

CONTRASTING FORMAL FEATURES AND INTERFACES: DATA FROM FINNISH

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1. INTRODUCTION

Shlonsky (2010:424) summarizes the mission of the cartographic enterprise into the question: “Of the properties which enter into human thought and belief systems, which ones are represented as grammatical features?” On a broader interpretation, though, the same question characterizes the larger debate of whether, and how much, discourse-related information can be encoded as formal syntactic features and related functional projections. The question also highlights the main conceptual criticism leveled against cartographic approaches and other analyses assuming the syntactic encoding of discourse notions: could discourse-related effects be relocated outside the core syntax and instead be driven by interface considerations?

An extreme option to this effect is Horvath’s (2010) Strong Modularity Hypothesis for Discourse Features. According to the hypothesis, “[n]o information structure notions – i.e., purely discourse-related notions – can be encoded in the grammar as formal features; hence no “discourse-related features” are present in the syntactic derivation. They are available only outside the C_{HL} [the computational system, AH]” (*ibid.*:1349).¹ Horvath argues her case by providing evidence that seemingly discourse-related operations can in fact be recast in terms of semantic functions. Hungarian focus, for instance, is argued to be a case of movement for exhaustive interpretation – an operation affecting the truth-conditional content of the sentence – rather than purely discourse-driven focus per se.

A potential counter-example to the hypothesis, as identified by Horvath, is the notion of contrast in Finnish. Here, contrastive topics and contrastive foci are often argued to target the same unique position in the left periphery (cf. Vilkuna 1995; Huhmarniemi 2012). This is illustrated for a contrastive focus in (1) in a correction context, and for a contrastive topic in (2) in a context with a conjunctive question.^{2,3}

- (1) a. Putin vapautti MIKHAIL KOSENKON.
Putin freed MIKHAIL KOSENKO
'Putin freed Mikhail Kosenko.'

¹ Of course, encoding only truth-conditional aspects as formal features would reflect the traditional idea that truth-conditionally relevant meaning is encoded at sentence level. However, given the problems in delineating semantics and pragmatics with respect to truth-conditional import (e.g. Recanati 2005; Jaszczolt 2012), it is less than clear how this could provide a firm conceptual foundation to Horvath’s Strong Modularity Hypothesis.

² The relevance of the conjunctive question context will be discussed in section 4.2.1.

³ The following expository devices will be adopted for marking the discourse-related notions relevant to the discussion:

FOCUS

CONTRASTIVE FOCUS

contrastive topic.

- b. Ei, PUSSY RIOTIN Putin vapautti, ei Mikhail Kosenkoa.
 no Pussy Riot Putin freed not Mikhail Kosenko
 ‘No, it was Pussy Riot that Putin freed (, not Mikhail Kosenko).’
- (2) Q: Mitä kauheaa Sagan kollegat löysivät?
 what awful Saga’s colleagues found?
 ‘What awful thing did Saga’s colleagues find?’
- a. Sagan nuorin kollega löysi RUUMIIN.
 Saga’s youngest colleague found body
 ‘Saga’s youngest colleague found a body.’

This would suggest the presence of a Contrastive Phrase, or ContrP, checking the feature [contrast] in its specifier, if the landing site indeed proves to be a single position, and is associated uniformly with contrastive interpretation and obligatory movement. If this alleged projection furthermore lacks any truth-conditional import, contrast in Finnish would prove problematic for the Strong Modularity Hypothesis. However, Horvath notes that “[a]t present, this case must be left for future investigation, due to the lack of clear-cut empirical evidence regarding the above questions” (Horvath 2010:1367). In the following, I will attempt to present precisely such empirical evidence.

In section 2, I will introduce representatives of contending theoretical solutions to Shlonsky’s question, contrasting feature-based approaches with the interface-based Domain of Contrast (Doc) marking approach to contrast (Neeleman, Titov, van de Koot & Vermeulen 2009; Neeleman & van de Koot 2009, 2010, 2012; Neeleman & Vermeulen 2012). Section 3 is an overview of discourse-configurationality in Finnish and the relevant patterns pertaining to topic, focus, and contrast. In section 4, I will apply the DoC marking analysis to data from Finnish, and show that while it is, as a purely interface-based approach, conceptually fitting for Finnish, there are specific positional requirements that it cannot capture and that require the syntactic representation of discourse-related notions. Section 5 concludes the discussion.

