelism between *wh*-phrases and foci, and suggest that *wh*-phrases carry (or at least can carry) a focus feature (see, e.g., Haegeman & Guéron 1999).

According to a longstanding tradition starting with Brody (1995) and Rizzi (1997), it has additionally been assumed that *wh*-movement and FF target the same position within the left periphery of the clause. This position is the specifier of FocP in Rizzi (1997), as shown in (3):

- (3) [Force [Top* [Foc [Top* [Fin [IP...]]]]]]

The syntactic parallelism between the two types of movement has been further supported by the semantic analyses of *wh*-questions that assume that when *wh*-words function as interrogative operators, they are inherently focal (Beck 2006; Cable 2010; see also Eckardt 2007 for discussion). Beck (2006), for example, assumes that interrogative *wh*-phrases only contribute a focus semantic value to the interpretation (4), which is exploited by a question operator on top of the sentence radical:

- (4) [What]_F did Dave buy?
Focus Background/Presupposition

The main aim of this paper is to challenge this highly attractive picture of the relationship between *wh*-words, focus, and movement. My starting point is Jones's (1993) comparison between fronted foci and *wh*-phrases in Sardinian and, in particular, the prosodic differences between *wh*-questions and sentences with FF, as well as the more general asymmetry between direct and indirect *wh*-questions. Following Bianchi, Bocci & Cruschina (2017), I propose that interrogative *wh*-words are not inherently focal, and that direct (but not indirect) *wh*-questions require a congruent answer, and hence disallow an independent focus structure.

In §2, I briefly review Jones's (1993) discussion of the differences and similarities between FF and *wh*-movement in Sardinian. I then concentrate on the prosodic properties of these two structures, commenting first on the general problems that the distribution of the 'nuclear pitch accent' (NPA) in *wh*-questions poses for any theory that assumes a parallelism between *wh*-phrase and focus (§3), and then presenting the results of a prosodic experiment on Sardinian *wh*-questions (§4). In §5, I discuss a further important difference between *wh*-questions and sentences with FF, namely, the difference between direct and indirect *wh*-questions in terms of syntactic restrictions: a *wh*-phrase can only co-occur with a fronted focus in indirect questions, and is ruled out in direct questions. In §6, I outline an analysis that aims to account for both the root-embedded asymmetry with respect to *wh*-questions and the distribution of the NPA in Sardinian. This analysis is based on the claim that *wh*-questions are not inherently focal. The main points of the paper are summarized in §7.

2. FF vs. *wh*-movement in Sardinian

Sardinian features an extensive use of FF, which is not limited to a contrastive interpretation as in other Romance languages. This allows a more direct comparison between the two movement types: FF and *wh*-movement. Jones (1993: 333-334) lists a number of common properties between the two structures: (a) uniqueness, i.e., movement can only apply to one element within the same clause; (b) adjacency between the fronted item and the verb, which prevents the subject from occurring in a preverbal position; (c) ordering with respect to left-dislocated phrases; (d) incompatibility with the interrogative particle *a*; and (e) incompatibility with each other, in that fronted foci and *wh*-phrases are mutually exclusive — at least in root clauses (see also Jones 2013). The last of these is illustrated in (6), where it is shown that *wh*-movement and FF, which can occur separately (cf. (5a) and (5b), respectively), cannot occur within the same sentence, irrespective of the linear order (6):

- (5) a. *A kie as datu su jocátulu?*
 to whom have.PRS.2SG given the toy
 ‘‘To whom did you give the toy?’’
- b. *Su jocátulu li as datu.*
 the toy him.DAT= have.PRS.2SG given
 ‘‘You gave him *the toy*.’’
- (6) a. **A kie su jocátulu as datu?*
 to whom the toy have.PRS.2SG given
- b. **Su jocátulu a kie as datu?*
 the toy to whom have.PRS.2sg given

Jones accounts for the mutual incompatibility between fronted foci and *wh*-items, as well as for other properties, by postulating that both types of movement target the same functional projection in the left periphery of the clause — as later developed in Rizzi (1997).

However, there are clear differences between the two types of movement: (a) position of the stress; (b) occurrence in embedded contexts, which applies to FF, but only applies to *wh*-phrases in indirect questions; (c) availability in embedded infinitival clauses, which applies only to indirect *wh*-questions, and not to FF; (d) presence of a preverbal subject position in embedded clauses, which is only an option in indirect *wh*-questions.

After reviewing the similarities between FF and *wh*-movement in Sardinian, Jones (1993) begins his discussion of the differences with an

observation about the different position of the stress in the two types of structure:

On the other hand, there are a number of differences between NP fronting and WH-movement. First, whereas fronted NPs are always stressed and focused, to the exclusion of other elements in the remainder of the sentence, *wh*-items do not normally bear the main stress except in echo-questions or in cases where the content of the rest of the clause is pragmatically presupposed. (Jones 1993: 335)

Unlike fronted foci, thus, *wh*-phrases do not bear the NPA of the sentence (the main stress, in Jones's terminology). Moreover, fronted foci and *wh*-phrases display different behaviour in embedded contexts: as in Italian (Rizzi 2001; Bocci, Rizzi & Saito 2018) and in other Romance languages, *wh*-phrases are incompatible with a narrow focus in direct questions, but not in indirect questions (7):

- (7) *Mi so dimandande a Juanne itte appan natu*
me= be.1SG ask.GER to Juanne what had.3PL said
(, *no a Paulu*).
not to Paulu
"I'm wondering what they said to Juanne (, not Paulu)."

