Contrast, Contrastive Focus, and Focus Fronting[*]

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Abstract

This paper compares the definitions of contrast in Krifka (2008) and Neeleman and Vermeulen (2012) carefully establishing whether they predict contrast to be present or absent across five classes of conversational exchanges: open questions, closed questions, and corrective, confirmative, and additive exchanges. Using focus fronting in British English as a cue for the presence of contrast, it shows that Neeleman and Vermeulen's definition better fits the distribution of contrast across the examined exchanges. The paper also shows that focus à la Rooth (1992) plus contrast à la Neeleman and Vermeulen is sufficient to model focalization across the five exchange classes examined here, thus providing evidence against treating the examined exchanges as eliciting different types of focalization.

Keywords: Contrast, Focus, Fronting, Common Ground

1 Introduction

The distinction between contrastive and non-contrastive focalization plays a fundamental role in studies of focus fronting, where foci are described as able to front when contrastive and as unable to front when non-contrastive[1] (Rizzi, 1997, 2004; Belletti 2001, 2004; and much subsequent literature). Despite its importance, the definition of *contrast*, and the associated notion of *contrastive focus*, are still under debate; see amongst others Rooth (1992, 2016), Büring (1997, 2003), Kiss (1998), Molnár (2002), Kenesei (2006), Zimmerman (2007, 2008), Krifka (2008), Repp (2010, 2016), Horvath (2010), Krifka & Musan (2012), Neeleman & Vermeulen (2012). as well as the several articles in Molnár & Winkler (2006) and Repp & Cook (2010).

In order to progress, we need to systematically identify the linguistic domains where different analyses make divergent predictions, as this enables their testing. This paper takes a step in this direction by carefully comparing two specific definitions of contrast: the one described in Krifka (2008), where contrast occurs with propositions in the common ground, and that in Neeleman and Vermeulen (2012), which requires the intended denial by the speaker of one of the alternative propositions evoked by focalization. The two definitions are clearly different their predictions have not been investigated in sufficient detail, leaving unclear to what extent they genuinely differ from each other. Does one definition subsume the other? Or are they genuinely distinct? In the latter case, which provides a more accurate account of focus fronting?

[1] Whereto do 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, Samek-Lodovici (2015) provides several pieces of evidence showing that Italian contrastive foci stay in-situ except when forced into a fronted position by right-dislocation, while Abels (2017) calls into question the crosslinguistic evidence usually assumed to support the existence of a left-peripheral focus projection.

To answer these questions, this paper examines nine focus-eliciting conversational exchanges, several of them left undiscussed or only briefly touched in Krifka's and N&V's papers, across the following five main exchange classes: open and closed questions, corrective exchanges, four types of confirmative exchanges, and two types of additive exchanges (all exchange types are described in detail in later sections). For each exchange, the paper examines which definition predicts contrast to be present and which absent.

The main result of the paper is the detection of the following four specific exchanges where Krifka's and N&V's definitions make divergent predictions: closed question exchanges, two types of confirmative exchanges, and one type of affirmative exchanges. The detected exchanges also prove that the two definitions do not subsume each other since the exchanges predicted to involve contrast by N&V's definition will be shown to lack contrast under Krifka's definition, and vice versa for the other two exchanges.

These four exchanges also provide the ideal place for the empirically testing of the two definitions. Full experimental testing is beyond the scope of this paper, but I will discuss some observations that provide preliminary support for N&V's definition. The first concerns sentences where focalization is followed by continuation sentences that are consistent with just one definition, making a grammaticality assessment possible. The second concerns the examination of focus fronting as a proxy for the presence of contrast.

While this is not its immediate goal, this study also contributes to the issue of how many distinct types of focalization exist. The five main exchange types considered in this paper are shown to always involve focalization a la Rooth (1992), defined in terms of evoked alternative propositions. Contrast is independent. When it is present, focalization is also contrastive. Nothing else is necessary for the exchanges examined here. Therefore, terms like 'corrective focus', 'confirmative focus', 'additive focus', etc, where focus is qualified in terms of the exchanges eliciting it, are misleading. They incorrectly suggest the existence of distinct types of focalization when focalization à la Rooth is sufficient. They also incorrectly suggest that contrast remains invariant within each main exchange class, whereas, as we will see, specific exchange types within the same class might involve focalization with or without contrast. This will be shown to be the case with confirmative and additive exchanges.

What this paper does not supply is a comprehensive comparison of all the existing alternative definitions of contrast available in the literature, although a few are briefly discussed in section 5 (for a survey, see Repp 2016). At the level of detail considered here, an exhaustive study of that type would quickly run into space restrictions and involve excessive complexity and clutter at the expense of clarity. Rather, the paper takes a step in the direction of the comprehensive comparison we all desire by spelling out the theoretical differences and predictions of Krifka's and N&V's notions of contrast in a reasonably short and self-contained paper.

Finally, in my experience many students, and even fellow scholars interested in the effects of focalization but not directly researching it, sometimes struggle with the notion of evoked propositions involved in Rooth's focalization. I want this paper to speak to these readers as well, and for this reason I made every reasoning step as explicit as possible. Apologies to any expert reader who might find some explanations a bit pedantic.

Section 2 introduces the notion of focalization à la Rooth as well as the definitions of contrast by N&V (2012) and Krifka (2008), illustrating all of them through corrective and open question exchanges. Section 3 deepens the comparison by examining the predictions of both definitions across closed questions, confirmative exchanges, and additive exchanges. Section 4

describes the preliminary observations supporting N&V's definition. Section 5 concludes with some brief reflections over the potential extension of these results to other notions of contrast, other focalization exchanges, and other languages.

