Contrast, Contrastive Focus, and Focus Fronting[*]

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1. Introduction

The distinction between contrastive and non-contrastive focalization plays a fundamental role in the study of information structure where contrastive foci are described as able to front while non-contrastive foci remain in-situ[1](Rizzi 1997, 2004; Belletti 2001, 2004, and much subsequent literature). Despite its importance, the definition and testing diagnostics for the notion of *contrast*, and the associated notion of *contrastive focus*, are still under debate; see amongst others Rooth (1992), Büring (1997, 2003), Kiss (1998), Molnár (2002), Kenesei (2006), Zimmerman (2007, 2008), Krifka (2008), Repp (2010), Horvath (2010), Krifka & Musan (2012), Neeleman & Vermeulen (2012). as well as the several articles in Molnár & Winkler (2006) and Repp & Cook (2010). This paper advances this debate by providing four significant results.

First, it uncovers the hidden theoretical differences and ensuing predictions of Krifka's 2008 and Neeleman and Vermeulen's 2012 definitions of contrast and contrastive focus, showing that they are less obvious and more articulated than described in the original works of these authors. Neeleman and Vermeulen (henceforth 'N&V') define contrast as a primitive of information structure that – when associated with focus and yielding contrastive focus – denies one of the alternative propositions evoked by focalization. Krifka, instead, views contrast as a relation between the meaning of the focus-containing sentence and the information stored in the common ground: focus is contrastive when the meaning of the sentence differs from a focus-evoked proposition already present in the common ground (a more accessible explanation is provided in section 2). This paper carefully compares these two definitions across nine distinct contexts that elicit focalization: open questions, closed questions, corrective exchanges, four sub-types of confirmative exchanges, and two subtypes of additive exchanges. While the two definitions make similar predictions for most contexts, they will be shown to diverge on closed questions, two subtypes of confirmative exchanges, and one subtype of affirmative exchanges, thus showing that the two definitions are genuinely different (as opposed to be notational variants of each other) and identifying the contexts where they should be empirically tested.

Second, the paper establishes which definition is most accurate using focus fronting as a proxy for the presence of contrast. The results from the informal testing of 17 native speakers of British English show focus fronting in the exchanges assessed as contrastive under N&V's definition. Krifka's definition correctly predicts focus fronting in several cases, but wherever it diverges from N&V's predictions the distribution of focus fronting supports N&V's definition. Given the informal nature of the testing, described in section 5, this can only be considered a preliminary conclusion, but the consistency of the judgements across four distinct focus-eliciting exchanges adds strength to it. A fully controlled empirical testing is being planned.

[1] Where contrastive foci front to is a separate issue. Many scholars would assume they move to the high left-peripheral focus projection posited by Rizzi (1997, 2004). Others disagree. For example, in Samek-Lodovici (2015) I provided several pieces of evidence showing that Italian contrastive foci stay in-situ except when forced into a fronted position by right-dislocation. Abels (2017) calls into question the crosslinguistic evidence supposed to support the existence of a left-peripheral focus projection.

Third, the tight match between the set of exchanges assessed as contrastive under N&V's definition and those allowing for focus fronting – the four exchanges out of nine that are deemed contrastive are also the only ones where focus fronting is fully acceptable – provides new robust evidence for the hypothesis that focus fronting in British English is triggered by the presence of contrast (although the same is not necessarily true in other languages, see section 6).

Fourth, all nine focus-eliciting echanges examined in this study map into a single type of focalization, namely simple focalization a la Rooth (1992), plus the optional addition of contrast. This is a welcome result, since it reduces descriptive complexity to the interaction of the smallest possible set of independently necessary primitives: focus and contrast. Furthermore, additive and confirmative exchanges will be shown to give rise to both contrastive or non-contrastive foci depending on the content of the common ground and the intentions of the speakers at the time of the exchange. It follows that terms like 'corrective focus', 'confirmative focus', 'additive focus', where focus is qualified in terms of the exchanges that elicit it, are severely misleading. They undermine understanding in two ways. First, they incorrectly suggest that the labels describing the exchanges correspond to genuinely distinct types of focalization against the observation that simple focus and contrast are sufficient for all nine exchanges. Second, they incorrectly suggest that each exchange elicits a single type of focalization, whereas in reality some exchanges, namely confirmative and additive ones, can elicit both contrastive and non-contrastive foci.

Section 1 introduces the definitions of contrastive focus under N&V (2012) and Krifka (2008), also considering their predictions for corrective and open question exchanges. Sections 2, 3, and 4 deepen the comparison by examining which type of focus – contrastive vs non-contrastive – is predicted under each definition for closed questions, confirmative exchanges, and additive exchanges. Section 5 describes how these predictions were informally tested using focus fronting as a cue for the presence of contrast. The distribution of focus fronting acceptability that emerged from the tested 17 speakers of British English will be shown to be more closely captured by N&V's definition. Section 6 provides the conclusions plus some reflections over the crosslinguistic validity of the uncovered results.

1. Contrastive and non-contrastive focus under Krifka (2008) and N&V (2012)

Following Rooth (1985, 1992), most linguists maintain that the distinctive property of focalization is the evocation of alternatives. The open question in (1) denotes the set of propositions in (2), where each proposition involves a different agent (Hamblin 1973). In turn, answer (1)B signals that it is an appropriate answer to question (1)A by focusing its subject. Focalization of the subject ensures that (1)B, too, is associated to a set of alternative propositions – a.c.a. its 'focus value' – created by replacing the referent of the subject with suitable potential alternatives. While the ordinary meaning of (1)B is the single proposition *wants(Ede,coffee)*, its focus value is the set of propositions in (3).

(1) A: Who wants coffee?   (Rooth 1992)
    B: EDE$_F$ wants coffee.

(2) Set of propositions denoted by question A:
    {*wants(John,coffee)*, *wants(Ede,coffee)*, *wants(Bill,coffee)*, etc.}

(3) Set of propositions evoked by answer B via focalization (the focus value):
　　{*wants(John,coffee)*, *wants(Ede,coffee)*, *wants(Bill,coffee)*, etc.}

As speakers, we intuitively assess that the question/answer exchange in (1) is felicitous because the set of propositions denoted by the question is a subset of the set of propositions evoked through focalization by the answer (Rooth 1992). When this subset relation does not hold, the exchange becomes incongruous, and hence infelicitous as well. For example, if B placed stress on the object instead, as in (4), focalization would have shifted to the object[2]. This dramatically affects the focus value of the answer, which now includes propositions like 'Ede wants tea', 'Ede wants coffee', 'Ede wants milk', as shown in (5). This set does not contain the set of propositions (2) denoted by the question, since the only shared proposition is 'Ede wants coffee'. Consequently, the exchange is assessed as infelicitous (as represented by the symbol '#'). Focalization thus governs the coherence of conversational exchanges by signalling that the current conversational move is appropriate for the explicit or implicit question that is being discussed. As Rooth showed, focalization executes this crucial function by evoking sets of propositions varying only on the referent for the focused constituent and then comparing this set with the set denoted by the explicit or implicit questions under discussion.[3]

　　(4) A:　Who wants coffee?　　　　　　　　　　　　　(Rooth 1992)
　　　　 B: # Ede wants COFFEE$_F$.

　　(5) Set of propositions evoked by (4)B via focalization (the focus value):
　　　　{*wants(Ede,tea)*, *wants(Ede,coffee)*, *wants(Ede,milk)*, etc.}

Open questions – Krifka (2008) and N&V (2012) both adopt Rooth's definition for non-contrastive focalization. They also both consider exchanges involving open questions like (1) above as prototypically non-contrastive. Consequently, they would both analyze the subject in (1)B as involving non-contrastive focus (often also called 'presentational' or 'new-information' focus[4]). Non-contrastive focus thus simply evokes a set of alternative

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[2] Technically, answer (4) is ambiguous because focus could also fall on the entire sentence. I am leaving this case aside, as it adds nothing to the discussion.