2. FORMAL FEATURES OR INTERFACE EFFECTS? ON THEORIES OF DISCOURSE-CONFIGURATIONALITY

To answer the question posed by Shlonsky, the theoretical landscape offers options ranging between two extremes. At the one end, cartographic and related approaches postulate wide arrays of discourse-related features and articulated syntactic structures; at the other, interface-driven analyses seek to reduce the number of features in the computational system and to recast discourse syntax in terms of interface effects. The first category will be exemplified by Rizzi’s (1997) and Cinque’s (1999) cartographic project and related analyses by Cruschina (2011) and Miyagawa (2010); this will be contrasted with the interface-driven DoC marking account of contrast (Neeleman, Titov, van de Koot & Vermeulen 2009; Neeleman & van de Koot 2009, 2010, 2012; Neeleman & Vermeulen 2012).

Just as the status of discourse features in syntax varies widely across theories, so do the definitions of the relevant phenomena. The specific theoretical underpinnings and alternative definitions of these notions are not crucial for the purposes of the discussion here; for a comprehensive overview of the terminology relating to discourse-configurationality see Cruschina (2011). I will follow É. Kiss (1995:7) in defining topic as denoting “the function of the constituent that the sentence is about.” Focus, in turn, may refer to the constituent carrying new information, as well as an operator expressing identification. For contrast, I will adopt

Neeleman & van de Koot's (2010) characterization of contrastive constituents being selected from a contextually given set to the exclusion of at least some other members of that set.

2.1. Discourse features – a formal affair

The polar opposite, as it were, to the Strong Modularity Hypothesis for Discourse Features is the cartographic approach. The enterprise is guided by the idea of uniform and locally simple syntactic structures that are both necessary and sufficient to represent structurally the grammatical or functional information relevant to semantic or pragmatic interpretation (Shlonsky 2010). In practice, then, the relevant formal features correspond to separate functional projections in the left periphery of the clause (Rizzi 1997); in addition, a similar, internal, periphery has been proposed at the vP edge (Belletti 2004). According to Rizzi (1997), the conceptual foundation for the approach derives from the interpretive effect of features in the A'-system along with the 'last resort' nature of movement. Essentially, features such as [wh], [neg], [topic], and [focus] determine the interpretation of their bearing category and its immediate constituents, "so that their role cannot simply be to trigger movement and disappear from representations" (Rizzi 1997:282). On the last resort approach to movement, in turn, no free preposing or adjunction to IP is possible, so that all movement to the left periphery must be motivated by the satisfaction of some criterion, and consequently by the presence of a head establishing the relevant Spec-head configuration with the preposed phrase.

Conceptually, cartographic approaches diverge crucially from Horvath's argument in that nothing in principle needs to distinguish between discourse-related and other formal features: the likes of topic and focus, on the one hand, and features such as Case, Tense, and ϕ -features may be manipulated by the C_{HL} in essentially the same way (Aboh 2010). Miyagawa's (2010), for instance, argues that topic and focus establish functional relations in the same way as ϕ -features establish agreement in agreement languages.

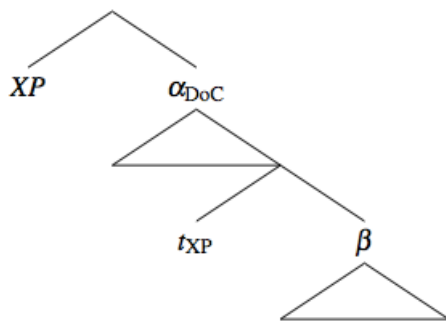
However, accepting that discourse-related notions can be encoded as syntactic features does not entail that they each head an individual head, i.e. obey the 'One-Head-One-Feature' tenet of the Rizzi and Cinque type cartographic approaches. Cruschina (2011:219), for instance, adopts a broadly cartographic approach to discourse-related notions, proposing that contrast is "an autonomous feature with a linguistic impact, responsible for independent movement and scrambling operations, and encoded in a distinct focus projection." Based on evidence from Romance, in particular Sicilian and Sardinian, Cruschina argues for separate projections for contrastive and identificational focus in the left periphery, or CFoc and IFoc, respectively. However, the higher CFocP hosts elements bearing a contrastive feature [contr], including both CFoc and D-linked wh-phrases, while IFoc accommodates non-contrastive focal elements, among them IFoc, QP-Fronting, Mirative Fronting and non-D-linked wh-phrases. As will appear from section 3, if Finnish contrast can be argued to be a syntactic feature, it is more amenable to an analysis in these terms where a given projection can be occupied by more than one type of element rather than a highly articulated left periphery where each feature corresponds to an individual head.