2 Focus and Contrast according to Krifka (2008) and N&V (2012)

Krifka (2008) and N&V (2012) follow Rooth (1985, 1992, 2016) in maintaining that the distinctive property of focalization, here considered independently from the presence of contrast and hence holding even when focalization is non-contrastive, is the evocation of alternatives. For example, the open question in (1) denotes the set of propositions in (2), where each proposition involves a different subject (Hamblin 1973). In turn, answer (1)B signals that it is an appropriate answer to question (1)A by focusing the subject "EDE" (stress is represented in capitals). Focalization of the subject ensures that (1)B, too, is associated to a set of alternative propositions – what Rooth defines as its 'focus value' – intuitively 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) (a more rigorous compositional definition spelling out the role of focus in question/answer exchanges as well as several other phenomena is provided in Rooth 1992, 2016.)

(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 (i.e. the focus value of B):
       {wants(John,coffee), wants(Ede,coffee), wants(Bill,coffee), etc.}

Focalization, amongst other functions, governs the coherence of conversational exchanges by signalling that the current conversational move is appropriate under the explicit or implicit question that is being discussed. As Rooth showed, focalization executes this crucial function by evoking sets of propositions as the focus value of a sentence and then comparing this set with the set denoted by the explicit or implicit questions under discussion.

    For example, we intuitively assess that the question/answer exchange in (1) is felicitous because the set of propositions denoted by question (1)A is a subset of the set of propositions evoked through focalization by answer (1)B (Rooth 1992).[2] When this subset relation does not hold, the exchange becomes incongruous, and hence infelicitous. For example, if B placed main stress on the object, as in (4)B, focalization would have shifted to the object[3]. This affects the focus value of (4)B, which contains propositions involving different object-referents like 'Ede wants tea', 'Ede wants coffee', 'Ede wants milk', see (5). This set does not contain the set of propositions denoted by the question listed in (2) since the only proposition shared by both sets is

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[2] Not everyone agrees on the role of focalization in question/answer congruence. Krifka (2004) offers some countercases. See also section 7 in Kratzer & Selkirk (2018).

[3] 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.

'Ede wants coffee'. Consequently, the exchange is assessed as infelicitous (as represented by the symbol '#').[4]

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

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

Conversational exchanges eliciting focalization might or might not involve contrast.[5] The term *contrast* must be handled with care because it is used with several, sometimes incompatible meanings. It is sometimes used pretheoretically to describe specific phenomena that can be perceived as involving *contrast* as opposed to others that do not (Rooth 1992, 2016, Repp 2016 and references therein). It is also sometimes treated as a gradable property elicited across distinct discourse relations (Repp 2016:275ff and references therein). It is also often used in relation to the alternative propositions determined by focalization a la Rooth, simply because they can be described as contrasting with one another (e.g. Rooth 1992, Repp 2016, Kratzer & Selkirk 2018). Finally, contrast may be defined as an *additional* condition that may or may not hold of the alternative propositions evoked by focalization (e.g. Kiss 1998, Krifka 2008, N&V 2012, to name just a few mentioned in this paper; see the excellent survey in Repp 2016).

This paper is only concerned with the fourth usage of the term *contrast*. It treats basic focalization a la Rooth as *non-contrastive* and then examines the conditions that Krifka (2008) and N&V (2012) claim must hold for contrast to occur and focalization turn *contrastive*.[6]

Conveniently, Krifka (2008) and N&V (2012) share the same analysis of non-contrastive

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[4] Students are often taught that in question/answer exchanges, the focused constituent in the answer is the constituent that corresponds to the wh-phrase in the corresponding question. Many scholars also use this rule of thumb as a quick and helpful definition of focus and I suspect I have committed the same sin myself. While extremely useful when teaching, this definition is misleading. It creates the impression that focus in the answer is determined by the question. Focalization in the answer occurs independently from the question. As example (4) shows, 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.

[5] When contrast is absent, focus is often said to be non-contrastive (a.k.a. 'presentational', and 'new-information' focus). When contrast is present, focus is said to be contrastive. Contrastive and non-contrastive focus are also often incorrectly referred to as *narrow* and *broad* focus. These latter terms are misleading because they refer to the size of the focused constituent. Size inversely correlates with the contrastive nature of focalization due to its interaction with prosody (Calhoun 2010), but the correlation is not absolute. It remains possible to contrastively focus large phrases and non-contrastively 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]$_F$. *(Broad phrase, yet contrastively focused)*

(2) A: When did you meet Bill?
     B: I met him YESTERDAY$_{NewF}$. *(Narrow phrase, yet non-contrastively focused)*

[6] In fairness to Krifka, his 2008 paper is a general introduction to the basic notions of information structure not specifically concerned with the detailed investigation of contrast. Nevertheless, as it discusses the contrastive or non-contrastive nature of focalization under various contexts Krifka's paper does advance the coherent definition of contrast examined in this paper. So, while Krifka's commitment to this definition should not be taken too strongly, the definition itself and its predictions are definitely worth considering.

focalization, namely Rooth's. For example, open questions exchanges like (1) above are considered by both analyses as prototypically lacking contrast. Consequently, both converge in viewing the subject in (1)B as non-contrastively focused and evoking a set of alternative propositions via focalization à la Rooth as described above.[7]

Krifka (2008) and N&V (2012), however, diverge in their conception of contrast. Consider for example corrective conversational exchanges like (6), which both assume to prototypically involve contrast.

Following Molnár (2002) and Valduví & Vilkuna (1998) amongst others, N&V (2012, p.12) maintain that *contrast* is an information structure primitive with its own independent semantic content. Following similar insights in Kenesei (2006) and Repp (2010), N&V 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 evokes a set of alternative propositions of the type *wants(x,coffee)* with *x* ranging over people known to A and B as in (7). Contrast entails that 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.