[3] Students are often taught that in a question/exchange, they can identify the constituent that is focused in the answer as "the constituent that corresponds to the wh-phrase in the question". Many scholars also use this rule of thumb as a quick and useful definition of focus in their articles, and I suspect I have committed the same sin myself. While extremely useful when teaching, it is worth understanding that this rule is misleading. It creates the impression that focus in the answer is determined by the question. Under Rooth's definition, though, focalization occurs independently from the question. As the above examples showed, B remains free to use stress to focus the subject or the object. Only after focus has been assigned we may determine whether B's statement is an appropriate, congruous, answer to the question under discussion, or not.

[4] Presentational and contrastive focus are also often incorrectly referred to as *broad* and *narrow* focus. These terms are only good for signalling the size of the focused constituent, not its contrastive or non-contrastive nature. Examples of presentational focus tend to involve large constituents, e.g. whole clauses, whereas contrastive focus examples typically involve short phrases, like DPs. These tendencies, however, have no theoretical import with respect to the definition of contrast because it is possible to contrastively focus large phrases and presentationally focus short ones, as is respectively the case in (1) and (2).

　　(1) A: You are [$_{AP}$ happy that John will visit you tomorrow].
　　　　 B: No. I am [$_{AP}$ sad that Mary did not call me YESTERDAY]$_F$.

propositions in the manner described above (and, crucially, it remains defined as non-contrastive despite its evoking a set of distinct propositions).

Corrective exchanges – Krifka (2008) and N&V (2012) diverge, however, in their conception of contrastive focalization, here illustrated through their analyses of corrective conversational exchanges like (6), which both Krifka and N&V treat as prototypically contrastive.

Following Molnár (2002) and Valduví & Vilkuna (1998) amongst others, N&V (2012:12) maintain that *contrast* is an information structure primitive with its own independent semantic content. Following similar insights in Kenesei (2006) and Repp (2010), they propose that contrast signals that at least one of the alternative propositions evoked by focalization does not hold (or,to put it in N&V's terms, that what holds is the negation of that proposition,). For example, in the corrective exchange in (6), the subject of (6)B is contrastively focused. Focus is signalled by the presence of main stress and it evokes a set of alternative propositions of the type *wants(x,coffee)* with *x* ranging over people known to A and B, see (7). The presence of contrast is signalled by the intended interpretation, where one of the alternative propositions evoked by focalization is denied. In corrective exchanges like (7), the denied proposition is the one being corrected, namely the proposition that John wants coffee. The logical expression defining the semantic import of contrast for N&V is provided in (8). It departs slightly from N&V's original in its syntax, but not in its content. It states that whenever a sentence *s* undergoes contrastive focalization on some of its constituents, at least one alternative proposition *p* in the set of propositions evoked through focus by *s* (i.e. the focus value of *s*, expressed as $\|s\|^f$), does not hold.[5] For N&V, we add contrast to focus, making it contrastive, when we want to convey this piece of information.

(6) A: John wants coffee.
    B: No. EDE$_F$ wants coffee.

(7) Focus value of (6)B: {*wants(John,coffee)*, *wants(Ede,coffee)*, *wants(Bill,coffee)*, etc.}

(8) $\exists p \in \|s\|^f$ such that $\neg p$ (at least one proposition *p* in the set $\|s\|^f$ evoked by focalization does not hold).

Krifka's (2008:252,259) definition of contrast, instead, exploits the notion of common ground, which is defined as the information mutually known to be shared by all discourse participants. For Krifka, contrast arises whenever the ordinary meaning of the uttered sentence differs from one of its focus-induced alternatives already present in the common ground. Under Krifka's model, the focused subject of (6)B evokes the usual set of alternative propositions of the type *wants(x,coffee)* listed in (7). Contrast occurs because the ordinary meaning of sentence (6)B, namely the proposition *wants(Ede,coffee)*, differs from the proposition *wants(John,coffee)* introduced into the common ground by (6)A and it differs precisely with respect to the referent denoted by the focused constituent. In other words, for Krifka contrast occurs whenever the

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(2) A: When did you meet Bill?
    B: I met him YESTERDAY$_{NewF}$.

[5] The proposed condition has a typical property of presuppositions. Under contrastive focalization, (7) would hold for both (6) and its negation 'EDE$_F$ does not want coffee' (uttered as an answer to 'John does not want coffee').

common ground contains at least one proposition from the focus value of the uttered sentence – i.e. from its focus-evoked alternatives – and that proposition differs from the proposition denoted by the ordinary meaning of the uttered sentence.

Common ground management – It's worth adding that only the ordinary meanings asserted in sentences (6)A and (6)B – i.e. the propositions *wants(John,coffee)* and *wants(Ede,coffee)* – become part of the common grund after they are stated. The many additional propositions evoked by focalization do not enter the common ground. Being evoked via non-contrastive focalization is not sufficient to make a proposition shared knowledge. This is a necessary assumption for Krifka, or else his model would not be able to distinguish contrastive and non-contrastive focus, since non-contrastive focus would regularly inject alternative propositions in the common ground that happen to contrast with the uttered sentence.

The same assumption applies to the set of propositions denoted by questions. Like most, Krifka views the open question exchange in (1), repeated in (9), as involving non-contrastive focus. Therefore, the propositions denoted by a questions cannot enter the common ground, or else contrast with the newly entered propositions would ensue and the possibility to view open questions as eliciting non-contrastive focus would be lost. Krifka (2008:246) thus assumes that questions express the need for information but do not add factual information into the common ground. For example, in exchange (9), none of the propositions of the form *wants(x,coffee)* denoted by question (9)A enters the common ground, which remains empty. Consequently, the focalization of the subject in (9)B remains non-contrastive, because the ordinary meaning of (9)B, namely *wants(Ede,coffee)*, does not contrast with any proposition in the (still empty) common ground.[6]

(9) A: Who wants coffee?   (Rooth 1992)
     B: EDE_F wants coffee.

Focus fronting – As we have seen, Krifka and N&V's definitions of contrast converge in viewing open question foci like (9) as non-contrastive and corrective foci like (6) as contrastive. Before examining the type of focalization involved in other, less obvious, exchanges, note the relation between focus fronting and contrast. If fronting is licensed by the presence of contrast, an assumption that N&V (2012:20) root in the quantificational nature of contrast under their definition, then focus fronting should be possible under corrective exchanges and unavailable under open questions, since only the former involves contrastive focus. This prediction is borne out. As N&V note, focus fronting is possible in (10) but not in (11)[7].

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[6] In Krifka's terms, questions *manage* the common ground by calling for specific conversational moves that might update the common ground's content. But uqestions never determine any update themselves. While generally agreeing with Krifka (2008), Repp (2010:1336) identifies an interesting exception to Krifka's modelling of questions. She notes that it should never be possible for answers to display contrast with questions, since the propositions denoted by questions do not enter the common ground. Yet, Repp points out that such cases exist: in (i), B's sentence is not Rooth-congruous with A's question and yet it is felicitous. It's felicity appears to emerge from its contrasts with the subject of A's question, as if the question had affected the common ground.

(i) A: Did John drink tea?
    B: $PETER_F$ drank tea.

[7] But as Ward (1985:135) notices, sometimes fronting might occur also when contrast is absent. In the dialogue below, the fronted expression 'the poor man's paradise' is fronted yet non-contrastive, as it constitutes the answer to

(10)   A: John read The Extended Phenotype.   (Adapted from N&V 2012:9)
        B: No. [The Selfish GENE]$_F$, he read.

(11)   A: What did John read?   (N&V 2012:9)
        B: # [The Selfish GENE]$_F$, he read.

Krifka and N&V's definitions, however, do lead to diverging assessments of what type of focalization – contrastive or non-contratsive, is elicited under close question, confirmative, and additive exchanges. I'll consider them in turn.