2.2. Discourse at the interfaces

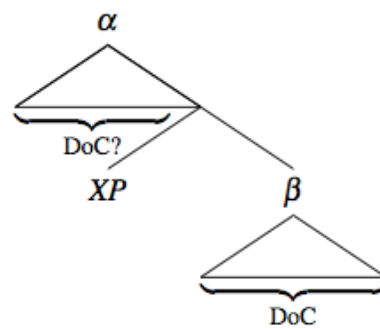
At the other end of the spectrum is the option of relocating discourse notions at the interfaces rather than within the computational system. Neeleman, Titov, van de Koot & Vermeulen (2009), Neeleman & van de Koot (2009, 2010, 2012) and Neeleman & Vermeulen (2012)

take apparently all contrast-related word order variation to be best explained in terms of effects at the interface between syntax, on the one hand, and information structure and semantics, on the other. The notions of topic, focus, and contrast are argued to be targeted by mapping rules operating between syntax and information structure, and may as such have syntactic effects: movement may take place to feed a mapping rule associated with a particular discourse notion, even if that notion is not encoded as a formal feature. Within this framework, Neeleman & van de Koot (2010) develop an analysis of Dutch contrast based on the notion of DoC, or Domain of Contrast, marking, according to which movements of contrastive topics and foci do not mark the discourse functions of these elements themselves but rather their domain of contrast (Neeleman, Titov, van de Koot & Vermeulen 2009). A'-scrambling of contrastive elements may target a position between the complementizer and the subject, a position between the subject and the indirect object, or to the first position in main clauses (Neeleman & van de Koot 2010). Consider:

(3) a.



b.



(from *ibid.*:369-370)

In (3a), where the XP has undergone A'-movement, the DoC is unambiguous, while in (3b), without such movement, the DoC remains ambiguous. These structures are illustrated with contrastive focus in (4), where the contrastive phrase *alleen dit boek* has undergone movement in (4a) but stays in situ in (4b).

- (4) a. Ik geloof dat ALLEEN DIT BOEK Jan Marie *t* gegeven heeft.
 I believe that only this book John Mary given has
- b. Ik geloof dat Jan Marie ALLEEN DIT BOEK gegeven heeft.
 I believe that John Mary only this book given has
 'I believe that John has given Mary only this book.'

(from *ibid.*:369)

Moreover, it is unclear whether a cartographic approach could be amenable to Dutch. Neeleman, Titov, van de Koot & Vermeulen (2009) note that on a cartographic analysis of the language, one would have to assume that the position of TopP and FocP is free, thus capturing the observed variation of landing sites, and that the projection of either contrast or topic and focus is optional so as to allow in-situ topics and foci.⁴

⁴ However, it is not clear if these in-situ cases would in fact be amenable to an analysis involving long-distance Agree, as suggested by Aboh (2010) for certain constructions in standard Arabic. Another possibility is that there is a vP periphery in addition to the CP one, also hosting dedicated discourse-functional projections, as per Belletti (2004) and Cognola (2013).

What is crucial in the DoC marking analysis, then, is the idea that contrastive interpretation follows not from a constituent moving to a specific position but as a result of A'-movement taking place, independent of its exact landing site. This is in line with more recent work capitalizing on the relational nature of certain phenomena, such as Hamlaoui and Szendrői (2015) on focus and Harwood (2015) on phases. What matters is not the absolute position of an element, but rather its position in relation to the rest of the clause.

In the following I will argue that while this idea seems to translate well into Finnish initially, the position to which contrastive constituents move cannot be ignored.

3. DISCOURSE-CONFIGURATIONALITY IN FINNISH: ON TOPICS, FOCI, AND CONTRAST

According to Vilkuna (1995:244), “[a]lthough clearly SVO both statistically and in terms of intuitions about markedness, Finnish is a language where clause-level constituent order variation has extremely few restrictions that could be called grammatical.” In fact, all six permutations of the order of subject, verb, and object are grammatical under the right discourse-related circumstances. However, the relative absence of grammatical restrictions is not complemented by a structure strictly defined by discourse-related notions, i.e. one easily amenable to a cartographic analysis, as is the case to a greater extent in, for example, the related Hungarian (for a cartographic approach to Hungarian, see Puskás 2000). The lack of such a strict structure seems to indeed hold with respect to the notions of topic and focus, but the notion of contrast has been argued to be associated with a specific projection (Kaiser 2006; Horvath 2010). What follows is an overview of discourse-configurationality in Finnish, focusing on the representations of focus, topic, and contrast.