(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.}

The logical expression defining the semantic import of contrast for N&V is provided in (8). It departs slightly from N&V's original definition 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. For N&V, contrast is added whenever a speaker wants to convey the semantic statement in (8), with context usually allowing the listeners to successfully identify which propositions are being denied.

(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 definition of contrast (2008, p. 252, p. 259), 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 is present whenever the common ground contains at least one proposition from the focus value of the uttered sentence – i.e. one of its focus-evoked alternatives – and that proposition differs from the proposition denoted by the ordinary meaning of the uttered sentence.

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[7] To avoid any confusion, please note that for the two analyses considered in this paper the mere evocation of alternative propositions determined by Rooth's focalization has no bearance on the presence/absence of contrast, even if the evoked propositions might be described as contrasting with each other. This is worth stating, as some scholars do use the label 'contrast' as a description for the presence of focalization à la Rooth, see for example Kratzer & Selkirk (2018). Their notion of 'contrast' focus corresponds to focalization in absence of contrast in Krifka's and N&V's analyses.

For example, 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 is present because the ordinary meaning of sentence (6)B, namely the proposition *wants(Ede,coffee)*, differs from the focus-evoked proposition *wants(John,coffee)* introduced into the common ground by (6)A.

It is worth adding that under Krifka's model 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 ground once they are uttered. The several propositions evoked by focalization do not enter the common ground, because being evoked via 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 from non-contrastive focus, since the alternative propositions evoked by focalization would always enter the common ground and always contrast with the ordinary meaning of the uttered sentence.

The same assumption applies to questions, which are also banned from entering the propositions they denote into the common ground. This, too, is a necessary assumption, given Krifka's view that open question exchanges like (1), repeated in (9), lack contrast. The propositions denoted by the question must remain outside the common ground, otherwise they would inevitably contrast with the ordinary meaning of the answer, making open questions contrastive. Indeed, Krifka (2008, p. 246) explains that questions express the need for information but do not add factual information to the common ground; a point worth remembering since it will become relevant later on. For example, in (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.[8]

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

Summing up, Krifka and N&V define contrast differently. For N&V, contrast involves the denial of a focus-evoked alternative. For Krifka, it involves contrast with a focus-evoked proposition already in the common ground. These differences converge with respect to open questions and corrective exchanges, where contrast is predicted to be respectively absent and present by both Krifka's and N&V's definitions. They diverge, however, when we consider other types of exchanges.

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[8] In Krifka's own words, questions *manage* the common ground by calling for specific conversational moves that might update the common ground's content, even though questions never determine any update themselves. While generally agreeing with Krifka (2008), Repp (2010, p. 1336) identifies an interesting exception to Krifka's model. 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, such cases exist. In (1), B's sentence is not Rooth-congruous with A's question and yet it is felicitous. It's felicity appears to emerge from the contrast with the proposition *drank(John,tea)* contained in the denotation of question (1)A, as if the question had affected the common ground contra Krifka's assumptions.

(1)   A: Did John drink tea?
       B: PETER$_F$ drank tea.

3 Other types of conversational exchanges

This section examines whether contrast is predicted present or absent by either definition under closed questions, confirmative exchanges, and additive exchanges. I consider them in turn.

3.1 Closed question exchanges

Closed questions are like open questions except that the range of possible alternatives is expressed in the question itself, see (10). For Krifka (2008), closed and open questions are inevitably identical as far as contrast is concerned. Closed questions restrict the set of alternative propositions they denote through the overt alternatives they list, but otherwise they are questions, and therefore like open questions they do not add those propositions to the common ground. Consequently, no contrast ensues in exchanges like (10). Under Krifka's definition, focalization in out-of-the-blue closed questions always lack contrast.

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

N&V (2012, p. 8), instead, view closed questions as involving contrast. They describe example (11) below as similar to focalization in corrective exchanges, where focus is contrastive. Under their definition of contrast, this requires that sentence (11)B is uttered with the intention to deny the proposition *read(John,theExtendedPhenotype)*.

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

N&V (2012, p. 9) wonder whether the denied proposition could be the result of an implicature drawn on the basis of Gricean reasoning rather than emerging from the presence of contrast. As they notice later in the paper while discussing corrective exchanges, Gricean implicatures are cancellable, whereas the semantic import of contrast as they define it is not. We can apply this observation to closed questions. If they genuinely involve contrast à la N&V, then the implied denial of one of the focus-evoked propositions should not be cancellable. The best way to see that this is indeed the case is by comparing open questions with closed ones. As (12) shows, with open questions, the potential Gricean implicature that John read the Bible and no other contextually salient book is easily cancelled by adding the underlined continuation sentence in (12)B stating that John did read other books as well.

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

With closed questions, instead, the contrast-induced implied proposition that John did not read the Quran cannot be cancelled, making the underlined continuation sentence in (13)B infelicitous. It follows that closed questions do trigger contrast under N&V's model.

(13)   A: What did John read this summer? The Bible or the Quran?

B: He read [the BIBLE]F. # <u>He read everything he could lay his hands on, QURAN included</u>.

Summing up, on closed questions Krifka's and N&V's definitions diverge. Krifka's necessarily models them as lacking contrast. N&V models them as involving contrast. Closed questions thus provide a first exchange type where it is possible to assess which notion of contrast provides a better model. The observation that focus in-situ in (13)B is incompatible with a continuation sentence excluding the denial of focus-evoked alternative propositions provides some initial support for N&V's model.

3.2 Confirmative exchanges

Confirmative exchanges occur when a sentence confirms a previous statement as in (14) and (15). Under Krifka's definition, the presence of contrast depends on the content of the common ground at the time of B's reply, whereas under N&V's it depends on whether speaker B intends to deny one of the focus-evoked propositions. We need to distinguish the four confirmative cases *Confirmative I*, *II*, *III*, and *IV* discussed in detail below.