2. Close question exchanges

Close questions are like open questions except that the range of possible alternatives is expressed in the question itself, see (12). For Krifka (2008), the semantic denotation of close and open questions is similar. Close questions restrict the set of propositions denoted by the question, but, like open questions, they do not add those propositions to the common ground. Consequently, no contrast ensues in the common ground in exchanges like (12) and we can conclude that under Krifka's definition focalization in out-of-the-blue closed questions is necessarily non-contrastive.

(12)   A: Who wants coffee, John or Ede?
        B: EDE$_F$ wants coffee.

N&V (2012:8) instead appear to view closed questions as inducing contrastive focus, since they describe example (13) below as similar to focalization in corrective exchanges, which are contrastive, and different from focalization in open questions, which are non-contrastive. Under their definition of contrast, this view would require that sentence (13)B is uttered with the intention to deny the proposition *read(John,theExtendedPhenotype)*. The presence of contrast in closed question exchanges, however, is later called into question by N&V because the denied proposition could also be the result of an implicature drawn on the basis of Gricean reasoning, rather than constituting a direct consequence of their definition of contrast (N&V 2012:9).

(13)   A: What did John read? The Selfish Gene or The Extended Phenotype? (N&V 2012)
        B: He read [the Selfish GENE]$_F$.

While N&V are right in considering the import of Gricean implicatures, this leaves us in the unfortunate state of not quite knowing whether contrast, and hence contrastive focus, is or isn't present in closed questions. Yet we do want to know, because if focus were contrastive, we would have a first case where Krifka and N&V's models diverge as well as a potential testing ground to determine which of their definitions is most accurate.

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the implicit open question "what was it called?". I leave the analysis of these cases to further research.

(1) Once, 40 or 50 years ago, it was *the* summer place. A cool seaside resort for the price of a subway token. [then, only a nickel].Everyone had heard of Coney Island. [The poor man's PARADISE]$_F$, they call it. [*Philadelphia Inquirer,* p. 4-C, 8/28/83, article "Trying to regain a paradise lost in urban renewal"]

Support for identifying closed question focus as contrastive under N&V comes from an interesting observation that N&V make in their discussion of corrective exchanges. They notice that Gricean implicatures can be cancelled, whereas the negative statement introduced by their definition of contrast cannot. It follows that if closed question focus is genuinely contrastive, as opposed to simply involving a Gricean implicature, then the alternative proposition that is denied due to the presence of contrast should not be cancellable. The best way to see that this is indeed the case is comparing open questions with closed questions. As (14) shows, with open questions, any Gricean implicature that John only read the Bible is easily cancelled by adding the second sentence in (14)B.

(14) A: What did John read this summer?
   B: He read [the BIBLE]$_F$. He read everything he could lay his hands on, QURAN included.

With closed questions, instead, the contrast-induced conclusion that John did not read the Quran cannot be cancelled, as the infelicousness of the second sentence in (15)B attests. This is true even when focus remains in-situ in (15)B$^!$.

(15) A: What did John read this summer? The Bible or the Quran?
   B: [The BIBLE]$_F$, he read. # He read everything he could lay his hands on, QURAN included.
   B$^!$: He read [the BIBLE]$_F$. # He read everything he could lay his hands on, QURAN included.

Summing up, Krifka's and N&V's definitions diverge on closed questions. Krifka's necessarily models them as non-contrastive. I wrote 'necessarily' because as we saw their non-contrastve nature stems from Krifka's assumptions that questions do not introduce any content into the common ground, and this assumption is essential to the analysis of open questions. As for N&V, their model must consider closed question exchanges as involving contrastive focus. The marginal availability of focus fronting under closed questions provides preliminary support for N&V's definition over Krifka's.

3. Confirmative exchanges

Confirmative foci occur when a sentence confirms a previous statement as in (16) and (17). The presence of contrast depends on the content of the common ground at the time of the exchange under Krifka's definition, and the intentions of speaker B under N&V's. We need to distinguish the four cases examined below.

(16) A: John read the Quran.
   B: Yes, JOHN$_F$ read the Quran.

(17) A and B are parents commenting the activity of children at the local primary school.
   A: Bill hit Jack, yesterday.
   B: Yes, he hit JACK$_F$, yesterday.

Confirmative I – The first case is non-contrastive under both models. It occurs when B's utterance is not intended to deny any focus-evoked proposition and the common ground contains no propositions at the time of the exchange. An example is provided in (18). Sentence (18)A introduces the proposition *hit(Bill,Jack)* in the previousy empty common ground. Speaker B confirms that Bill hit Jack, and then adds that Bill hit everybody. Crucially, this is new information for A, i.e. not yet present in the common ground. it is introduced for the first time by B's second sentence.

(18) *The common ground contains no propositions concerning Bill.*
    A: Bill hit Jack, yesterday.
    B: Yes, he hit JACK$_F$, yesterday. In fact, he's hit everybody.

The focalization on 'JACK' in (18)B is non-contrastive under Krifka's model, since the common ground contains no propositions for B's confirmative statement to contrast with.[8] Focalization is non-contrastive for N&V (2012:12) as well because as B's second sentence makes clear B believes that Bill has hit every child, and therefore there cannot be any proposition of the type *hit(Bill,x)* that B intends to deny for some child *x*.
Further evidence that contrast a lá N&V is indeed absent follows from the unavailability of focus fronting under this scenario. As (19) shows, it is not possible to front focus while keeping the assertion that Bill hit everybody.

(19) *The common ground contains no propositions concerning Bill's past actions.*
    A: Bill hit Jack, yesterday.
    B: Yes, JACK$_F$, he hit, yesterday. # In fact, he's hit everybody.

Confirmative II – Focalization can also remain contrastive under both models. This occurs when confirmative exchanges are used to implicitly deny one of the alternative propositions evoked by focalization, and precisely that denied alternative is already in the common ground. For example, consider a scenario where the parents of the pupils of the local school have heard the rumor that Bill, one of the school's pupils, hit Tom, another pupil and a particularly vulnerable child. It follows that the proposition *hit(Bill,Tom)* is already in the common ground when the two parents A and B engage in the confirmative exchange (20). Speaker B, who is Bill's father, believes that his son has hit many children but definitely not little Tom. When speaker A states that Bill hit Jack, B confirms it, but also stresses the name 'Jack' with the intention to implicitly deny that Bill hit little Tom. He intends to imply that yes, Bill hit Jack, and possibly other kids like Jack, but definitely not little Tom.

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[8] This particular scenario is not contemplated by Krifka (2008). Krifka's (2008:251-252) original discussion describes confirmative exchange as one where "the focus alternatives must include a proposition that has been discussed in the immediately preceding common ground. It is expressed that among the alternatives the ordinary meaning is the only one that holds." In other words, Krifka is considering cases where the common ground contains alternatives that are denied, and the corresponding confirmative exchanges is thus contrastive. Confirmative foci of this kind, that also fit N&V's notion of contrast, do exist and correspond to confirmative cases II and IV discussed later in this section.

(20) *A and B are parents commenting the activity of children at the local primary school. The proposition 'hit(Bill,Tom)' is part of the commong ground, but speaker B wishes to dispute it.*
A: Bill hit Jack, yesterday.
B: Yes, he hit JACK$_F$, yesterday. (But not Tom, as some parents believe).
B': Yes, JACK$_F$, he hit, yesterday. (But not Tom, as some parents believe).

Under this scenario, the ordinary meaning of (20)B *hit(Bill,Jack)* contrasts with the focus-evoked alternative proposition *hit(Bill,Tom)* in the common ground, making focalization contrastive under Krifka's model (Krifka 2008:251-252). Since the proposition *hit(Bill,Tom)* is also implicitly denied by speaker Bill, focalization is contrastive under N&V's model too. N&V (2012:11-12) add two arguments in support of this conclusion. First, they notice that focus fronting becomes possible. Their original example is in (21), where the Dad implies that at least one of the five books that John had to read have not ben read. The same reasoning holds for (20)B' above. If fronting is triggered by contrastive focalization, the grammaticality of (20)B' confirms the presence of contrast.

(21) Mum and Dad know that John must read five books to prepare for the exam; they are discussing which books he has read so far.
Mum: John's read The Selfish Gene. (N&V 2012:12)
Dad: Yes, I know. [The Selfish GENE]$_F$ he's read.