As for focus, Finnish differs from Hungarian in lacking a designated focus position, foci being placed either first (in Vilkuna’s ‘K’ position, i.e. spec,CP)⁵ or late in the sentence according to their discourse-based status; Finnish, like many other languages, has a tendency to introduce new elements late in the sentence. This is apparent from (5), where the focused constituent *Pussy Riot*, corresponding to the wh-word in the question, can appear either in the standard pre-verbal subject position, as in (5a), or post-verbally, as in (5b):

- (5) Q: Mikä bändi esiintyi kirkossa?
 which band performed church-in
 ‘Which band performed in the church?’
- a. Pussy Riot esiintyi siellä.
 Pussy Riot performed there
 ‘Pussy Riot performed there.’
- b. Siellä esiintyi Pussy Riot.
 there performed Pussy Riot
 ‘Pussy Riot performed there.’

Holmberg and Nikanne (2002) take this to imply that there is a focus domain extending from F, an intermediate projection between CP and TP, to the bottom of VP. It would also seem

⁵ Vilkuna (1995) does consider the possibility of an intermediate projection between CP and TP (Vilkuna’s IP), Kenesei’s FP (1992), but concludes that “I have not yet found sufficient motivation for postulating two functional projections above IP and will therefore prefer the simpler analysis with one such projection” (p.263). In addition, Holmberg & Nikanne (2002) present convincing arguments for an FP as a topic position, reserving CP for contrastive topics and foci as well as wh-phrases, among other constituents. I will therefore assume that Vilkuna’s K position corresponds to CP.

that the distribution of focused pre-verbal arguments inside the focus domain is essentially free relative to other preverbal constituents (Holmberg & Nikanne 2002).

Neither is there a particular topic position, as topics may occupy either spec,CP or spec,FP, as argued by Holmberg & Nikanne (2002). Although spec,FP is the default position for the nominative subject, other categories may fill it as well, so that a referential category in FP, i.e. not an expletive, has the discourse function of topic. This is illustrated in (6):

- (6) a. Pussy Riot soitti punkia.
 Pussy Riot played punk
 ‘Pussy Riot played punk.’
 b. Punkia esitti Pussy Riot.
 punk performed Pussy Riot
 ‘Pussy Riot played punk.’

In (6a), spec,FP is occupied by the nominative subject *Pussy Riot*, while in (6b), it is occupied by the partitive object *punkia*.

Furthermore, according to Holmberg & Nikanne (2002), spec,FP is a ‘mixed position’, in that when it is filled by the subject it is an A-position but an A’-position when filled by a constituent other than the subject.

Despite the presence of two possible topic positions, the ordering of contrastive and non-contrastive topics is not free (see Vilkuna 1995): in sentences with multiple topics, the first one, in Vilkuna’s K position, is contrastive, and the second, in Vilkuna’s T position,⁶ continuous; the K constituent is therefore an older topic than the one in T. In fact, continuous topics (“a discourse referent that is the topic of a longer stretch of discourse” (Vilkuna 1995:251); see Frascarelli & Hinterhölzl’s (2007) familiar topic) always appear in the T position, additional material occurring in K depending on the context (Vilkuna 1995). However, this does not imply that topics in spec,FP could not be contrastive; I will return to this in section 4.

The situation is complicated by the fact that movement to both spec,FP and spec,CP positions, or T- and K-movement in Vilkuna’s terminology, comprise both structural and discourse-related factors. In a neutral sentence, spec,FP must be filled if there is a potential T filler available, these comprising NPs, PPs, and *pro*. In contrastive sentences, spec,FP may also be empty, as evidenced by the preservation of discourse meaning if a suitable expletive or pronoun appears in spec,FP (this function of expletives will be capitalized on in section 4.2.2, cf. example (13)). Similar considerations hold with respect to movement to spec,CP, in that not all phrases in CP are interpreted contrastively: this is the case with *wh*-words as well as complementizers and some other subordinators. Also phrases hosting second position clitics, such as *-kO*, *-hAn*, and *-pA*, need not be contrastive. So, as in the case of the T position, K may be filled by structural necessity (Vilkuna 1995).