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

(15)   *A and B are parents commenting on 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 lacks contrast under both models. It occurs when the common ground contains no propositions and B's utterance is not intended to deny any focus-evoked proposition. An example is provided in (16). Sentence (16)A introduces the proposition *hit(Bill,Jack)* in the previously empty common ground. Speaker B confirms that Bill hit Jack and then adds the assertion that Bill hit everybody. Crucially, this is new information for A, not yet present in the common ground.

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

The focalization on 'JACK' in (16)B is non-contrastive under Krifka's model because the common ground contains no propositions for B's reply to contrast with.[9] Contrast is absent under N&V as well (2012, p. 12), because B believes that Bill has hit every child and therefore there cannot be any proposition of the type *hit(Bill,x)*, for some salient child *x*, that B intends to

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[9] This particular scenario is not contemplated by Krifka (2008). Krifka's (2008, p. 251-252) original discussion describes confirmative exchanges as exchanges 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 propositions that are denied, in which case confirmative exchanges might involve contrast. Confirmative exchanges of this kind do exist and are discussed under the labels confirmative II and IV later in this section.

deny.

Confirmative II – In this second case, contrast is predicted present under both models. This case occurs when confirmative exchanges are used to implicitly deny one of the alternative propositions evoked by focalization and the denied alternative is also in the common ground. Consider a scenario where the parents of the pupils of the local school have heard the rumour that Bill, a pupil, hit Tom, another particularly vulnerable pupil. The proposition *hit(Bill,Tom)* is then already in the common ground when parents A and B engage in the confirmative exchange in (17). 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's reply confirms it, but it also emphatically focalizes the object 'Jack' in order to implicitly deny that Bill hit Tom. By placing main stress on 'Jack', B implies that yes, Bill hit Jack, and possibly other kids like Jack, but definitely not little Tom.

(17)   *A and B are parents commenting on the activity of children at the local primary school.*
        The proposition 'hit(Bill,Tom)' is inthe common   ground, but speaker B intends to deny it.
        A: Bill hit Jack, yesterday.
        B: Yes, he hit JACK$_F$, yesterday.   (*Implied: but not Tom, as some parents believe*).

Under this scenario, the ordinary meaning of (17)B, namely *hit(Bill,Jack)*, contrasts with the focus-evoked proposition *hit(Bill,Tom)* in the common ground, making contrast present under Krifka's model (2008, p. 251-252). Since the proposition *hit(Bill,Tom)* is also implicitly denied by speaker Bill, contrast is also predicted present under N&V's model.

Confirmative III – By manipulating the common ground and the speakers' intentions, we can build scenarios where contrast is absent under Krifka's model and present under N&V's, and vice versa. The former case occurs when the ordinary meaning of the sentence containing focus does not contrast with propositions in the common ground, yet the speaker intends to deny at least one focus-evoked propositions. Consider (18), again occurring under the 'parents chatting at the local school' scenario, but now assume that when the exchange takes place the common ground is empty, i.e. there have been no prior rumours that Bill hit any children at all. Since there is no contrast with propositions in the common ground, contrast is absent for Krifka. Parent B's reply, however, still intends to deny any focus-evoked propositions suggesting that his son Bill has hit other children, as his following sentences make clear. Under these circumstances, contrast is predicted present under N&V's model.

(18)   *A and B are parents commenting on 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's never
            picked fights with the other children!

Together with closed questions, confirmative III exchanges thus provide a second case where Krifka's and N&V's definitions diverge with respect to the presence/absence of contrast.

Confirmative IV – For the final confirmative scenario, let's once more consider our talking

parents at the local school scenario, but now assume that the fact that Bill hit Tom is shared knowledge, hence in the common ground, and that parent B has no intention to challenge either this fact or any other evoked propositions. Contrast is then predicted present under Krifka's model because the proposition *hit(Bill,Jack)* asserted in (19)B contrasts with the proposition *hit(Bill,Tom)* already in the common ground. Contrast is however predicted absent under N&V's definition because as the underlined continuation sentence in (19)B shows, speaker B does not intend to deny any focus-evoked proposition of the type *hit(Bill,x)* with *x* ranging on the contextually salient pupils.

(19)   *A and B are parents commenting on the activity of children at the local primary school.*
       The proposition 'hit(Bill,Tom)' is part of the common ground and speaker B does not
       intend to dispute it.
       A: Bill hit Jack, yesterday.
       B: Yes, he hit JACK$_F$, yesterday. <u>In fact, he hit everybody</u>.

To wrap up, in confirmative exchanges contrast is present or absent depending on the content of the common ground for Krifka's model, and the intention to deny focus-evoked propositions under N&V's. As summarized in the table below, the two definitions make identical predictions for confirmative exchanges I and II and diverge on exchanges III and IV. The fact that under each model contrast might be either present or absent is worth noticing, since it is not mentioned in either Krifka (2008) or N&V (2012).[10]

(20)   Table 1

Contrast predicted present/absent	Krifka (2008)	N&V (2012)
Confirmative I No contrast with proposition in CG No denial of evoked alternatives	Absent	Absent
Confirmative II Contrast with proposition in CG Denial of evoked alternative	Present	Present
Confirmative III No contrast with proposition in CG Denial of evoked alternative	Absent	Present
Confirmative IV Contrast with proposition in CG No denial of evoked alternatives	Present	Absent

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[10] Some exchanges might appear to be confirmative when actually they are not. The sentences below, from Birner and Ward's corpus study (2009, p. 1174), might at first look as a confirmative case, since the second underlined sentence supports the content of the first sentence by confirming that 'she' spent time 'here'. But the expression 'five semesters' actually contrasts with 'two years' because it does not refer to the same length of time. Focus on "five semesters" is used to specify that the time-period under discussion is five semesters, rather than just four semesters, which is what two years would correspond to when counted in semesters. The exchange thus is of the corrective type, hence involving contrast, which, in turn, triggers focus fronting.