N&V also point out that the implicit denial is determined by the presence of contrast and its semantics in (8) above, rather than emerging as a general Gricean implicature. This is shown in (22) where the Dad's sentence can be felicitously followed by sentence (i) explicitly mentioning the denied alternative, but not (ii) which makes any implicit denial impossible by asserting that John read every book. If implicit denial were the product of a Gricean implicature, the implicature should be cancellable, and (ii) should be felicitous. But since the implicit denial is introduced by the presence of contrast, no such cancellation is possible and (ii) is infelicitous.

(22) *Mum and Dad know that John must read five books to prepare for the exam; they are discussing which books he has read so far.*
Mum: John's read The Selfish Gene. (N&V 2012:12)
Dad: Yes, I know. [The Selfish GENE]$_F$ he's read.
　　(i) But [The Extended PHENOTYPE]$_F$ he hasn't read.
　　(ii) # In fact he's read all five books in the reading list.

The contrastive nature of focus under Confirmative II scenarios is also illustrated by the following corpus-based example from Ward (1985:136). The fronted 'LIFE' does indeed imply the exclusion of other possible durations for the inflicted sentence, as expected under N&V.

(23) Unlike the two prisoners released earlier on humanitarian ground, they say, Hess was condemned to life, and LIFE$_F$ it shall be. After all, they add, 20 million Soviet citizens perished at Nazi hands. [*Philadelphia Inquirer*, p. 10-A, 4/27/85, article "Lonely old man of Spandau is 91"]

Confirmative III – The focus triggered by confirmative exchanges can also be non-contrastive under Krifka's model and contrastive under N&V's. This case occurs when there is no contrast with propositions in the common ground, yet there is an implicit denial of one or more focus-evoked propositions. For example, consider again our 'parents chatting at the local school' scenario, but now assume that the common ground is empty when exchange (24) takes place, i.e. there have been no rumours that Bill hit children other than Jack. Since there is no contrast with propositions in the common ground, focus is non-contrastive under Krifka's model. Assume, however, that parent B's reply still intends to deny any focus-evoked propositions that his son Bill might have hit other children, as his following sentences make clear. Then focalization remains contrastive under N&V's model.

(24)   *A and B are parents commenting the activity of children at the local primary school. There are no propositions in the common ground about Bill's past actions.*
A: Bill hit Jack, yesterday.
B: Yes, he hit JACK$_F$, yesterday. But it was a one off. He's a lovely boy! He never picks fights!

As (25) shows, this case, too, allows for focus fronting, suggesting that focus is indeed contrastive as predicted by N&V's definition. As expected, focus fronting can be followed by sentences that confirm the implicit denial that Jack hit other children triggered by contrast, as in (25)B, but it becomes less felicitous when followed by a sentence contradicting the implicit denial by stating that Jack hit every child, as in (25)B'. If contrast were absent, no focus-evoked proposition of the type *hit(John,x)* with x different from Jack would be implicitly denied, and the assertion that Jack hit everybody would be felicitous.

(25)   *A and B are parents commenting the activity of children at the local primary school. There are no propositions in the common ground about Bill's past actions.*
A: Bill hit Jack, yesterday.
B: Yes, JACK$_F$ he hit, yesterday. But it was a one off. He's a lovely boy! He never picks fights!
B': Yes, JACK$_F$, he hit, yesterday. # In fact, he's hit everybody.

Confirmative III exchanges thus provide a second case – the first was closed questions – where N&V's definition fits the available observations better than Krifka's. Focus under confirmative III scenarios is contrastive, rather than non-contrastive. The advantage enjoyed by N&V's definition will gain even more support from the discussion of confirmative case IV and additive exchanges I in this and the next chapters, and from the focus fronting data discussed in section 5.

Confirmative IV – The last confirmative case has focus contrastive for Krifka and non-contrastive for N&V. Let's go back to our local school scenario and assume that the fact that Bill hit Tom is shared knowledge, hence in the common ground. Furthermore, speaker B has no intention to challenge its truth, thus keeping focus non-contrastive under N&V's definition. To enforce this latter assumption, B's confirmative statement is followed by a second sentence asserting that Bill hit everybody. Fronting in B' should remain unfelicituous, again due to the absence of contrast enforced by the second sentence as well as the assumed discourse context.

(26) *A and B are parents commenting the activity of children at the local primary school. The proposition 'hit(Bill,Tom)' is part of the commong ground, and speaker B does not intend to dispute it.*
A: Bill hit Jack, yesterday.
B: Yes, he hit JACK$_F$, yesterday. In fact, he's hit everybody.
B$^!$: Yes, JACK$_F$, he hit, yesterday. # In fact, he's hit everybody.

When we consider all four confirmative cases at once, we notice that neither model provides an invariant assessment for the type of focalization elicited by confirmative exchanges. Focus is contrastive or non-contrastive depending on the content of common ground under Krifka's model and the presence of an intended denied alternative proposition under N&V's. Such variation in focus type depending on the contextual circumstances of the exchange is worth noticing because it is not mentioned in either Krifka (2008) or N&V (2012).[9]
It is also worth noticing that the two models differ in how they map the four confirmative cases into contrastive and non-constrative focus. N&V assess cases I and IV as non-contrastive and II and III as contrastive, whereas Krifka's assesses cases I and III as non-contrastive and II and IV as contrastive.
Cases III and IV, where the two models diverge, are the most interesting ones, since they allow us to test which model is most accurate. As mentioned, the availability of focus fronting under III but not IV, discussed again in section 5, supports N&V's model, since only their model treats focus in case III as contrastive and in case IV as non-contrastive. The study of additive exchanges will provide further evidence in support of N&V's model.

4. Additive exchanges

An exchange is additive when one (or more) of the focus-induced alternatives of a sentence is already in the common ground. See (27) where speaker A introduces in the common ground the proposition *wants(Bill,coffee)*, to which speaker B adds the proposition *wants(Mary,coffee)*.
For Krifka (2008:259), additive focus is necessarily contrastive, because B's statement inevitably contrasts with the initial proposition introduced in the common ground by the first speaker. In (27), the new proposition *wants(Mary,coffee)* contrasts with *wants(John,coffee)* introduced into

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[9] Furthermore, some apparent instances of confirmative focus turn out not to be so. The sentences below, from Birner and Ward's corpus study (2009:1174), might at first look as a confirmative case, since the second sentence clearly is uttered in support of the first one, rather than with the intention to deny it. Yet on closer inspection the expression "five semesters" does not express the same time length of "two years". In fact, the second sentence is denying alternatives stating the number of semesters: she has been here five semesters, not three or four, not six or seven. If correct, the focus involved would be of the closed question type, even if the closed question "how many semestes she's been here: one, two, three, four, five, or six?" would be implicit. This shows how important it is to carefully design the examined exchanges, in order to eliminate all possible ambiguities.

(1) She's been here two years. [Five SEMESTERS]$_F$, she's been here.

the common ground by A. Since both propositions also belong to the set of alternative propositions evoked through focalization by B's sentence, focus is contrastive.

(27) A: John wants coffee.
B: MARY$_F$ wants coffee, TOO. (Krifka 2008:259)

N&V do not discuss additive exchanges, but the logic of their model makes it possible to distinguish a first case where focus is inevitably non-contrastive, and a second one where focus can potentially be contrastive. I discuss them in turn.

Additive I – As is always the case, with N&V's definition, focus is non-contrastive whenever the speaker utterring the additive sentence has no intention to implicitly deny a focus-evoked alternative. Assume for example that A and B are a couple with three children, Bill, Jack, and Tom and that no other children is contextually salient. In (28), A mentions that Bill hit Jack, and B replies that Bill also hit Tom. Under Krifka's model, focalization on 'Tom' in (28)B is contrastive because the asserted proposition *hit(Bill,Tom)* contrasts with the proposition *hit(Bill,Jack)* already introduced in the common ground by speaker A.
Under N&V's model, instead, focalization is non-contrastive because the provided context ensures that there is no other contextually salient child that Bill could have hit, and hence no proposition of the type *hit(Jack,x)* that B might intend to implicitly deny. More precisely, the provided context ensures that the focus value of B's utterance only contains that two propositions *hit(Bill,Jack)*, and *hit(Bill,Tom)*.[10] Since both are asserted and accepted by both speakers, there is no focus-evoked proposition left for B to implicitly deny.