This standard analysis of discourse-related notions in Finnish syntax is summarized below:

⁶ Vilkuna (1995) assimilates the T position to spec,IP, but given Holmberg and Nikanne’s (2002) arguments for FP, I will take T to mirror this latter projection.

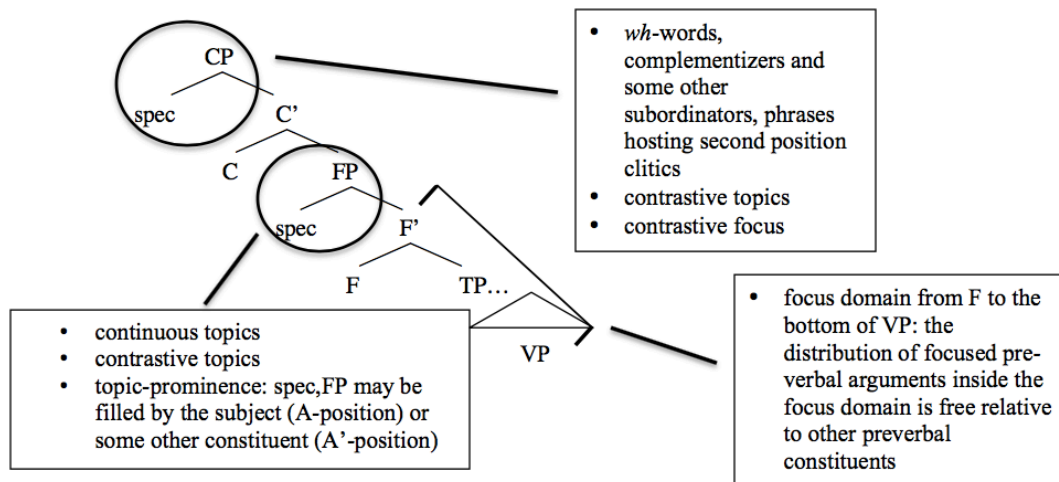


Figure 1. The standard analysis of discourse syntax in Finnish

Hence the status of contrast, and hence any answer to Horvath's (2010) problem, seems to be complicated by the fact that on the standard analysis of the Finnish left periphery, the same position may be occupied by both contrastive and non-contrastive elements, precluding a richly articulated cartographic approach. Given this, in the following I will only discuss general criteria for contrast targeting a particular position rather than assuming a cartographically specified one. First, however, I will consider the applicability of a DoC marking analysis to Finnish.

4. FOCUS ON CONTRAST – REPRESENTING CONTRASTIVE TOPICS AND FOCI IN FINNISH

4.1. Contrast as an interface effect: DoC marking

An analysis in terms of marking the Domain of Contrast (DoC), as discussed in section 2, is also applicable to Finnish contrast in its broad outline. Central to the DoC-analysis is Neeleman & van de Koot's (2010) observation that structures without A'-scrambling display an ambiguity with respect to contrast, absent in structures with A'-scrambling. This cannot be tested in the case of Finnish topics, as there are no in-situ topics: a topic interpretation is only available in *spec,FP* or *spec,CP*. There are, however, in-situ contrastive foci, as is apparent from the examples in (7):

- (7) a. Putin vapautti MIKHAIL KOSENKON.
 Putin freed MIKHAIL KOSENKO
 'Putin freed Mikhail Kosenko.'
- b. Ei, PUSSY RIOTIN Putin vapautti, ei Mikhail Kosenkoa.
 no Pussy Riot Putin freed not Mikhail Kosenko
 'No, it was Pussy Riot that Putin freed (, not Mikhail Kosenko).'
- c. Ei, Putin vapautti PUSSY RIOTIN, ei Mikhail Kosenkoa.
 no Putin freed Pussy Riot not Mikhail Kosenko
 'No, it was Pussy Riot that Putin freed (, not Mikhail Kosenko).'

Here both (7b) and (7c) are felicitous continuations to (7a): as both involve a correction context, this implies contrastive interpretation of the focus. However, on its own only (7b) is unambiguously contrastive, while the contrastive interpretation in (7c) requires an explicit

statement of contrast, either in the form of a preceding utterance or as an additional *not*-phrase, as above. So, while contrast is possible in situ, unambiguous contrast without contextual clues would seem to necessitate A'-movement in accordance with the DoC-marking analysis.