Unlike in direct questions, then, in embedded (indirect) questions FF and *wh*-movement are compatible with each other. In this paper I primarily concentrate on the differences in prosodic patterns between *wh*-questions and sentences with FF, and will then further comment on the asymmetry between direct and indirect *wh*-questions with respect to the mutual (in)compatibility between fronted foci and *wh*-phrases. For the purposes of the first of these, in §4 I present the results of a prosodic experiment confirming Jones's intuitions about the different prosodic pattern of *wh*-questions, and undermining the received 'isomorphism' between focus fronting and *wh*-movement.

3. The distribution of the 'nuclear pitch accent' in *wh*-questions

According to a well-established approach, focus is always realized by structural prominence. This approach was pioneered by Truckenbrodt (1995) with the constraint called Focus Prominence given in (8):

- (8) Focus Prominence (Truckenbrodt 1995)
Focus needs to be maximally prominent

In order to be maximally prominent, the focus constituent of the sentence must be assigned the most prominent metrical head of the sentence, i.e., the nuclear stress (Zubizarreta 1998, 2016; and Zubizarreta & Vergnaud 2005); at the intonational level, this metrical head is in turn associated with the pitch accent that qualifies as the NPA (Beckman, Hirschberg & Shattuck-Hufnagel 2005).

In Romance, if no narrow focus is present, the NPA is assigned by default to the rightmost constituent of the sentence in declaratives. In *wh*-questions, however, a number of different patterns are found.

3.1. The prosodic patterns of *wh*-questions

Ladd (1996: 170-174) observes the curious exceptional behaviour of *wh*-questions with respect to the assignment of the NPA: “Logic seems to suggest that the WH-word is the focus of the question, and yet, in English at least, the WH-word does not normally bear the most prominent accent” (the NPA, in our terminology). English displays the pattern in (9a), with the NPA on the stressed syllable of the rightmost constituent, rather than the expected contour in (9b) with the NPA on the *wh*-phrase:¹

- (9) a. Where are you **going**?
- b. #**Where** are you going?

From a comparative viewpoint, Ladd (1996: 171) remarks that “there are languages with WH-movement that do put the nuclear accent on the WH-word”. One such language is Romanian, for which he provides the following examples (the same pattern is also found in Hungarian and Greek).

- (10) (Romanian)
- a. **Unde** mergi? “Where are you going?”
- b. **Când** a plecat? “When did he leave?”
- c. **Cine** a chemat? “Who called?”

According to Ladd, there are therefore two basic typological patterns:

- (i) *wh*-questions follow the same stress principles as statements, that is, the NPA is on the stressed syllable of the rightmost constituent (as in English);
- (ii) *wh*-questions are treated differently from statements, in that the NPA is on the *wh*-word (as in Romanian, Hungarian, and Greek).

¹ In the examples from (9) to (11), I use bold to indicate the syllable associated with the NPA. In the original examples, Ladd (1996: 170-174) employs capital letters for the same purpose.

Ladd further observes that there is a difference between Romanian and Italian in the assignment of the NPA in *wh*-questions: while the NPA is on the *wh*-word in Romanian (11a), it falls on the verb in Italian (11b):

- (11) a. $\begin{matrix} H^* & & L & & & & L\% \\ \textit{Unde} & \textit{l'ai} & & \textit{cumpărat?} & & & \end{matrix}$ (Romanian)
 where it=has.2SG bought
 “Where did you buy it?”
- b. $\begin{matrix} H^* & & & & H+L^* & LL\% \\ \textit{Dove} & \textit{l'hai} & & \textit{comprato?} & & \end{matrix}$ (Italian)
 where it=has.2SG bought
 “Where did you buy it?”

It thus seems that Italian *wh*-questions behave differently.² Compelling evidence for the distinct prosodic behaviour of Italian *wh*-questions comes from Marotta (2001) and Bocci, Bianchi & Cruschina (2020), who, with the aid of experimental evidence, show that the NPA is assigned to the lexical verb in Italian:³

- (12) $\begin{matrix} \textit{Chi} & \textit{canta} & & \textit{una} & \textit{canzone?} \\ \text{who} & \text{sing.PRS.3SG} & \text{a} & \text{song} \\ \text{“Who is singing a song?”} \\ \text{(Marotta 2001)} \end{matrix}$

² In fact, since the verb is the last constituent of the sentence, the example in (11b) could be taken to illustrate the same pattern as English, where the NPA is on the stressed syllable of the rightmost constituent. Ladd’s observations about Italian are therefore not entirely clear. At any rate, in the later studies by Marotta (2001) and Bocci, Bianchi & Cruschina (2020) the verb is followed by another constituent (e.g., a direct object or a complement clause), hence ensuring that the accented verb does not occupy the rightmost position, and more clearly showing that the Italian pattern is indeed a distinct type.

³ This generalization about the placement of the NPA in Italian only holds for *wh*-questions featuring a bare *wh*-element (i.e., the equivalents of *who*, *what*, *where*, and *how*). The interrogative element *perché* “why” constitutes an exception to this pattern because it can be assigned the NPA, as shown by Marotta (2001). The distinct behaviour of *perché* compared to other *wh*-phrases is not completely unexpected given that it also displays different syntactic properties (see Rizzi 2001; Bianchi, Bocci & Cruschina 2017; Bocci & Cruschina 2018). Complex *wh*-phrases, such as D-linked *wh*-phrases, also seem to behave differently, in that they tend to attract the NPA in Italian (see Bocci, Cruschina & Rizzi forthcoming, for some preliminary experimental data).