(28) *A and B are the parents of Bill, Jack, and Tom and are discussing their children.*
No other children are contextually salient at the time of their conversation.
A: Bill hit Jack, yesterday.
B: Yes, he hit TOM$_F$, TOO.

We have thus discovered yet another class of exchanges where Krifka's and N&V's make divergent predictions, and once again we can use focus fronting to test these predictions. As we will see in section 5, preliminary testing once again supports N&V's definition.

Additive II – There is no way to make additive exchanges non-contrastive under Krifka, since by definition they add a new proposition that contrasts with a previously asserted similar proposition stored in the common ground. Additive exchanges can, however, be contrastive under N&V's model as well, provided the added proposition is intended to deny another evoked alternative. Consider again the previous scenario but now assume that A and B have four children, Bill, Jack, Tom, and Sarah. The presence of an additional contextually relevant sibling enables a contrastive interpretation á la N&V whenever parent B mentions that Bill also hit Tom with the intention to also implicitly deny that B hit Sarah. More technically, the focus value of B's utterance contains three propositions of the type *hit(Bill,x)* with *x* ranking over Bill's three siblings.[11] B's utterance, when uttered contrastively, implies the denial of the proposition

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[10] I am assuming that the proposition *hit(Bill,Bill)*, where Bill hits himself, is contextually excluded. The two parents are discussing typical sibling fights, not self-harming.
[11] As before, the described context is assumed to exclude the proposition *hit(Bill,Bill)* from the focus value.

hit(Bill,Sarah).

> (29) *A and B are the parents of Bill, Jack, Tom, and Sarah and are discussing their children. No other children are contextually salient at the time of their conversation.*
> A: Bill hit Jack, yesterday.
> B: Yes, he hit TOM$_F$, TOO. (But not Sarah)
> B¹: Yes, TOM$_F$ he hit, TOO. (But not Sarah)

Since focus is contrastive under both models, both predict focus fronting in (29)B to be possible. Indeed it is. Note, however, that contrast á la N&V is always only possible, not necessary. For example, assume that the additive exchange (30) is uttered at a workshop involving ten people, all of them contextually relevant. B's utterance focuses the subject *Mary*. This focus could be intended to be contrastive, as there are other people who might be implied not to want coffee. Yet in exchange (30) it is necessarily non-contrastive, since B's second sentence clarifies that no proposition of the type *wants(x,coffee)* with x ranging over the workshop's participants is denied.

> (30) A: John wants coffee.
> B: MARY$_F$ wants coffee, TOO. EVERYbody wants coffee!

Overall, additive exchanges add a second instance where N&V's and Krifka's models diverge, namely additive case I. They also show, as we just saw with additive case II, that the presence of contrastive or non-contrastive focalization under N&V's model is not immediately evident, as it often follows from the intentions of the speakers, which are not accessible. Howeve, we can tease the two focalization apart. For non-contrastive focus, we add a second sentence containing a universal statement that makes any implicit denial impossible, as in (30)B. For contrastive focus, we test for the presence of focus fronting.

5. Testing for the presence of contrast through focus fronting

When we put all the observations made so far together, we obtain the table below listing the type of focus predicted by Krifka's and N&V's definitions for each type of exchange. 'C' stands for contrastive focus and 'NC' for non-contrastive focus. The table is remarkable in two ways. First, it shows how simple focalization a la Rooth once combined with a precisely defined notion of contrast is sufficient to model focalization across all exchange types. This is a welcome result showing that different exchange types do not correspond to different types of foci, each with its own separate properties. Second, it shows the exact extent Krifka and N&V's definitions converge and diverge, enabling their testing. Specifically, the proposed definitions make identical predictions in most cases but for closed questions, confirmative III, confirmative IV, and additive I exchanges.

(31)   Table 1 – Predicted focus type across different focus-eliciting exchanges

C = contrastive focus NC = non-contrastive focus	**Krifka (2008)** Contrast occurs with focus-evoked alternatives in the common ground.	**N&V (2012)** Contrast occurs when at least one focus-evoked alternative is denied.
Open questions	NC	NC
Corrective exchanges	C	C
Closed questions	NC	C

Confirmative I
   - No contrast with common ground
   - No denial of evoked alternative
	NC	NC

Confirmative II
   - Contrast with common ground
   - Denial of evoked alternative
	C	C

Confirmative III
   - No contrast with common ground
   - Denial of evoked alternative
	NC	C

Confirmative IV
   - Contrast with common ground
   - No denial of evoked alternative
	C	NC

Additive I
   - Contrast with common ground
   - No denial of evoked alternative
	C	NC

Additive II
   - Contrast with common ground
   - Denial of evoked alternative
	C	C

Both Krifka and N&V view focus fronting as triggered by the presence of contrast. We may thus use focus fronting as a testing tool and check, for each exchange, whether fronting is or isn't possible. If fronting is possible, then contrast is present and the exchange can trigger contrastive focus. If fronting is ungrammatical, contrast is absent and the exchange only elicits non-contrastive focus. This test simultaneously assesses two hypotheses. The first is the hypothesis that focus fronting is indeed triggered by contrast. This hypothesis would be refuted, or at least seriously weakened, were we to discover that fronting is possible in the two exchanges that both Krifka and N&V assess as non-contrastive, or impossible in the three exchanges that both assess as contrastive. Under such outcomes, the distribution of focus fronting would not be captured by the two definitions of contrast examined in this paper. The second hypothesis concerns Krifka's and N&V's definitions of contrast. We may examine whether the distribution of focus fronting is best captured by Krifka's or N&V's definition by inspecting the exchanges where the two make divergent predictions.

Full experimental testing will occur in future research, but some   interesting preliminary results

already emerge from the informal testing of respectively 6 and 11 native speakers that attended my 2016 and 2017 course on information structure.[12] The tested students were given a written questionnaire consisting of short dialogues corresponding to the exchanges in table 1 but for the confirmative exchanges II and IV, whose existence had not yet been considered at the time of the survey. The informants were asked to provide their judgments while at home, ideally in a room alone, giving themselves as much time as necessary, and using <ok, ?, ??, *> as acceptability values. Most informants were final year students pursuing a BA in linguistics, while the others were enrolled in an advanced MA in linguistics. All of them were familiar with the notion of grammaticality and the practice of giving grammaticality judgments. They course of mine they were following concerned focalization and Krifka's and N&V's hypotheses on contrast, but at the time neither them nor I had any reason to prefer a judgment over an another.[13] Table 2 below lists the judgments collected during the two surveys. The first column lists the dialogue and the short additional context that was provided in the questionnaire (with the bolded and capital text as in the original). The judgments concerned sentences B1 and B2, which provided two alternative endings for each dialogue, one involving in-situ focalization and the other focus fronting. A clearer picture of the overall results is provided in the table 3, which calculates the average judgement for each set of informants.

(32)   Table 2 – Native speakers' judgements

	Focus in situ	**Fronted focus**
Open questions *A: What did John eat?* *B1: He ate the COOkies$_F$.* *B2: The COOkies$_F$ he ate.*	2016: ok, ok, ok, ok, ok, ok 2017: ok, ok, ok, ok, ok, ok, ok, ok, ok, ok. ok	2016: ?, ?, ?, ok[14], ?, ?? 2017: ?, ?, ok, ok, ?, *, ok, *, ??, ?, ??
Corrective exchanges *A: John ate the COOkies.* *B1: No. He ate the CANdies$_F$* *B2: No. The CANdies$_F$ he ate*	2016: ok, ok, ok, ok, ok, ok 2017: ok, ok, ok, ok, ok, ok, ok, ok, ok, ok, ok	2016: ?, ?, ok, ok, ok, ok 2017: ?, ??, ok, ?, ok, ok, ok, *, ok, ?, ok
Closed questions *A: What did John eat? The candies or the cookies?* *B1: He ate the COOkies$_F$.* *B2: The COOkies$_F$ he ate.*	2016: ok, ok, ok, ok, ok, ok 2017: ok, ok, ok, ok, ok, ok, ok, ok, ok, ok, ok	2016: ?, ?, ok, ok, ok, ok 2017: ok, ok, ?, ok, ok, ??, ok, ??, ok, ?, ?