Neeleman & van de Koot (2010) note that in Dutch the ordering of in-situ contrastive topics and foci is free, whereas an A'-scrambled focus cannot precede a topic, regardless of whether the latter also moves or remains in its base position. This constraint is argued to arise because A'-scrambling a contrastive category makes the mapping to information structure partly deterministic in that the sister of the landing site of this category will be marked as its DoC.⁷ If, on the other hand, a contrastive topic or focus remains in situ, its DoC is not marked and must be construed by the hearer based on contextual clues, as shown above. In addition, the output procedures associating contrastive constituents with their DoC must satisfy a requirement applying at the level of interpretation, i.e.

- (8) a. topic [...FOCUS...]
 b. * FOCUS [...topic...].

This falls out from the natural assumption that utterances are larger than propositions, and hence topics as utterance level notions must be located externally to foci, the latter operating at the level of propositions. Given that there are no in-situ topics, the free ordering of in-situ contrastive topics and foci cannot be demonstrated, but Neeleman & van de Koot's predictions hold with respect to ex-situ constituents in Finnish. A contrastive focus cannot precede a contrastive topic, as shown in (9):

- (9) Q: Mitä kauheaa Sagan kollegat löysivät?
 what awful Saga's colleagues found?
 'What awful thing did Saga's colleagues find?'
 a. ?? RUUMIIN Sagan nuorin kollega löysi.
 body Saga's youngest colleague found
 'Saga's youngest colleague found a body.'
 b. Sagan nuorin kollega löysi RUUMIIN (, mutta ei asetta).
 Saga's youngest colleague found body but not gun
 'Saga's youngest colleague found a body (but not a gun).'

Here the answer in (9a) with a contrastive focus preceding the contrastive topic is strange, if not ungrammatical, while the answer in (9b), with the opposite order of the relevant constituents is perfectly well-formed. This provides additional support for the role of A'-movement making the contrastive interpretation unambiguous.

4.2. A case for features in addition to interfaces

As conceptually appealing as it may be, there is evidence suggesting that the DoC marking analysis – or indeed any purely interface-based approach – is not sufficient to account for the Finnish facts and that contrast has to be encoded syntactically in a way that goes beyond the interfaces. In the following, I will show that contrastive interpretation meets the hallmarks of syntactically encoded movement: it is dependent on a particular position, spec,CP as the target of movement, and when movement occurs, the contrastive interpretation is obligatory.

⁷ See also Rizzi (forthcoming) on the uniqueness of focus in the left periphery: the unacceptability of two foci in the left periphery is derived from both interpretative and locality conditions.

Finally, also the behaviour of contrast in embedded clauses lends support to the idea that contrastive movement in Finnish targets a specific position and hence goes beyond the mere presence of A'-movement.

4.2.1. Unambiguous contrastive interpretation is dependent on spec,CP

According to Neeleman & Vermeulen (2012), if a topic undergoes A'-movement, it must be interpreted contrastively. However, as was discussed above in section 3, Holmberg & Nikanne (2002) argue that FP, the topic position, can function either as an A- or A'-position: the former when the moved constituent is the subject and the latter when the moved constituent is a constituent other than the subject. While topic movement into spec,CP renders topics obligatorily contrastive, a contrastive interpretation on an element in spec,FP depends on the preceding context and is never contrastive per se.⁸ One such context inducing contrastive topic interpretation is the presence of a conjunctive question, as argued by Lee (2003). Consider (10):

- (10) Q: Kuka torui Sagan kollegoita?
 who told off Saga's colleagues
 'Who told off Saga's colleagues?'
 a. Toruikohan Sagan nuorinta kollegaa MARTIN?
 tell off-Q-CL Saga's youngest colleague Martin
 'I wonder if Martin told off Saga's youngest colleague?'

The respondent takes (10Q) as a conjunctive question, "Who told off Saga's youngest colleague and the rest?", answering only the first conjunct involving Saga's youngest colleague. As shown above in section 3, a phrase with the clitic *-hAn* occupies spec,CP (Vilkuna 1995). Hence, in (10a), *toruikohan* is in spec,CP and *Sagan nuorin kollega* must occupy spec,FP, and by virtue of the preceding context, it is contrastive. Taken out of context, (10a) loses its contrastive interpretation. Hence, just the fact that the element has undergone A'-movement does not suffice to guarantee a contrastive interpretation.