- (13) *Chi pensa che ti dovrei presentare*
 who think.PRS.3SG that you= should.1SG introduce.INF
al direttore?
 to-the director
 “Who thinks that I should introduce you to the director?”
 (Bocci, Bianchi & Cruschina 2020: (19a), Fig. 2)

Bocci, Bianchi & Cruschina (2020) additionally point out that the systematic assignment of the NPA to the lexical verb observed in Italian direct *wh*-questions does not seem to emerge in other clause types, and that this consistent placement does not seem to be related to focus from an interpretive viewpoint: indeed, the lexical verb is not interpreted as focussed in (12) or in (13).⁴ If we add the Italian pattern to Ladd’s typology, we have three patterns, which I label WH, V, and R for convenience (V and R stand for V(erb) and R(ightmost), respectively):

- i) WH: the NPA is on the stressed syllable of the *wh*-phrase;
- ii) V: the NPA is on the stressed syllable of verb;
- iii) R: the NPA is on the stressed syllable of the rightmost constituent.

Interestingly, all three patterns are attested in Romance. We know already that Romanian displays the WH pattern, while Italian exhibits the V pattern. By contrast, the R pattern is found in Western Romance, for example in Spanish, Catalan, and in Portuguese (Hualde & Prieto 2015; Prieto et al. 2015; Frota et al. 2015). An example from Spanish is given in (14):

- L+<H* H* L* H%
- (14) ¿Dónde está tu gasolinera?
 where is your gas station
 “Where is your gas station?”
 (Hualde & Prieto 2015: 382)

So, what pattern do we find in Sardinian? This question will be addressed in §4 with evidence from a prosodic experiment. Let us first review the literature on the prosody of Sardinian *wh*-questions.

3.2. The NPA in Sardinian *wh*-questions

As mentioned in §2, Jones (1993: 355) acknowledges the difference between the prosodic behaviour of *wh*-questions and that of FF: “whereas fronted NPs are always stressed and focused, ... , *wh*-items do not normally bear the main

4 The results of the prosodic experiment reported in Bocci, Bianchi & Cruschina (2020) show that the NPA nearly always falls on a lexical verb. The NPA is never (0%) assigned to the rightmost element of the sentence, and the association of the NPA with the *wh*-phrase is very marginal (less than 2%). See Bocci, Bianchi & Cruschina (2020) for more details.

stress except in echo-questions or in cases where the content of the rest of the clause is pragmatically presupposed”.⁵ An example of the contrast is discussed in his later work and is reproduced here as (15):

- (15) a. *Ite est leghende (Giuanne)?*
 what is reading Giuanne
 “What is John/he reading?”
 b. *Su **giornale** est leghende.*
 the newspaper is reading
 “He is reading the newspaper.”
 (Jones 2013: 80)

In his description of the relevant examples, Jones maintains the generalization that *wh*-phrases do not normally bear the NPA, but offers no specific details regarding the actual position of the NPA in *wh*-questions. Even when he does so by using bold to indicate the word that bears the NPA, as in (16), it remains unclear whether we are dealing with the V pattern — with the NPA on the lexical verb — or with the R pattern, with the NPA on the rightmost constituents. Given that the lexical verb is in the rightmost position of the sentence, it is virtually impossible to distinguish between the two patterns in this example, and the prosodic pattern thus remains ambiguous:

- (16) *A chie as **telefonadu**?*
 to whom have.2SG telephoned
 “Who did you telephone?”
 (Jones 2013: 88)

This issue is addressed in the thorough overview of Sardinian intonational phonology by Vanrell et al. (2015). Based on an analysis of their own collected data, Vanrell et al. (2015) conclude that Sardinian presents either the WH or the R pattern, depending on the length of the *wh*-question: “In Sardinian we find a situation very similar to the one described by Ladd (2008) for Romanian, in that the most prominent accent in *wh*-questions is on the *wh*-word when the sentence is short, but later if the sentence is longer. ... ⁶ When the utterance is longer (when the *wh*-question contains more than two accentable syllables), the nuclear accent moves on the last prosodic word”

⁵ Although I will not address the special behaviour of echo questions in this paper, it must be noted that, cross-linguistically, the focal status of the *wh*-element in echo questions is less controversial, both prosodically and syntactically. By contrast, however, echo *wh*-questions are not proper interrogative sentences and might not even involve a [wh] feature at all (see Reis 1991, 2012; see also Sobin 1990, 2010, and Artstein 2002).

⁶ Note that Ladd (2008) cited in the quote is simply the second edition of Ladd (1996).

(Vanrell et al. 2015: 337). Their example of a longer *wh*-question (17), however, runs into the same problems as Jones’s example in (16): the *wh*-question ends with a verb and it is therefore virtually impossible to distinguish between the V and the R pattern:

- (17) *Itte li potto comprare?*
 what him/her.DAT can.1SG buy
 “What can I buy for him/her”

In order to overcome these difficulties, I designed a pilot prosodic experiment in which the tested stimuli contained a postverbal constituent. This experiment and the relevant results are discussed in the next section.

4. Sardinian *wh*-questions: The prosodic experiment

To examine the placement of the NPA in Sardinian direct *wh*-questions, I carried out a pilot production experiment. Eight native speakers of Logudorese Sardinian took part in this experiment (6 men and 2 women, from 29 to 51 years old).⁷ The experiment consisted of a reading task and was specifically designed to investigate the distribution of the NPA in *wh*-questions with a bare *wh*-phrase. For this reason, all experimental stimuli included a postverbal constituent, that is, a direct or indirect object in the order Wh+V+XP. This allowed us to unambiguously distinguish between the three typological patterns identified in the previous section: (i) NPA on *wh*-element (WH), (ii) NPA on the verb (V), and (iii) NPA on the rightmost constituent (R).