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[12] Many thanks to my informants Patricia, Catherine, Chris, Jimmy, Ned, Margaret, Clare, Joshua, Helice, Gaby, Harriet, Oscar, Neelima, Tori, Marco, Julian, and Holly,

[13] Neeleman taught in the same institution where I was giving the course, and my students probably knew this fact. The speakers of foreign languages in the same course, however, were asked to test their own language across the same exchanges. If Neeleman's presence in the same institution was a factor, then it should have affected these foreign speakers as well, with their judgements resembling those of the Enligsh native speakers. This was not the case.

[14] But described as rare, poetry like.

Confirmative I – *Bill and Jack are kids at the local school. The conversation is between two parents, none of them related to Jack. As his answers show,* ***parent B believes that Bill has hit every kid in the class***. *A: Bill hit JACK yesterday.* *B1: Yes, he hit JACK$_F$. He hit EVery child in his class.* *B2: Yes. JACK$_F$ he hit. He hit EVery child in his class.*	2016: ok, ok, ok, ok, ok, ok 2017: ok, ok, ok, ?, ok, ?, ok, ok, ok, ok, ok	2016: ??, ?, ??, *, ??, ?? 2017: ?, *, *, *, ?, ok, ?, ?, ?, ?, *
Confirmative III – *Bill and Jack are kids at the local school. The conversation is between parent A and parent B,* ***who is Bill's father***. *As his answers show, Bill's father believes that other parents wrongly assume that Bill also hit Tom, a particularly small and vulnerable child. With his answer, Bill's father means to imply that this is not the case: he accepts that Bill hit Jack,* ***but not that Bill hit Tom.*** *The expression in parentheses lists this intention for your convenience, but it is never uttered by B.* *A: Bill hit JACK yesterday.* *B1: Yes, he hit JACK$_F$. (Not Tom.)* *B2: Yes. JACK$_F$ he hit. (Not Tom.)*	2016: ok, ok, ok, *, ok, ok 2017: ok, ok, ok, ok, ok, ??, ok, ?, ok, ok, ok	2016: ok, ?, ok, ok, ok, ok 2017: ok, ok, ok, ok, ok, ok, ok, ok, ??, ?, ok
Additive I – *A and B are the parents of THREE children: Bill, Jack, and Tom.* ***Crucially, they have no other children***. *They are speaking about a brawl involving their children that happened in their home the day before.* ***No additional children are involved.*** *A: Bill hit JACK yesterday.* *B1: Yes. He hit TOM$_F$, TOO.* *B2: Yes. TOM$_F$ he hit, TOO.*	2016: ok, ok, ok, ok, ok, ok 2017: ok, ok, ok, ok, ok, ok, ok, ok, ok, ok, ok	2016: ?, ok, ??, ?, ??, ?? 2017: ok, ??, *, ?, ?, ?, ?, ??, ??, ??, ?
Additive II – *A and B are the parents of FOUR children: Bill, Jack, Tom, and Mary. They are speaking about a brawl that happened in their home the day before,* ***when Bill hit Jack and Tom, but not Mary***. *A: Bill hit JACK yesterday.* *B1: Yes. He hit TOM$_F$, TOO.* *B2: Yes. TOM$_F$ he hit, TOO.*	2016: ok, ok, ok, ok, ok, ok 2017: ok, ok, ok, ok, ok, ?, ok, ?, ok, ok, ok	2016: ok[15], ok, ok, _[16], ok, ? 2017: ?, ?, *, ok, ?, ok, ok, ok, *, ??, ?

Table 3 lists the averages for each group of informants as well as the overall average across all informants. The averages in table 3 are calculated by assigning a value of 0, 1, 2, and 3 to each 'ok', '?', '??', '*' respectively, and then calculating the average over the number of informants in each year group. Each average is shown in round parentheses rounded to the first decimal point. To help interpretation, the average value is preceded by the corresponding grammaticality

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[15] Described by informant as 'ok-ish'.

[16] The judgement was not provided. The corresponding averages on table 3 were respectively calculated over the five judgements provided for 2016 and the 16 judgments across the two years.

judgement, determined as the judgment amongst 'ok', '?', '??', '*' whose value is closest to the average. The last two columns of Table 3 lists the judgements predicted by Krifka's and N&V's definitions for focus fronting: 'yes' when contrast is expected to be present and 'no' when it is expected to be absent. For convenience, these predictions are horizontally aligned with the average across all informants.

(33)   Table 3 – Overall averages and corresponding predictions

	Focus in situ			Fronted focus			Krifka	N&V
Open questions	2016:	ok	(0)	2016:	?	(1)		
	2017:	ok	(0)	2017:	?	(1.3)		
	All:	ok	(0)	All:	?	(1.2)	no	no
Corrective exchanges	2016:	ok	(0)	2016:	ok	(0.3)		
	2017:	ok	(0)	2017:	?	(0.7)		
	All:	ok	(0)	All:	ok/?	(0.6)	ok	ok
Closed questions	2016:	ok	(0)	2016:	ok	(0.3)		
	2017:	ok	(0)	2017:	ok/?	(0.6)		
	All:	ok	(0)	All:	ok/?	(0.5)	no	ok
Confirmative I	2016:	ok	(0)	2016:	??	(2)		
	2017:	ok	(0.2)	2017:	?/??	(1.6)		
	All:	ok	(0.1)	All:	??	(1.8)	no	no
Confirmative III	2016:	ok/?	(0.5)	2016:	ok	(0.2)		
	2017:	ok	(0.1)	2017:	ok	(0.3)		
	All:	ok/?	(0,4)	All:	ok	(0.2)	no	ok
Additive I	2016:	ok	(0)	2016:	?	(1.3)		
	2017:	ok	(0)	2017:	?/??	(1.5)		
	All:	ok	(0)	All:	?/??	(1.4)	ok	no
Additive II	2016:	ok	(0)	2016:	ok	(0.2)		
	2017:	ok	(0.2)	2017:	?	(1.1)		
	All:	ok	(0.1)	All:	?	(0.8)	ok	ok

We can draw a few preliminary conclusions. First, both Krifka's and N&V's definitions capture the contrastive nature of *corrective* and *additive II* exchanges, successfully predicting the acceptability of focus fronting in these two cases. They also both capture the non-contrastive nature of *confirmative I* exchanges, again correctly predicting the informants' rejection of focus fronting in these cases. These results add support to the hypothesis that in English focus fronting is triggered by the presence of contrast.