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

Cases III and IV are the interesting ones since they enable testing of the two models. In so far focus fronting is a proxy for the presence of contrast, it is predicted possible in cases II and IV by Krifka's model, and cases II and III by N&V's model. I discuss these predictions in section 4, where we will see how the available evidence supports N&V's model.

3.3 Additive exchanges

An exchange is additive when at least one of the focus-evoked alternatives of a sentence is already in the common ground. See (21) 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, p. 259), additive exchanges necessarily involve contrast because the proposition added through B's reply inevitably contrasts with the proposition introduced in the common ground by A's assertion. For example, in (21) the new proposition *wants(Mary,coffee)* stated by B contrasts with *wants(John,coffee)* introduced in the common ground by A. Since both propositions belong to the set of alternative propositions evoked through focalization in B's sentence, contrast is present.

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

N&V do not discuss additive exchanges, but their definition of contrast forces a distinction between a first case where contrast is absent and a second case where contrast is present. I discuss them in turn.

Additive I – As is always the case with N&V's definition, contrast is absent whenever the speaker has no intention to deny any 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 are contextually salient. In (22), speaker A mentions that Bill hit Jack, and B replies that Bill also hit Tom. Under Krifka's definition, focalization on 'Tom' in (22)B involves contrast 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 definition, instead, contrast is absent because the provided context is designed to ensure that the focus value of B's utterance contains only two evoked propositions: *hit(Bill,Jack)*, and *hit(Bill,Tom)*.[11] Since both are asserted and accepted by both speakers, there is no focus-evoked proposition left for B to deny.

(22)   *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.

Another, possibly simpler, example is given in (23). The exchange occurs at a workshop involving ten people, all of them contextually salient. B's utterance focuses the subject *Mary*. As B's continuation sentence makes clear, every focus-evoked proposition of the type

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[11] 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.

wants(x,coffee), with *x* ranging over the workshop's participants, is considered true by B. Since no focus-evoked alternative proposition is denied, contrast is necessarily absent.

(23) A: John wants coffee.
      B: MARY$_F$ wants coffee, TOO. <u>EVERYbody wants coffee</u>!

We thus have found a third exchange where Krifka and N&V make divergent predictions. Once again we can use focus fronting to test them. As we will see in section 4, preliminary testing supports N&V's definition.

Additive II – As mentioned, additive exchanges between two speakers A and B inevitably involve contrast under Krifka's definition because by definition B's proposition contrasts with A's proposition, which just entered the common ground. Additive exchanges may involve contrast under N&V's definition as well, provided the speaker intends to deny at least one focus-evoked proposition.

Consider again the previous context, but now assume that A and B have *four* children, Bill, Jack, Tom, and Sarah. The presence of an additional sibling enables parent B to mention that Bill also hit Tom with the intention to implicitly deny that Bill hit even Sarah. In this scenario, the focus value of B's utterance contains the three propositions *hit(Bill,Jack)*, *hit(Bill,Tom)*, and *hit(Bill,Sarah)*.[12] B's utterance focuses Tom by heavily stressing it with the intention to deny the proposition *hit(Bill,Sarah)*.

(24) *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. (*Implied: Jack it even Tom, but not Sarah.*)

Summing up, additive exchanges provide another case where – at least under N&V's definition – contrast is either present or absent within the same type of exchange depending on other conditions, here the speaker's intentions. Furthermore, additive I exchanges add a fourth case where N&V's and Krifka's definitions make divergent predictions.

4   Testing for the presence of contrast

When we put all the predictions identified so far together, we obtain table 2. The table is informative in two ways. First, it shows the exact extent Krifka and N&V's definitions of contrast converge and diverge, enabling their testing. Second, it demonstrates that focalization à la Rooth, once combined with a precisely defined notion of contrast, is sufficient to model focalization across all of the examined exchange types. This is a welcome result showing that descriptively different exchange types do not correspond to distinct types of foci, each with their own separate properties.

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[12] As before, the described context is assumed to exclude the proposition *hit(Bill,Bill)* from the focus value.

(25) Table 2

Predicted presence/absence for contrast	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	Absent	Absent
Corrections	Present	Present
Closed questions	Absent	Present
Confirmative I No contrast with proposition in CG No denial of evoked alternatives	Absent	Absent
Confirmative II Contrast with proposition in CG Denial of evoked alternative	Present	Present
Confirmative III No contrast with proposition in CG Denial of evoked alternative	Absent	Present
Confirmative IV Contrast with proposition in CG No denial of evoked alternatives	Present	Absent
Additive I Contrast with proposition in CG No denial of evoked alternatives	Present	Absent
Additive II Contrast with proposition in CG Denial of evoked alternative	Present	Present

As far as testing is concerned, Krifka (2008) and N&V (2012) both maintain that in English contrast enables focus fronting.[13] We may thus use focus fronting as a proxy for contrast and test for each exchange type whether fronting is possible or not.[14] We may then examine to what extent the distribution of focus fronting matches the predictions about the presence of contrast in the above table.

4.1 Exchanges with convergent predictions

As a start − and as a check on the assumption that focus fronting does indeed rely on the

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[13] N&V (2012, p. 20) root the assumption that contrast enables focus fronting in the quantificational nature that contrast possesses under their definition.