4.1. The experimental material and procedure

The experimental material consisted of 10 stimuli and, more precisely, of direct *wh*-questions with a transitive or ditransitive verb. In the stimuli the *wh*-element corresponded either to the subject (*chie* “who”) or to the indirect object (*a chie* “to whom”): this was specifically designed so that in each stimulus the postverbal constituent was the direct or indirect object, that is, a syntactically integrated argument of the verb. Examples are given in (18):

- (18) a. *Chie at nadu chi as*
 who has said that have.PRS.2SG
a cramare a Jubanne?
 to call to Jubanne
 “Who said you will call Jubanne?”
 (Pattada)

⁷ The exact origins of the speakers are indicated in Table 1 below.

- b. *A chie as pedidu unu passàggiu?*
 to whom have.PRS.2SG asked a ride
 “Who did you ask for a ride?”
 (Pattada)

Participants were asked to produce each stimulus twice. Speakers did not receive any kind of feedback concerning the reading task. In some cases, however, they spontaneously asked to repeat a sentence in case of breaks or other kinds of disfluency. In these cases, they were allowed to repeat the sentence and the disfluent productions were discarded. A total of 160 target sentences were thus collected, segmented, and ToBI-transcribed: 8 speakers * 10 items * 2 (disfluency-free) repetitions.

In the transcriptions and annotations, the NPA was labelled as the rightmost PA after which the pitch contour is completely compressed and no fully-fledged PA is observable. To control for information-structure effects, the target sentences were introduced by a brief context eliciting a neutral question. In particular, a ‘given’ interpretation of the postverbal constituent was intentionally avoided to prevent this constituent from being construed (and hence produced) as dislocated to the right.

4.2. Results

The distribution of the NPA observed in our data is illustrated in Figure 1:

Figure 1. Prosodic experiment: NPA distribution in Sardinian *wh*-questions

As is evident from Figure 1, in the majority of the cases (84.38%), the NPA falls on the rightmost constituent of the sentence (i.e., the R pattern). This means that with respect to the prosody of (direct) *wh*-questions Sardinian patterns together with Western Romance languages such as Spanish, Catalan, and Portuguese. Figures 2 and 3 illustrate the pitch contour of a sentence produced with this pattern in two Sardinian varieties, namely the dialects of Pattada (19) and Fonni (20), respectively:

- (19) *A chie as pedidu unu passàggiu?* (Pattada)
to whom have.PRS.2SG asked a ride
“Who did you ask for a ride?”
- (20) *A chie as pediu unu passàggiu?* (Fonni)
to whom have.PRS.2SG asked a ride
“Who did you ask for a ride?”

Figure 2. Prosodic experiment: Pitch contour of an utterance produced for (19) by speaker SB(M) from Pattada

Figure 3. Prosodic experiment: Pitch contour of an utterance produced for (20) by speaker MM(F) from Fonni

Both in Figure 2 and Figure 3, an L+H* NPA aligns with the stressed syllable of the rightmost constituent of the *wh*-question (*passàgiu*), as expected in the R pattern.

Only in a very marginal number of cases (1.25%) does the NPA associate with the *wh*-element;⁸ the association between the NPA and the lexical verb, on the other hand, does not prove entirely negligible, in that it accounts for 14.37% of cases. In order to understand this last divergence with respect to what can be considered the general pattern of Sardinian *wh*-questions (i.e., the R pattern), we need to look at the results for individual speakers, given in Table 1:⁹

Table 1. The prosodic experiment: Results for individual speaker

SPEAKERS			NPA DISTRIBUTION		
ID	ORIGIN	AGE	Wh	V	R
SB(M)	Orani	30		20 (100%)	
SF(M)	Pattada	33			20 (100%)
GC(M)	Berchidda	33			20 (100%)
SFa(M)	Ittiri	29		3 (15%)	17 (85%)
RF(M)	Oliena	29			20 (100%)
FP(M)	Oliena	51	1 (5%)		19 (95%)
AG(F)	Oliena	50	1 (5%)		19 (95%)
MM(F)	Fonni	40			20 (100%)
			2 (1.250%)	23 (14.375%)	135 (84.375%)

This table clearly shows that only one speaker is responsible for the divergent pattern, that is, the V pattern: SB(M) from Orani consistently produced the V pattern in 100% of the stimuli. The difference is clear if we compare the pitch contour in Figure 4, produced by SB(M) for the sentence in (20), with the pitch contours in Figures 2 and 3:

⁸ Our data do not therefore support the existence of the WH pattern for short questions in Sardinian, as claimed in Vanrell et al. (2015) (cf. §3.2), even though it should be noted that our stimuli do not qualify as short questions according to their definition. In order to be able to distinguish between the V and the R pattern, our experimental stimuli contained a postverbal constituent. Given that the experiment did not include short questions, we were thus not able to directly test Vanrell et al.'s (2015) claim that the prosodic pattern in Sardinian depends on the length of the *wh*-question. Some preliminary investigation with native speakers, however, appears to contradict this claim.

⁹ The ID of each speaker consists of their initials followed by an indication of their gender in brackets.