Second, where Krifka's and N&V's predictions diverge, the analysis that best captures the informants' judgements is N&V's. This is the case with *closed questions* and *confirmative III* exchanges, which N&V correctly assesses as contrastive and hence disallowing focus fronting, and *additive I* exchanges, which are correctly assessed as non-contrastive and thus disallowing

for focus fronting. In this final instance, the average judgment is 1.4, which some could consider as too low to represent ungrammaticality. Nevertheless, there is a clear decline in the acceptability of focus fronting when moving from the contrastive *closed questions* and *confirmative III* exchanges with averages 0.5. and 0.2 respectively to the 1.4 average of non-contrastive *additive I* exchanges. N&V's definition offers an explanation for this sharp decline. Krifka's, in contrast, makes the opposite prediction, expecting a grammaticality improvement that is not attested.[17]

Third, *open questions* exchanges are assumed to be prototypically non-contrastive under both models and should thus strongly discourage focus fronting, yet the informants judge fronting as mildly acceptable. There still is a discernable decline in acceptability relative to the contrastive *corrective*, *closed questions*, and *confirmative III* exchanges, and this decline is correctly captured by both models for *corrective* exchanges, and by N&V's definition for the remaining two. Yet, the decline should be more severe, raising the question whether *open questions* are potentially more contrastive than it is usually assumed. N&V's definition allows for a possible reason why this could be the case. We know that under their model closed questions like "*what did John eat? The candies or the cookies?*" are modelled as contrastive because one of the two choices is explicitly denied by the answer. The same analysis could apply to open questions: even if the alternatives remain unexpressed. The evoked alternatives might be sufficiently salient to be considered denied once an answer is provided. If this is correct, contrast (and hence focus fronting) would become more likely the more salient and defined the implicit set of alternatives is. The same open question "What did you eat?" would be expected to be more or less contrastive according to what degree the information shared by the two speakers clearly defines the set of alternatives to choose from.

Finally. as the data in the second column show, in-situ focalization is fully grammatical across all exchanges. This tells us that focus fronting is always optional. It follows that the presence of contrast may at most enable focus fronting, but it never forces it (see also Horvath 2010).

6. Conclusions

As this paper shows, focus a la Rooth (1992, 1995) and contrast a la N&V (2012) are sufficient to model focalization elicited by open and closed questions, as well as several types of corrective, confirmative, and additive conversational exchanges. Treating different exchanges as

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[17] Ward (1985:153) mentions the interesting instance of additive focus fronting in (1) below. The speaker clearly intends to say that he cannot enjoy any activity related to his cab driving habits, therefore it at first appears to qualify as an *additive I* exchange allowing for fronting, against N&V's predictions. The sentence, however, involves a negative predicate. Before considering this as counter-evidence for N&V's model we will need to examine exactly how sentential negation should be incorporated in their definition, and specifically whether it takes scope over the existential quantifier they posited, since in such case N&V's model would predict precisely the universal negation of all alternatives visible here.

(1) […] Listen to me, I sound like I'm always in cabs. Maybe two other times in my life. To tell the truth I don't even enjoy it. All the time I'm riding I'm watching the meter. Even [the PLEASURES]$_F$, I can't enjoy. [Roth, P. *Goodbye Columbus*, 1963:83]

if they elicited each their own type of focus is misleading, since focus and contrast suffice. It is also incorrect, since confirmative and additive exchanges can give rise to both contrastive and non-contrastive focalization depending on the speaker's intentions.

The paper also provides new support for viewing focus fronting in British English as triggered by the presence of contrast, showing how this hypothesis captures the complex distribution of focus fronting across the several conversational exchanges here examined.

Finally, the paper carefully compares the definitions of contrast in Krifka (2008) and N&V (2012), showing how N&V's definition better fits the distribution of focus fronting, since unlike Krifka's definition it correctly predicts its presence in *closed questions* and *confirmative III* exchanges, and its absence in *confirmative IV* and *additive I* exchanges.

The results in this paper also suggest additional questions and directions for further research. The most obvious one concerns whether the same results are found with other focus-triggering exchanges, such as those reviewed in Gussenhoven (2008; for some preliminary discussion see Perry 2016). Similarly, we need to examine whether alternative definitions of contrast and contrastive focus here left unexamined might be as, or even more, successful than N&V's. For example, Kiss' (1998) identificational focus effectively generalizes N&V's definition of contrast to all the propositions in the focus value of a sentence (see also Horvath 2010).[18] Once translated into Rooth's alternative semantics, Kiss' identificational focus maintains that only the asserted proposition holds and all other focus-evoked alternative propositions are denied. With respect to the exchanges examined in this paper, Kiss' identificational focus would make predictions identical to N&V's except for additive exchanges. For example, consider (34) and assume that there are four contextually salient children: Bill, Jack, Tom, and Mary. Under N&V's definition of contrast, focus becomes contrastive as soon as speaker B implies that one alternative – say *hit(Mary,Bill)* – does not hold. Identificational focus would instead require that all alternatives are denied, potentially also including *hit(Mary,Jack)*. This does not seem appropriate for this exchange, as B clearly does not dispute the truth of A's assertion.

(34)   A: Mary hit Jack, yesterday.
        B: Yes, TOM_F she hit, TOO.

This shows that the stronger version of contrast implicit in Kiss' identificational focus cannot replace the weaker form of contrast proposed by N&V for the analysis of focus fronting in British English across the exchanges considered in this paper. This is not surprising, considering that the inappropriateness of indentificational focus for British English focus fronting has already been pointed out in Kiss (1998) on the basis of different tests.

Identificational focus, however, remains relevant for the Hungarian and English data originally discussed in Kiss (1998). This raises a second research question concerning the ultimate primitives of information structure. We have seen that as far as focus fronting is

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[18] In this discussion, I am assuming N&V's notion of 'contrast'. Kiss (1998:268), however, uses a different definition of contrast that enables identificational focus to occur in both contrastive and non-contrastive instances. It is non-contrastive when the complementary set of contextually determined members for which the predicate does not hold is open, and contrastive when the members of such complementary set are known. Nevertheless, if we keep to N&V's definition of contrast, Kiss' identificational focus becomes inevitably contrastive. A similar issue arises relative to Horvath (2010), who like Kiss maintains that contrast should not be defined as the mere exclusion of alternatives.

concerned, simple focus a la Rooth and contrast a la N&V (2012) are sufficient to model it across several types of focus-eliciting exchanges. The issue is to what extent they can also explain other focalization types. For example, should we consider N&V's notion of contrast and Kiss' identificational focus as independent primitives, or should identificational focus be viewed as N&V's definition of contrast, with its implied denial of one focus-evoked alternative, plus a universal operator extending it to all evoked propositions? If feasible, the second view would provide a more principled model of grammar, since the shared content across N&V's and Kiss' definitions would be inevitable rather than accidental.

A similar question applies to the fronting of mirative focus (Cruschina 2006, 2012). Here too, we ought to investigate whether mirative focus can be decomposed into more elementary and independently necessary notions such as N&V's contrast. Bianchi et al's (2013, 2016) analysis goes in this direction, defining mirative focus as involving "at least one member of the set of alternative propositions which is *more likely* than the asserted proposition". Building on Grosz (2011) and Potts (2007, 2008), their analysis separates the import of focalization from that attributed to mirativity, which is formalized as an implicature stating that a more likely alternative exists. The issue is whether the denial of this more likely alternative is also implied by mirative foci, in which case N&V's contrast would also be present. As Perry (2016) points out, this would allow us to explain the fronting of mirative foci through the same analysis used for contrastive foci in British English: the presence of contrast a la N&V's triggers fronting. Perry also observes how the same foci would have to be non-contrastive under Krifka's model, since mirative expressions can be uttered out of the blue, presumably excluding the presence of any content to contrast with in the common ground. The issue here is whether the denied expectations could be considered part of the common ground. If they are, then mirative foci would be contratsive for Krifka's as well. If they are not, then mirative foci would be non-contrastive and hence incorrectly predicted to be non-frontable.

Last but not least, we need to research the crosslinguistic scope of the causative link between N&V's notion of contrast and focus fronting here preliminarily established for British English. Interestingly, this causative link does not appear to generalize to other languages. For example, my own limited informal testing of Italian, Mandarin Chinese, Korean, Spanish, and Galician shows a divergence between these languages and English with respect to focus fronting across the exchanges examined in this paper. If confirmed by future studies, we would face a variation in the crosslinguistic focus fronting data which is not yet captured by our theoretical models. In turn, this raises the issue of whether it will be possible to keep the fundamental primitives of information structure invariant across all languages. This might eventually require the parametrization of the association between contrast and fronting (for example, contrast could trigger fronting in some languages but not others), with interesting ramifications for our understanding of the left periphery (for example, if a language lacks contrast-driven focus fronting, do we still posit a left-peripheral projection dedicated to contrastive foci?).