[14] Some instances of focus fronting are not easily analysed. As Ward (1985, p. 135) notices, in (1) below the phrase 'the poor man's paradise' is fronted. On one hand, constrast could be argued to be absent, since the focused DP constitutes the answer to the implicit open question "what was the place called?" and as we saw open questions do not involve contrast. On the other, the DP might contrast with the name 'Coney Island', although it is not clear how to reconcile this contrast with either Krifka's or N&V's definitions. Finally, fronting could here be unleashed by features other than constrast. 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"]

(2)

presence of contrast – let us consider open questions and corrective exchanges, which both models assume to respectively lack vs. involve contrast. Consequently, focus fronting should be ungrammatical in open questions and grammatical in corrective exchanges. This prediction is usually considered borne out for British English. For example, N&V note that focus fronting is infelicitous in the open question (26) but grammatical in the corrective exchange (27).

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

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

The distribution of focus fronting in British English also matches predictions on the other conversational exchanges where N&V and Krifka converge. For example, both models predict contrast, and hence focus fronting, to be present with confirmative II and additive II exchanges. As (28) and (29) show, this prediction is borne out.[15]

(28) *Confirmative II – A and B are parents commenting on the activity of children at the local primary school. The proposition 'hit(Bill,Tom)' is part of the common ground, but speaker B intends to deny it.*
      A: Bill hit Jack, yesterday.
      B: Yes, JACK$_F$, he hit, yesterday.   (*Implied: but not Tom, as some parents believe*.)

(29) *Additive II – 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. There is contrast with the proposition hit(Bill,Jack) in the common ground, and speaker B intends to deny the focus-evoked proposition hit(Bill,Sarah).*
      A: Bill hit Jack, yesterday.
      B: Yes, TOM$_F$ he hit, TOO.   (*Implied: Jack hit even Tom, but not Sarah.*)

Both models also converge in predicting the absence of contrast in confirmative I exchanges, where there is no contrast with propositions in the common ground, and speaker B does not intend to deny any focus-evoked proposition. Following a technique exploited in N&V and used in prior examples, we ensure that this latter property holds by adding a continuation sentence to B's utterance asserting every focus-evoked proposition, thus making their denial impossible. The

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[15] Example (1) below, from N&V (2012, p. 11-12), provides another case of fronting in confirmative II exchanges. The father implies that John has not read at least one of the books he had to read. See also the corpus-based example in (2) from Ward (1985, p. 136), where the fronted 'LIFE' implies the exclusion of any shorter jailing term.

(1)   *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.
      Dad: Yes, I know. [The Selfish GENE]$_F$ he's read. (*Implied: John did not read some of the other books*)

(2)   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"]

relevant example is in (30). While focus in-situ is possible in (30)B, focus fronting in (30)Bᴵ makes the continuation sentence infelicitous, showing that fronting is not possible unless some focus-evoked alternative proposition is denied. Example (31) from N&V illustrates the same point (2012, p. 12).

(30)   *Confirmative I - The common ground contains no propositions concerning Bill, nor does speaker B intend to deny any focus-evoked proposition.*
        A: Bill hit Jack, yesterday.
        B: Yes, he hit JACK$_F$, yesterday. <u>In fact, he's hit everybody</u>.
        Bᴵ: Yes, JACK$_F$ he hit, yesterday. # <u>In fact, he's hit everybody</u>.

(31)   *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, p. 12)
        Dad: Yes, I know. [The Selfish GENE]$_F$ he's read. # <u>In fact he's read all five books in the reading list</u>.

Overall, the study of the exchanges with convergent predictions allows for two conclusions. First, the distribution of focus fronting matches Krifka's and N&V's predictions, making it a reliable diagnostics for testing the two models on the exchanges where their predictions diverge. Second, the impossibility of focus fronting in (30) and (31), where the denial of a focus-evoked alternative proposition is explicitly excluded, shows that contrast à la N&V is a necessary prerequisite to focus fronting in these cases. This, though, does not yet imply that contrast à la Krifka plays no role. To ascertain its import, we need to examine the exchanges where the two definitions make divergent predictions.

4.2 Exchanges with divergent predictions

N&V and Krifka's predictions diverge on closed questions, confirmative exchanges III and IV, and additive exchange I.
        In closed questions and confirmative II exchanges, contrast is predicted present under N&V's definition and absent under Krifka's. The grammaticality of focus fronting in these two cases supports N&V's model. For example, in (32) the closed question can be answered with the fronted focus in (32)B. Yet this should not be possible if contrast were absent as expected under Krifka's definition. Furthermore, the fact that B's reply cannot be accompanied by a continuation sentence asserting that B read the Quran, as in (32)Bᴵ, supports the claim that the proposition *read(B,Quran)* is denied as mandated by N&V's definition of contrast.

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

The same holds in confirmative III exchanges. As (33)B shows, focus fronting is possible as predicted by N&V's definition, whereas it should not be available if contrast were absent as expected under Krifka's definition. Furthermore, as (33)Bᴵ shows, fronting is not compatible

with a continuation sentence preventing the denial of any focus-evoked propositions, providing further evidence that N&V's definition of contrast is the key factor enabling fronting.

(33)   *A and B are parents commenting on 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's never
          picked fights with the other children!
       B': Yes, JACK$_F$, he hit, yesterday. # <u>In fact, he's hit everybody</u>.

Predictions switch for confirmative IV and additive I exchanges, where contrast is expected present under Krifka's and absent under N&V's model. Starting with confirmative IV in (34), if contrast with the proposition *hit(Bill,Tom)* already in the common ground were sufficient to trigger fronting, we would expect (34)B to be grammatical. Fronting should remain possible despite the added continuation sentence, which is necessary to ensure that contrast à la N&V's is absent but does not affect contrast à la Krifka. As the infelicitous status of the continuation sentence shows, this prediction is not borne out.