Figure 4. Prosodic experiment: Pitch contour of an utterance produced for (20) by speaker SB(M) from Orani

In Figure 4, we see that the H+L* NPA does not align with the stressed syllable of the rightmost constituent, as expected in the R pattern, but falls instead on the lexical verb (*pediu*). After this NPA, the pitch contour is compressed and no fully-fledged PAs are observable. This contour corresponds to the V pattern typical of Italian. The identity of the patterns becomes evident if we compare Figure 4 with the pitch contour of an Italian *wh*-question such as the one illustrated in Figure 5 and produced for the sentence in (21) by a Tuscan speaker (from Bocci, Bianchi & Cruschina 2020):

- (21) *A chi hanno chiesto un autografo dopo*
to whom have.3PL asked an autograph after
lo spettacolo? (Italian)
the show
“Who did they ask for an autograph after the show?”

Figure 5. Prosodic experiment: Pitch contour of an utterance produced for (21) by a Tuscan speaker from Siena

Although these findings require further examination and testing, possibly with the additional aid of an accurate analysis of sociolinguistic variables (a task that I leave to future research), we can hypothesize that the V pattern of the speaker from Orani reflects a case of prosody in a language-contact situation, where two language systems (i.e., the Sardinian R pattern and the Italian V pattern) co-exist. Like most native Sardinian speakers, SB(M) is indeed a bilingual speaker with both Sardinian and Italian as L1. This kind of transfer or influence at the prosodic level in the context of language contact is not in fact an isolated case: similar effects of phonological and prosodic influence have been discussed with reference to other bilinguals, both with respect to production and perception (see, e.g., Sichel-Bazin, Buthke & Meisenburg 2012, 2015; Vanrell et al. 2015; Vanrell & Fernández-Soriano 2013; 2018; Muntendam & Torreira 2016).

5. The asymmetry between direct and indirect *wh*-questions

In §2.1, we saw that FF and *wh*-movement are mutually exclusive in direct *wh*-questions, in that they cannot occur simultaneously within the same sentence, regardless of the respective ordering of the *wh*-phrase and the fronted focus. I repeat the relevant Sardinian examples here in (22):

- (22) a. **A kie su jocátulu as datu?*
 to whom the toy have.PRS.2SG given
 b. **Su jocátulu a kie as datu?*
 the toy to whom have.PRS.2sg given
 “To whom did you give the toy?”

Interestingly, the same incompatibility does not hold in indirect *wh*-questions, as shown in (23), a sentence with an embedded, indirect *wh*-question that could be uttered in a marked context, for example to correct a previous statement such as *I am sure you are wondering what they said to Paulu*:

- (23) *Mi so dimandande a Juanne itte appan natu*
 Me be.1SG ask.GER to Juanne what had.3PL said
 (, no a Paulu).
 not to Paulu
 “I’m wondering what they said to Juanne (, not Paulu).”

The asymmetry between direct and indirect *wh*-questions with respect to the compatibility between *wh*-phrases and foci was first noted by Rizzi (2001), who shows that the co-occurrence of focus and *wh*-phrase in the same clause, which is excluded in main questions (24), becomes (at least marginally)

possible in indirect embedded questions (25) (see also Bocci, Rizzi & Saito 2018 for experimental evidence):¹⁰

- (24) a. **A chi questo hanno detto (non qualcos' altro)?*
to whom this have.3PL said not something else
b. **Questo a chi hanno detto (non qualcos' altro)?*
this to whom have.3PL said not something else
c. **A Gianni che cosa hanno detto (non a Piero)?*
to Gianni what have.3PL said not to Piero
d. **Che cosa a Gianni hanno detto (non a Piero)?*
what to Gianni have.3PL said not to Piero
(Rizzi 2001: 290-291)
- (25) *Mi domando a Gianni che cosa abbiano detto*
me ask.1SG to Gianni what have.SBJV.3PL said
(non a Piero).
not to Piero
‘‘I wonder what they said to Gianni (not to Piero).’’
(Rizzi 2001: 291)

How can we account for this asymmetry? Two hypotheses present themselves. First, we could argue that *wh*-words are focal in direct questions, but not in indirect questions. Alternatively, as a second hypothesis, we could claim that *wh*-words do not have focal status in any syntactic context, i.e., they are not inherently focal either in direct or in indirect *wh*-questions. The first hypothesis seems to be rather strong, inasmuch as it presupposes that the compositional semantics of direct *wh*-questions is radically different from that of indirect questions. The second hypothesis, by contrast, would more directly explain the prosodic facts, namely the lack of alignment between the NPA and the *wh*-phrase in several languages including Italian and Sardinian, but it requires an additional explanation for the root-embedded asymmetry. It should also be noted that in indirect questions *wh*-words are typically unstressed, but unlike in direct questions, they need not be adjacent to the verb and can be followed by a preverbal subject, as shown in (26) from Sardinian (see Bocci & Pozzan 2014; Bocci & Cruschina 2018; and Bocci, Rizzi & Saito 2018 on Italian):

- (26) *No isco in ube Juanne at istikkitu su dinari.*
not know.1SG where Juanne has hidden the money
‘‘I do not know where John has hidden the money.’’
(Jones 1993: 336)

¹⁰ The *wh*-element *perché* ‘‘why’’ is also exceptional with respect to this property (see Rizzi 2001; Bianchi, Bocci & Cruschina 2017). See footnote 3.

If we adopt the second hypothesis, such that the main semantic and prosodic properties of *wh*-questions are considered to be the same in both direct and indirect questions, we then need to account for the difference in their syntactic distribution. Drawing on Bianchi, Bocci & Cruschina (2017), I follow this hypothesis and propose that *wh*-phrases are not inherently focal, but that while indirect questions enjoy a free focal structure, the focal structure of direct questions is independently more constrained.