In conclusion, we need to investigate how the observational and theoretical richness recently attained in information structure studies can be rooted into a coherent and principled theoretical model. I hope this paper provides a step in that direction.

7. References

Beyond phrase-phrase interaction in the Left Periphery, 2017. Presented at the WOLP 2017 - Word Order in the Left Periphery, Oslo.

Alboiu, Gabriela. 2004. Optionality at the Interface: Triggering Focus in Romanian. *In* Triggers. Henk van Riemsdijk and Anne Breitbarth, eds. Pp. 49–75. Berlin: Mouton de Gruyter.

Belletti, Adriana, 2001. "Inversion" as focalization, in: Hulk, A., Pollock, J.Y. (Eds.), Subject Inversion in Romance and the Theory of Universal Grammar, Oxford Studies in Comparative Syntax. Oxford University Press, Oxford, pp. 60–90.

Belletti, Adriana. 2004. Aspects of the Low IP Area. *In* The Structure of CP and IP. The Cartography of Syntactic Structures. Luigi Rizzi, ed. Pp. 16–51. Oxford Studies in Comparative Syntax. Oxford: Oxford University Press.

Bianchi, Valentina, Giuliano Bocci, and Silvio Cruschina. 2013. Focus Fronting and its Implicatures. In E. Aboh et al (eds.) Romance Languages and Linguistics Theory 2013: Selected Papers from Going Romance, Amsterdam 2013. Amsterdam: John Benjamins.

Bianchi, Valentina, Giuliano Bocci, and Silvio Cruschina. 2016. Focus Fronting, Unexpectedness, and the Evaluative Dimension. Semantics and Pragmatics 9(0).

Büring, Daniel, 2003. On D-Trees, Beans, And B-Accents. Linguistics and Philosophy 26, 511–545. https://doi.org/10.1023/A:1025887707652

Büring, Daniel, 1997. The Meaning of Topic and Focus. Routledge, London.

Costa, João, and Ana Maria Martins. 2011. On Focus Movement in European Portuguese. Probus 23(2): 217–245.

Cruschina, Silvio, 2006. Informational focus in Sicilian and the left periphery, in: Frascarelli, M. (Ed.), Phases of Interpretation. Mouton de Gruyter, Berlin, New York, pp. 363–386.

Cruschina, Silvio. 2012. Discourse-Related Features and Functional Projections. Oxford University Press.

Grosz, Patrick. 2011. On the grammar of optative constructions. Cambridge, MA: MIT dissertation. Published by John Benjamins, Amsterdam–Philadelphia, 2012.

Gussenhoven, Carlos, 2007. Types of Focus in English, in: Lee, C., Gordon, M., Büring, D. (Eds.), Topic and Focus: Cross-Linguistic Perspectives on Meaning and Intonation. Springer Netherlands, Dordrecht, pp. 83–100. https://doi.org/10.1007/978-1-4020-4796-1_5

Horvath, Julia. 2010. "Discourse Features", Syntactic Displacement and the Status of Contrast. Lingua 120(6). Contrast as an Information-Structural Notion in Grammar: 1346–1369.

Kenesei, István. 2006. Focus as Identification. *In* The Architecture of Focus. Valéria Molnár and Susanne Winkler, eds. Pp. 137–168. Berlin: Mouton de Gruyter.

Kiss, Katalin É. 1998. Identificational Focus versus Information Focus. Language 74(2): 245–273.

Krifka, Manfred. 2008. Basic Notions of Information Structure. Acta Linguistica Hungarica 55(3): 243–276.

Krifka, Manfred, Musan, Renate, 2012. Information structure: Overview and linguistic issues, in: Krifka, M., Musan, R. (Eds.), The Expression of Information Structure, The Expression of Cognitive Categories 5. De Gruyter Mouton, Berlin/Boston, pp. 1–44.

Molnár, Valéria. 2002. Contrast - From a Contrastive Perspective. *In* Information Structure in a Crosslinguistic Perspective. Hilde Hasselgård, Stig Johansson, Bergljot Behrens, and Cathrine Fabricius-Hansen, eds. Pp. 147–161. Language and Computers: Studies in Practical Linguistics. Rodopi.

Molnár, Valéria, Winkler, Susanne, 2006. The Architecture of Focus. Walter de Gruyter.

Neeleman, Ad, and Reiko Vermeulen. 2012. The Syntactic Expression of Information Structure. *In* The Syntax of Topic, Focus, and Contrast. Ad Neeleman and Reiko Vermeulen, eds. Pp.

1–38. Studies in Generative Grammar. Berlin, Boston: Mouton de Gruyter.

Perry, Margaret. 2016. PLIN3202: Readings in Syntax Assessing Krifka 2008 and Neeleman & Vermeulen 2012's treatment of contrastive focus. Ms submitted for assessment within the undergraduate PLIN3202 course. University College London.

Poletto, Cecilia, and Giuliano Bocci. 2016. Syntactic and Prosodic Effects of Information Structure in Romance. *In* The Oxford Handbook of Information Structure. Caroline Féry and Shinichiro Ishihara, eds. Oxford: Oxford University Press.

Potts, Christopher. 2007. Conventional implicatures, a distinguished class of meanings. In Gillian Ramchand & Charles Reiss (eds.), The oxford handbook of linguistic interfaces, 475–501. New York & Oxford: Oxford University Press.

Potts, Christopher. 2008. Conventional implicature and expressive content. Published In Claudia Maienborn, Klaus von Heusinger, & Paul Portner (eds.) (2011), Semantics: An international handbook of natural language meaning, vol 3, 2516-2536. Berlin: Mouton De Gruyter.

Repp, Sophie. 2010. Defining "contrast" as an Information-Structural Notion in Grammar. Lingua 120(6). Contrast as an Information-Structural Notion in Grammar: 1333–1345.

Repp, Sophie, and Philippa Cook, eds. 2010. Contrast as an Information-Structural Notion in Grammar, vol.120. Lingua.

Rizzi, Luigi. 1997. The Fine Structure of the Left Periphery. *In* Elements of Grammar: Handbook in Generative Syntax. Liliane Haegeman, ed. Pp. 281–337. Dordrecht: Kluwer.

Rizzi, Luigi, 2004. Locality and the left periphery, in: Belletti, A. (Ed.), Structures and Beyond: The Cartography of Syntactic Structures. Oxford University Press, Oxford, pp. 223–251.

Rizzi, Luigi, and Guglielmo Cinque. 2016. Functional Categories and Syntactic Theory. *In* Annual Review of Linguistics, Vol 2. M. Liberman and B. H. Partee, eds. Pp. 139–163. Palo Alto: Annual Reviews.

Rooth, Mats. 1985. Association with Focus. Phd Thesis. University of Massachusetts at Amherst. http://scholarworks.umass.edu/dissertations/AAI8509599.

Rooth, Mats. 1992. A Theory of Focus Interpretation. Natural Language Semantics 1(1): 75–116.

Samek-Lodovici, Vieri, 2015. The Interaction of Focus, Givenness, and Prosody. A Study of Italian Clause Structure, Oxford Studies in Theoretical Linguistics. Oxford University Press, Oxford.

Vallduví, Enric, Vilkuna, Maria, 1998. On Rheme and Kontrast. Syntax and Semantics 29, 79–108.

Ward, Gregory, 1985. The Semantics and Pragmatics of Preposing. University of Pennsylvania.

Ward, Gregory, Birner, Betty J., 1994. A Unified Account fo English Fronting Constructions. Penn Working Papers in Linguistics 1, 159–165.

Zimmermann, Malte. 2007. Contrastive Focus. *In* The Notions of Information Structure. Gisbert Fanselow, Caroline Féry, and Manfred Krifka, eds. Pp. 147–160. Working Papers of the SFB 632. Interdisciplinary Studies on Information Structure. Potsdam: Universitätverlag Potsdam.

Zimmermann, Malte. 2008. Contrastive Focus and Emphasis. Acta Linguistica Hungarica 55(3): 347–360.