(34)   *Confirmative IV – A and B are parents commenting on the activity of children at the local*
       primary school. The proposition 'hit(Bill,Tom)' is part of the common ground and speaker
       B does not intend to dispute it.
       A: Bill hit Jack, yesterday.
       B: Yes, JACK$_F$, he hit, yesterday. # <u>In fact, he's hit everybody</u>.

The same holds for additive I exchanges, where contrast is again predicted present under Krifka's model but not under N&V's. For example, in (35) B's assertion contrasts with the proposition *hit(Bill,Jack)* in the common ground, but no focus-evoked proposition is denied since *hit(Bill,Jack)* and *hit(Bill,Tom)* are the only evokable propositions (since there are no other contextually salient children) and they are both asserted. If Krifka's contrast could trigger fronting, focus fronting should be available, yet it is at best marginal.[16]

(35)   *Additive I - A and B are the parents of Bill, Jack, and Tom and are discussing their*

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[16] Ward (1985, p. 153) mentions an interesting corpus-based instance of focus fronting in additive exchanges, see (1) below. The speaker clearly intends to say that he does not enjoy any activity related to cab driving. The exchange appears to qualify as an additive I exchange, since on the one hand the fronted focus contrasts with the previous assertion "I don't enjoy [cab driving]" in the common ground, and on the other there is no intention to deny any focus-evoked proposition, since the speaker states that there is no activity related to cab driving that s/he enjoys. The underlined fronted focus thus challenges N&V's model. The sentence, however, involves a negative predicate. Before considering it as counter-evidence for N&V's model we would need to know exactly how sentential negation is assumed to affect 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 negation of every alternative proposition observed in this example.

(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 [<u>the PLEASURES</u>]$_F$, I can't enjoy. [Roth,
       P. *Goodbye Columbus*, 1963, p. 83]
(2)

children. No other children are contextually salient at the time of their conversation.
A: Bill hit Jack, yesterday.
B: ?? Yes, TOM$_F$, he hit, TOO.

Overall, the distribution of focus fronting across the four exchanges with divergent predictions supports N&V's definition of contrast. To be clear, Krifka's definition is not incorrect per se, since contrast with propositions in common ground is an inevitable property of grammar. It does or does not occur depending on the context in which exchanges occur and the assertions made in them. However, the above observation show that focus fronting in British English is insensitive to such contrast, whereas the presence of N&V's contrast is a prerequisite.

Before concluding this section, it is worth adding that the above observations were confirmed by the informal testing of 17 native speakers of British English. The involved sentences and judgements are provided in the appendix and involved all exchanges but for confirmative II and confirmative IV exchanges, which had not yet be considered at the time of the testing. Interestingly, these informants found in-situ focalization fully acceptable across all exchanges, including those where contrast is present for both Krifka and N&V. This tells us that focus fronting is always optional: contrast may enable fronting, but never force it (see also Horvath (2010)).

As for the focus fronting data, these informants mostly found fronting possible or only slightly marginal with corrective exchanges, closed questions, confirmative III exchanges, and, somewhat more marginally, additive II exchanges. Amongst the tested exchanges, these are thoses predicted to involve contrast by N&V's definition, and include the closed questions and confirmative III exchanges where contrast is predicted absent by Krifka's model. The same informants found focus fronting increasingly less acceptable with open questions, confirmative I, and additive I exchanges. These are the exchanges where contrast à la N&V is absent, and include the confirmative I exchange where contrast is present under Krifka's model. These results concern informal judgements and better controlled testing is necessary. Nevertheless, it is worth noticing how they, too, point toward N&V's notion of contrast as the necessary prerequisite for focus fronting.

5 Conclusions

This paper carefully compared the definitions of contrast in Krifka (2008) and N&V (2012), showing how N&V's definition better accounts for the distribution of focus fronting across the several types of exchanges here examined.

The paper also showed that focus à la Rooth (1992, 1995) and contrast à la N&V (2012) are sufficient to model focalization elicited by open and closed questions, as well as corrective, confirmative, and additive conversational exchanges. Treating them as if they elicited each their own distinct type of focalization is misleading and fails to capture the fact that confirmative and additive exchanges can give rise to both contrastive and non-contrastive focalization depending on the speaker's intentions.

These results suggest additional questions and directions for further research. The most obvious one concerns whether the same results carry over across other focus-eliciting exchanges, such as those reviewed in Gussenhoven (2008) (for a preliminary discussion see Perry (2016)).

Similarly, we need to examine whether other comparable definitions of contrast or

focalization here left unexamined might be as, or even more, successful than N&V's defnition in accounting for focus fronting. For example, Kiss (1998) maintains that only identificational focus obligatorily triggers movement to a higher functional projection. Kiss defines identificational focus as "the exhaustive subset [of the contextually or situationally given items for which the predicate phrase can potentially hold] for which the predicate phrase actually holds" (Kiss 1998, p. 245). In other words, identificational focus exhaustively identifies the items for which the predicate holds, excluding any other items. She does not discuss how identificational focus should be formalized in Rooth's alternative semantics, but her definition entails that only the asserted proposition holds, and all other focus-evoked alternative propositions do not.[17] Kiss' identificational focus thus effectively generalizes N&V's definition of contrast to all the propositions in the focus value of a sentence (see also Horvath (2010)): all evoked propositions must be denied, not just one as under N&V. Identificationa focus thus consttutes a stricter version of N&V's contrast. Whenever identificational focus holds, N&V's definition of contrast is necessarily satisfied, but not vice versa. For example, consider (36) and assume that there are four contextually salient children: Mary, Jack, Tom, and Bill. Under N&V's definition, contrast is present 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, including the proposition *hit(Mary,Jack)* just asserted by A. This is inappropriate for additive exchanges, where prior propositions are not being questioned.