6. Analysis: Interrogative *wh*-words are not inherently focal

Direct *wh*-questions require a congruent answer. Standard analyses of focus define congruence in terms of identity between the question meaning and the focal alternatives of the answer, so that felicitous and ‘congruent’ answers must contain a narrow focus on the constituent that corresponds to the *wh*-phrase in the question (see, a.o., Rooth 1992; Roberts 1996, 2012; Krifka 2001, 2011; Reich 2002):

- (27) a. [What] *did Ed drink?*
 b. *Ed drank [coffee]_F.*
- (28) a. [Who] *drank coffee?*
 b. [*Ed*]_F *drank coffee.*

This interpretive requirement rules out any independent focus in the question.¹¹ Crucially, this requirement does not hold for indirect *wh*-questions. In Bianchi, Bocci & Cruschina (2017), this idea is syntactically implemented with the proposal that in direct *wh*-questions, the features [wh]

¹¹ This restriction is somewhat rigid in Sardinian and Italian, but appears to be weaker in other languages such as English and German, in which a focal element can occur in a *wh*-question. Although I do not have a specific analysis of the co-occurrence of *wh*-phrase and focus in direct *wh*-questions in these languages, this cross-linguistic difference may be related to the independent possibility of allowing a multiple focus or a second occurrence of focus (Rooth 1992; Beck 2006). It might also be that what appears to be a type of focus is in fact a contrastive topic (CT), as in the following example from Krifka (2016):

- (i) S₁: *I want to know which prizes our students won.*
 a. *Which prize did ED_{CT} win?* S₂: *ED_{CT} won the SECond_F prize.*
 b. *As for ED_{CT}, which prize did he win?*

With regard to this example, Krifka (2016: 2) states that “this focus is realized by a L+H* contour, and can optionally be expressed by an *as for* construction. This is evidence that it is a contrastive topic (Büring 2003), or delimiter (Krifka 2008).”

and [focus] are bundled together on a root C, which probes for the non-inherently-focal *wh*-phrase. On the contrary, the [wh] and the [focus] features need not be bundled together in indirect *wh*-questions, which do not require a congruent answer (in fact, they require no answer): *wh*-phrases and fronted foci can thus co-occur in embedded contexts. This proposal directly matches Rizzi's (1997, 2001) cartographic analysis of the structural difference between direct and indirect *wh*-questions, which relies on the assumption that in direct *wh*-questions the features [wh] and [focus] are checked in the same projection, namely FocP (29), by the *wh*-phrase, while in indirect *wh*-questions, the features [wh] and [foc] are checked in two distinct projections (i.e., FocP and WhP) by independent constituents (30):

(29) Force (Top*) **Foc** (Top*) Fin IP
[wh, focus]

[matrix clauses, direct *wh*-questions]
(adapted from Rizzi 1997: 297)

(30) ...Force...Int...**Foc**...**Wh**...
[focus] [wh]

[embedded, indirect *wh*-questions]
(adapted from Rizzi 2001: 291)

The *wh*-phrase does not bear an inherent [focus] feature and only matches the [wh] feature of the complex probe in FocP in direct questions. The absence of an inherent [focus] feature on the *wh*-phrase can also explain the prosodic behaviour of Sardinian and other languages that display the R pattern: unlike the [focus]-marked phrase that moves in the case of FF, the *wh*-phrase of a *wh*-question does not qualify for the assignment of the NPA by the phonological component. Consequently, 'default' assignment — the same as in declaratives — take place, yielding the association between the NPA and the stressed syllable of the rightmost constituent (on the V pattern in Italian, see Bocci, Bianchi & Cruschina 2020). In other words, at the prosodic level, no element within a *wh*-question is interpreted as narrow focus and the sentence is treated as an instance of broad focus lacking a special focal marking, along the lines of unmarked declarative clauses.

7. Conclusions

On the basis of evidence from prosody and the different syntactic behaviour of indirect questions, particularly in Sardinian, I have argued in this paper that *wh*-words are not inherently focal. The syntactic similarities between FF and *wh*-movement and the fact that they are mutually exclusive can be explained by the interpretive requirement that no focus should be allowed in direct *wh*-questions in order to yield a congruent answer. This constraint can be

implemented with the long-standing idea that FF and *wh*-movement target the same projection, and with the additional assumption that the features [wh] and [focus] are bundled together in the same projection. In indirect questions, the features [wh] and [focus] are not necessarily bundled together and can be checked independently in different projections by distinct phrases: hence, FF and *wh*-movement can co-occur. The lack of a [focus]-marked element in *wh*-questions explains why the *wh*-phrase is not interpreted as focal at the phonological level and therefore, in several languages, including Sardinian, is not associated with the NPA of the sentence: prosodically, focus needs to be maximally prominent; since *wh*-phrases are not maximally prominent, they are not inherently focal.

These results raise additional questions and suggest fruitful directions for further research. First, we need to examine the extent of the prosodic influence of the Italian V pattern on the Sardinian R pattern, which is limited to one speaker in our data. A more extensive investigation of this potential effect of language contact could provide crucial insights into language change — presumably, a change in progress — at the level of intonational phonology and in the domain of bilingualism. Secondly, while the R pattern supports the proposal that *wh*-phrases are not inherently focal, a more careful comparison with the other patterns is required in order to arrive at a theoretical explanation of the parametric variation at issue. Indeed, it remains possible that in some languages *wh*-phrases are prosodically treated as focal, as should be the case in languages that exhibit the WH pattern with respect to the assignment of the NPA in *wh*-questions (Romanian, Hungarian, and Greek; cf. §3.1).¹² Finally, the relation between the two features [focus] and [wh] should also be investigated with respect to their role in and contribution to the overall syntax and semantics of questions, both in direct and indirect clauses (see, e.g., Aboh & Pfau 2010).