Similar considerations arise from focus: as already noted, Finnish has a focus domain reaching from F to the bottom of VP rather than a structurally specified focus position to the right of F (Holmberg & Nikanne 2002), and an unambiguous contrastive interpretation arises only when the focused constituent is in spec,CP. This is apparent from a comparison with the Multiple Subject Construction in (11a), where there is an expletive pronoun in a higher position and a focused lexical argument in a lower VP-external position:

- (11) a. Sitä ei olisi PUSSY RIOT koskaan vapautunut.
 EXPL not would-have Pussy Riot ever been-freed
 'Pussy Riot would never have been freed.'
 b. PUSSY RIOT sitä ei olisi koskaan vapautunut.
 Pussy Riot EXPL not would-have ever been-freed
 'It is Pussy Riot that would never have been freed.'

The contrastive reading is more salient in (11b) with *Pussy Riot* in spec,CP.

⁸ Of course, one possibility would be to argue that the lower position, spec,FP, could host base-generated topics, and hence these topics would not be expected to manifest DoC effects, as they do not undergo A'-movement. However, in the literature there are no suggestions to the effect of Finnish having base-generated topics (Vilkuna 1995; Holmberg & Nikanne 2002).

So, although able to capture some generalizations pertaining to contrast in Finnish, the major shortcoming of the DoC marking analysis is its failure to account for any specific positional requirements for contrastive categories – contrastive interpretation requires more than just A'-movement to a non-specific position in order to be obligatory.

4.2.2. *Contrastive interpretation is forced on the constituent moved to spec,CP*

Another point in line with a feature-driven analysis is that when a relevant constituent, i.e. not a wh-phrase or a phrase hosting a second position clitic, moves to spec,CP, it is obligatorily interpreted as contrastive, as in (12):

- (12) Q: Kenet Putin vapautti?
 who Putin freed
 'Who did Putin free?'
- a. Putin vapautti PUSSY RIOTIN.
 Putin freed Pussy Riot
 'Putin freed Pussy Riot.'
- b. # PUSSY RIOTIN Putin vapautti.
 Pussy Riot Putin freed
 'It was Pussy Riot that Putin freed.'
- c. # Putin PUSSY RIOTIN vapautti.
 Putin Pussy Riot freed
 'It was Putin who freed Pussy Riot.'

The most natural answer to (12Q) is (12a) with post-verbal focus. If the focused constituent is fronted, with the topic occurring between it and the verb, a contrastive interpretation is forced on the focus, as in (12b). The answer is therefore non-felicitous, given that a contrastive interpretation is not warranted by the context. This follows naturally from the analysis of spec,CP as a contrastive position for topics and foci: if spec,FP is occupied, any preceding constituent is forced to move to spec,CP and consequently to adopt a contrastive interpretation. Answer (10c) serves to show that in this context the preverbal focus cannot be strictly adjacent to the verb, as this would force the topic into spec,CP, hence adopting a contrastive interpretation, which, again, is not allowed by the context.

(13) further elucidates the case with respect to contrastive topics:

- (13) Q: Mitä kauheaa Sagan kollegat löysivät?
 what awful Saga's colleagues found?
 'What awful thing did Saga's colleagues find?'
- a. Sagan nuorin kollega sitä löysi RUUMIIN.
 Saga's youngest colleague EXPL found body
 'Saga's youngest colleague found a body.'

The context is again set up with a conjunctive question, as above in (10). The topic *Sagan nuorin kollega* has to be in spec,CP, as the expletive *sitä* occupies spec,FP (Vilkuna 1995). However, unlike in (10) where the contrastive topic is in spec,FP, the contrastive reading is retained even in the absence of the context.

That a contrastive interpretation is obligatory when a relevant phrase moves to spec,CP supports the idea that contrast can be encoded in the computational system. However, it should be noted that it does not refute an interface-based approach as such: the presence of

certain movements can induce obligatory interpretations even if they arise from interface considerations, as is the case with the unambiguity of contrast in the DoC marking analysis.

4.2.3. Contrast in embedded contexts

Fronted contrastive elements are allowed under the complementizer *että* ‘that’. In (14b), this is shown for contrastive focus in a corrective context, and (15a) shows this with a contrastive topic, following a conjunctive question.