(36)   A: Mary hit Jack, yesterday.
        B: Yes, TOM$_F$ she hit, TOO.

This shows that as far as focus fronting in British English is concerned, identificational focus cannot replace N&V's contrast. Indeed, Kiss herself views identificational focus as not relevant for English focus fronting on the basis of other independent tests (1998, p. 251).

        Kiss' identificational focus, however, remains relevant for the Hungarian and English data she discussed. For example, she shows that English cleft-sentences satisfy the exhaustivity requirement intrinsic to identificational focus. This raises a second research question concerning the overall set of primitives necessary for information structure phenomena and contrast in particular (for an informative discussion of the role of focalization across several crosslinguistic constructions, see Rooth 1992, 2016). We have seen that as far as focus fronting in English is concerned, focus à la Rooth and contrast à la N&V (2012) are sufficient across several types of focus-eliciting exchanges. The issue is to what extent they can also explain other focus-related phenomena. For example, should we consider N&V's contrast and Kiss' identificational focus, with its exhaustive nature, as independent primitives, or should identificational focus be modelled in terms of N&V's definition of contrast plus an exhaustivity operator extending it to all evoked propositions? If feasible, the second view provides a more principled model of grammar, since the presence of shared content across N&V's and Kiss' definitions would be

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[17] According to Kiss, it is exhaustivity that triggers movement to a higher functional projection. Kiss also discusses 'contrast' (2012, p 267), but she does not consider it relevant for movement, which is why it is ignored in the above discussion. For the sake of completeness, once Kiss' definition of contrast is translated in Rooth's terms, identificational focus involves contrast when the set of focus-evoked propositions being denied is closed, and non-contrastive when the same set is open. In other words, contrast is present when the set of denied focus-evoked propositions is exhaustively identified.

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, as it defines 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, 2012), their analysis separates the import of focalization from the import 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 implied by mirative foci, in which case N&V's contrast would 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, because the presence of contrast à la N&V's would be sufficient for triggering fronting. Perry also observes that the same foci could remain non-contrastive under Krifka's model, since mirative expressions can be uttered out of the blue, presumably excluding the presence of any content in the common ground to contrast with. The issue here is whether expectations about likely alternatives are part of the common ground. If they are, then mirative foci would be contrastive for Krifka's as well. If they are not, then out-of-the-blue mirative foci would be non-contrastive and hence Krifka's contrast would not be able to trigger their fronting.

Last but not least, we need to research the crosslinguistic validity of the relation between contrast and focus fronting explored here for British English (for an informative discussion of this issue, see Repp 2016). At first sight, it does not appear to generalize to other languages. For example, my own very limited informal testing of Italian, Mandarin Chinese, Korean, Spanish, and Galician shows a divergence between these languages and British English with respect to focus fronting across the exchanges examined in this paper. If confirmed by future studies, it would point to a variation in the crosslinguistic focus fronting data which is not yet captured.

This, in turn, raises the issue of whether it is 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 (with contrast triggering fronting in some languages but not others, see also Kiss 1998), 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 in a coherent and principled theoretical model. With this paper, I hope to have provided a small step in this direction.

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7 Appendix

The table below reports the judgements provided by 17 native speakers of British English enrolled in UG and MA linguistic courses and familiar with the notion of grammaticality and the practice of giving grammaticality judgements[18] They were all following a course of mine on focalization and were familiar with Krifka's and N&V's hypotheses on contrast, but at the time of testing they had no reasons to prefer a judgement over another. They were given a written questionnaire with the two-sentence dialogues in the table below, each involving one reply with focus in situ and one with focus fronting (with the text in bold and capitals as in the original questionnaire). Confirmative exchanges II and IV were missing, as their relevance had not been understood yet. The informants were encouraged to provide their judgements while at home, ideally in a room alone, giving themselves as much time as necessary.[19] For convenience, the last two columns list Krifka's and N&V's predictions on the availability of focus fronting.

(37) Table 3

Native speakers' judgements	Focus in situ	Fronted focus	Krifka	N&V
Open questions A: What did John eat? B1: He ate the COOkies$_F$. B2: The COOkies$_F$ he ate.	ok: 17 ?: none ??: none *: none	ok: 4 ?: 8 ??: 3 *: 2	no	no
Corrective exchanges A: John ate the COOkies. B1: No. He ate the CANdies$_F$ B2: No. The CANdies$_F$ he ate	ok: 17 ?: none ??: none *: none	ok: 10 ?: 5 ??: 1 *: 1	yes	yes
Closed questions A: What did John eat? The candies or the cookies? B1: He ate the COOkies$_F$. B2: The COOkies$_F$ he ate.	ok: 17 ?: none ??: none	ok: 10 ?: 5 ??: 2	no	yes

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

[19] Neeleman taught in the same institution of the informants. If Neeleman's presence in the same institution affected the English judgements, it should also have affected the judgements provided by the foreign informants about their own language, which should have resembled those of the Enligsh informants. This was not the case.

	*: none	*: none		
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.	ok: 15 ?: 2 ??: none *: none	ok: 1 ?: 7 ??: 4 *: 5	no	no
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.)	ok: 14 ?: 1 ??: 1 *: 1	ok: 14 ?: 2 ??: 1 *: none	no	yes
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.	ok: 17 ?: none ??: none *: none	ok: 2 ?: 7 ??: 7 *: 1	yes	no
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.	ok: 15 ?: 2 ??: none *: none	ok: 8 ?: 5 ??: 1 *: 2 (16 judgements: one informant omitted the judgement for this case)	yes	yes