In conclusion, we need to investigate how the empirical richness of the prosodic variation in *wh*-questions can be captured in a coherent and principled theoretical interface model. With this paper, I hope to have contributed a small step in this direction.

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¹² It must be noted that even in these languages — at least in some of them — the root-embedded asymmetry still holds not only with respect to the compatibility between *wh*-phrases and fronted foci (cf. §5), but also with respect to the prosodic pattern of indirect *wh*-questions. See Alexopoulou & Baltazani (2012) for Greek.

References

- Aboh, Enoch O. & Roland Pfau. 2010. What's a wh-word got to do with it? In Paola Benincà & Nicola Munaro (eds.), *Mapping the left periphery. The cartography of syntactic structures*, Volume 5, 91-124. Oxford: Oxford University Press.
- Alexopoulou, Theodora & Mary Baltazani. 2012. Focus in Greek wh-questions. In Ivona Kučerová & Ad Neeleman (eds.), *Information structure: Contrasts and positions*, 206-246. Cambridge: Cambridge University Press.
- Artstein, Ron. 2002. *Parts of words: Compositional semantics for prosodic constituents*. Ph.D. Dissertation: Rutgers University.
- Beck, Sigrid. 2006. Intervention effects follow from focus interpretation. *Natural Language Semantics* 14. 1-56.
- Beckman, Mary E., Julia Hirschberg & Stefanie Shattuck-Hufnagel. 2005. The original ToBI system and the evolution of the ToBI framework. In Sun- Ah Jun (ed.), *Prosodic typology: The phonology of intonation and phrasing*, 9-54. Oxford: Oxford University Press.
- Bianchi, Valentina, Giuliano Bocci & Silvio Cruschina. 2017. Two types of subject inversion in Italian wh-questions. *Revue Roumaine de Linguistique* 62(3). 233-252.
- Bocci, Giuliano & Silvio Cruschina. 2018. Postverbal subjects and nuclear pitch accent in Italian wh-questions. In Roberto Petrosino, Pietro Cerrone & Harry van der Hulst (eds.), *From sounds to structures. Beyond the veil of Maya*, 467-494. Berlin: De Gruyter.
- Bocci, Giuliano & Lucia Pozzan. 2014. Questions (and experimental answers) about Italian subjects. Subject positions in main and indirect question in L1 and attrition. In Carla Contemori & Lena Dal Pozzo (eds.), *Inquiries into linguistic theory and language acquisition. Papers offered to Adriana Belletti*, 28-44. Siena: CISCL Press.
- Bocci, Giuliano, Luigi Rizzi & Mamoru Saito. 2018. On the incompatibility of wh and focus. *Gengo Kenkyui – Journal of the Linguistic Society of Japan* 154. 29-51.
- Bocci, Giuliano, Valentina Bianchi & Silvio Cruschina. 2020. Focus in wh-questions: Evidence from Italian. *Natural Language & Linguistic Theory* (2020). DOI <https://doi.org/10.1007/s11049-020-09483-x> [online, ahead of print]
- Bocci, Giuliano, Silvio Cruschina & Luigi Rizzi. Forthcoming. On some special properties of *why* in syntax and prosody. In Gabriela Soare (ed.), *Why is 'why' unique? Its syntactic and semantic properties*. Berlin: De Gruyter.

- Brody, Michael. 1995. Focus and checking theory. In Istvan Kenesei (ed.), *Approaches to Hungarian 5: Levels and structures*, 29-43. Szeged: JATEPress.
- Büring, Daniel. 2003. On D-trees, beans, and B-accents. *Linguistics and Philosophy* 26. 511-545.
- Cable, Seth. 2010. *The grammar of Q: Q-particles, wh-movement, and pied-piping*. Oxford: Oxford University Press.
- Chomsky, Noam. 1976. Conditions on rules of grammar. *Linguistic Analysis* 2. 303-352.
- Eckardt, Regine. 2007. Inherent focus on wh-phrases. *Proceedings of Sinn und Bedeutung* 11. 209-228.
- Frota, Sónia, Marisa Cruz, Flaviane Svartman, Gisela Collischonn, Aline Fonseca, Carolina Serra, Pedro Oliveira & Marina Vigário. 2015. Intonational variation in Portuguese: European and Brazilian varieties. In Sónia Frota & Pilar Prieto (eds.), *Intonational variation in Romance*, 235-283. Oxford: Oxford University Press.
- Haegeman, Liliane & Jacqueline Guéron. 1999. *English grammar: A generative perspective*. Malden: Blackwell.
- Hualde, José Ignacio & Pilar Prieto. 2015. Intonational variation in Spanish: European and American varieties. In Sónia Frota & Pilar Prieto (eds.), *Intonational variation in Romance*, 350-391. Oxford: Oxford University Press.
- Jones, Michael A. 1993. *Sardinian syntax*. London: Routledge.
- Jones, Michael A. 2013. Fronting, focus and illocutionary force in Sardinian. *Lingua* 134. 75-101.
- Krifka, Manfred. 2001. For a structured account of questions and answers. In Caroline Féry & Wolfgang Sternefeld (eds.), *Audiatur vox sapientiae. A festschrift for Arnim von Stechow*, 287-319. Berlin: Akademie-Verlag.
- Krifka, Manfred. 2008. Basic notions of information structure. *Acta Linguistica Hungarica* 55. 243-276.
- Krifka, Manfred. 2011. Questions. In Klaus von Heusinger, Claudia Maienborn & Paul Portner (eds.), *Semantics. An international handbook of natural language meaning*, Volume 2, 1742-1758. Berlin: Mouton de Gruyter.
- Krifka, Manfred. Manuscript. Focus and contrastive topics in question and answer acts. Ms., Humboldt-Universität Berlin & Zentrum für Allgemeine Sprachwissenschaft (ZAS) Berlin, 2017.
- Ladd, D. Robert. 1996. *Intonational phonology*. Cambridge: Cambridge University Press (Second edn. in 2008).
- Marotta, Giovanna. 2001. I toni accentuali nelle interrogative aperte (wh-) dell'italiano di Lucca. In Camilla Bettoni, Antonio Zampolli & Daniela Zorzi (eds.), *Atti del II congresso di studi dell'Associazione Italiana di linguistica applicata*, 175-194. Perugia: Guerra Edizioni.