- (14) a. Medvedev vapautti Pussy Riotin.
 Medvedev freed Pussy Riot
 ‘Medvedev freed Pussy Riot.’
- b. Eihän, tiedän, että PUTIN Pussy Riotin vapautti (, ei Medvedev).
 no-CL I-know that Putin Pussy Riot freed not Medvedev
 ‘No, I know that it was Putin who freed Pussy Riot (, not Medvedev).’
- (15) Q: Mitä kauheaa Sagan kollegat löysivät?
 what awful Saga’s colleagues found?
 ‘What awful thing did Saga’s colleagues find?’
- a. Luulen, että Sagan nuorin kollega sitä löysi RUUMIIN.
 I-think that Saga’s youngest colleague EXPL found body
 ‘I think that Saga’s youngest colleague found a body.’

As noted by Vilkuna (1995), clauses with complementizers such as *että* ‘that’ tolerate movement to spec,CP. These cases can be analyzed as instantiating the so-called root-embedded effect (see Heycock 2006), and do not as such tell the full story of contrast under embedding. A better test case, according to Vilkuna (1995), is offered by the subordinators *jos* ‘if’ and *kun* ‘when’. These do not allow contrastive elements in spec,CP. (16) shows this for contrastive focus, and (17) for contrastive topics:

- (16) ?? Ihmisoikeusaktivistit ovat hämmästyneitä, jos MIKHAIL KOSENKON Putin
 human rights activists are amazed if Mikhail Kosenko Putin
 vapauttaa.
 frees
 ‘Human rights activists will be amazed if it is Mikhail Kosenko that Putin
 frees.’
- (17) Q: Saavatkohan Sagan kollegat ylennyksen?
 get-Q-CL Saga’s colleagues promotion
 ‘I wonder if Saga’s colleagues will get a promotion?’
- a. ?? Jos Sagan nuorin kollega sitä löysi ruumiin, hän saa ylennyksen.
 if Saga’s youngest colleague EXPL found body 3.SG gets promotion
 ‘If Saga’s youngest colleague found a body, s/he will get a
 promotion.’⁹

This ban against contrastive elements in embedded contexts follows straightforwardly if they are assumed to occupy spec,CP.

⁹ It should be noted that there is some variation in the grammaticality of contrastive topicalization in these embedded contexts. According to Vilkuna (1995), the colloquial use of *jos* and *kun* allows contrastive topics, while in the standard usage this is only possible if the clause linking is taken to be non-subordinative. I will leave the proper investigation of this to further research.

As was the case with the obligatoriness of the contrastive interpretation in spec,CP discussed above, the behaviour of contrastive elements in embedded contexts supports the idea that contrast may be encoded by a formal feature but does not refute an interface-based approach as such, as there may be other factors conspiring against contrastive movement in these embedded contexts. A comprehensive discussion on this would go behind the scope of this paper; see Hamlaoui & Szendrői (2015) for a phonological account.

5. CONCLUSION

What emerges from the discussion is a system neither fully reducible to interface-effects nor amenable to a strict cartographic analysis with a rich left periphery. The major insight of an approach such as DoC marking is that movement may eliminate ambiguity, and this holds for Finnish as well: contrastive interpretation is only unambiguous when it is accompanied by movement. However, while the obligatoriness of the interpretation can be cast in both interface-based and feature-based terms, the data showing that the movement must target a specific projection, i.e. spec,CP and not, for example, spec,FP, is problematic for a purely interface-based analysis. How exactly this is implemented in the clausal architecture will be left for future research, but it would seem that Finnish does not adhere to the cartographic tenet of One-Feature-One-Head.

As such, Finnish continues to pose a threat to a strict version for the Strong Modularity Hypothesis for Discourse Features. To wholly counter the hypothesis, however, further research is needed: what is the relation of contrast with the other elements in spec,CP? Could contrastive movement be triggered by a different feature than contrast which could induce a truth-conditional effect, as Horvath (2010) argues in terms of exhaustive interpretation for Hungarian focus? Another avenue for future research is the status of other discourse elements taken to occupy spec,CP, such as the second position clitics. Recent work on discourse particles (for example, Alcázar & Saltarelli 2014; Thoma 2016; Wiltschko & Heim 2016) indicates that some of these clitics are perhaps best analyzed although the notions of speaker and hearer, and interact with an additional layer above CP. This would reduce the elements sharing a position with contrastive elements.

Despite the absence of conclusive findings, this preliminary study suggests that discourse effects cannot be straightforwardly relocated to the interfaces, even if they are not amenable to a strictly cartographic analysis. Finnish offers valuable material for further research to understand how discourse-configurationality may be instantiated in different ways cross-linguistically.

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