- Muntendam, Antje & Francisco Torreira. 2016. Focus and prosody in Spanish and Quechua: Insights from an interactive task. In Meghan E. Armstrong, Nicholas Hendriksen & Maria del Mar Vanrell (eds.), *Intonational grammar in Ibero-Romance: Approaches across linguistic subfields*, 69-90. Amsterdam: John Benjamins.
- Prieto, Pilar, Joan Borràs-Comes, Teresa Cabré, Verònica Crespo-Sendra, Ignasi Mascaró, Paolo Roseano, Rafèu Sichel-Bazin & Maria del Mar Vanrell. 2015. Intonational phonology of Catalan and its dialectal varieties. In Sónia Frota & Pilar Prieto (eds.), *Intonational variation in Romance*, 9-62. Oxford: Oxford University Press.
- Reich, Ingo. 2002. Question/answer congruence and the semantics of wh-phrases. *Theoretical Linguistics* 28. 73-94.
- Reis, Marga. 1991. Echo-w-Sätze und Echo-w-Fragen. In Marga Reis & Inger Rosengren (eds.), *Fragesätze und Fragen. Referate Anlässlich der 12. Jahrestagung der Deutschen Gesellschaft für Sprachwissenschaft, Saarbrücken 1990*, 49-76. Tübingen: Niemeyer.
- Reis, Marga. 2012. On the analysis of echo questions. *Tampa Papers in Linguistics* 3. 1-24.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In Liliane Haegeman (ed.), *Elements of grammar: Handbook of generative Syntax*, 281-337. Dordrecht: Kluwer.
- Rizzi, Luigi. 2001. On the position "Int(errogative)" in the left periphery of the clause. In Guglielmo Cinque & Giampaolo Salvi (eds.), *Current studies in Italian syntax. Essays offered to Lorenzo Renzi*, 287-296. Amsterdam: Elsevier.
- Roberts, Craige. 1996. Information structure in discourse: Towards an integrated formal theory of pragmatics. In Jae-Hak Yoon & Andreas Kathol (eds.), *Ohio State University Working Papers in Linguistics* 49. *Papers in Semantics*, 91-136. Columbus: The Ohio State University.
- Roberts, Craige. 2012. Information structure: Towards an integrated formal theory of pragmatics. *Semantics and Pragmatics* 5. 1-69.
- Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1. 75-116.
- Sichel-Bazin, Rafèu, Carolin Buthke & Trudel Meisenburg. 2012. The prosody of Occitan-French bilinguals. In Kurt Braunmüller & Christoph Gabriel (eds.), *Multilingual individuals and multilingual societies*, 349-364. Amsterdam: John Benjamins.
- Sichel-Bazin Rafèu, Carolin Buthke & Trudel Meisenburg. 2015. Prosody in language contact: Occitan and French. In Elisabeth Delais-Roussarie, Mathieu Avanzi & Sophie Herment (eds.), *Prosody and language in contact: L2 acquisition, attrition and languages in multilingual situations*, 71-99. Berlin: Springer.
- Sobin, Nicholas. 1990. On the syntax of English echo questions. *Lingua* 81. 141-167.

- Sobin, Nicholas. 2010. Echo questions and the Minimalist Program. *Linguistic Inquiry* 41. 131-148.
- Truckenbrodt, Hubert. 1995. Phonological phrases: Their relation to syntax, focus, and Prominence. Ph.D. Dissertation: Massachusetts Institute of Technology.
- Vanrell, Maria del Mar & Olga Fernández-Soriano. 2013. Variation at the interfaces in Ibero-Romance. Catalan and Spanish prosody and word order. *Catalan Journal of Linguistics* 12. 253-282.
- Vanrell, Maria del Mar & Olga Fernández-Soriano. 2018. Language variation at the prosody-syntax interface. Focus in European Spanish. In Marco García García & Melanie Uth (eds.), *Focus realization in Romance and beyond*, 33-70. Amsterdam: John Benjamins.
- Vanrell, Maria del Mar, Francesc Ballone, Carlo Schirru & Pilar Prieto. 2015. Sardinian intonational phonology: Logudorese and Campidanese varieties. In Sónia Frota & Pilar Prieto (eds.), *Intonational variation in Romance*, 317-349. Oxford: Oxford University Press.
- Zubizarreta, María-Luisa. 1998. *Prosody, focus, and word order*. Cambridge, MA: MIT Press.
- Zubizarreta, María-Luisa. 2016. Nuclear stress and information structure. In Caroline Féry & Shinichiro Ishihara (eds.), *The Oxford handbook of information structure*, 165-184. Oxford: Oxford University Press.
- Zubizarreta, María-Luisa & Jean-Roger Vergnaud. 2005. Phrasal stress, focus, and syntax. In Martin Everaert & Henk van Riemsdijk (eds.), *The syntax companion*. 522-556. Oxford: Blackwell.