

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-situ¹(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).

In order to progress, we need to systematically identify the linguistic domains where the proposed analyses make divergent predictions, as this enables their testing. This paper takes a step in this direction by carefully comparing the definition of contrast in Krifka (2008), which requires contrast with propositions in the common ground, against the definition in Neeleman and Vermeulen (2012), which requires the intended denial by the speaker of one of the alternative propositions evoked by focalization. While the two definitions are clearly different, the original papers describing them do not systematically discuss their differences, leaving readers unclear about the status of these two definitions relative to each other. Does one definition subsume the other? Or are they genuinely distinct? In the latter case, do we need both?

To answer these questions, this paper examines nine distinct focus-eliciting contexts, several of them left undiscussed or only briefly touched in Krifka's and N&V's original papers: open and closed questions, corrective exchanges, four types of confirmative exchanges, and two types of additive exchanges. For each context, the paper examines which definitions predict contrast to be present or absent.

The main result of the paper is the detection of four contexts where Krifka's and N&V's definitions of contrast make divergent predictions: closed question exchanges, two types of confirmative exchanges, and one type of affirmative exchanges (all exchange types are described in detail in later sections). The detected contexts also prove that the two definitions do not subsume each other, since the two contexts predicted to involve contrast by N&V's definition are expected to lack contrast under Krifka's definition, and vice versa for the other two contexts.

The identified contexts are also the contexts where the two definitions should be empirically tested to determine which one provides the best model for the notion of 'contrast'. Full experimental testing is beyond the scope of this paper, but I will discuss some preliminary results

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¹ Where to 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. Abels (2017) calls into question the crosslinguistic evidence supposed to support the existence of a left-peripheral focus projection.

that suggest support for N&V's definition. The first concerns sentences where focalization is followed by a continuation sentence that is inconsistent with N&V's definition of contrast but not Krifka's, making an assessment possible. The second concerns the informal testing of 17 native speakers of British English using focus fronting as a proxy for the presence of contrast.

While this is not its immediate goal, this study also contributes to the determination of how many distinct types of focalization exist. The nine exchange contexts considered in this paper are shown to always involve focalization à la Rooth (1992), defined in terms of evoked alternative propositions, and, where necessary, contrast, determining whether focalization is or isn't contrastive. Nothing else is necessary. 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 exchange, whereas, as we will see, the same exchange might involve focalization with or without contrast depending on the content of the common ground and the intentions of the speakers at the time of the exchange. 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 existing alternative definitions of contrast available in the literature, although a few are briefly discussed in section 5. This is intentional. At the level of detail considered here, an exhaustive study of that type would quickly run into space restrictions, and involve excessive complexity and cluttering at the expense of clarity. The desired comprehensive clarity can also be pursued stepwise. This self-contained, short paper, spelling out the theoretical differences and predictions of Krifka's and N&V's notions of contrast, aims at providing a step in that direction.

Finally, in my experience many graduate students, and occasionally even fellow scholars interested in focalization but not directly researching it, sometimes struggle with the notion of evoked propositions involved in Rooth's focalization. I want this paper to be easily understandable to these readers as well, and for this reason I made every reasoning step as explicit as possible. Apologies to all those more expert readers who will find some explanations somewhat pedantic.

Section 2 introduces the notion of focalization à la Rooth and the definitions of contrast by N&V (2012) and Krifka (2008), illustrated using corrective and open question exchanges. Section 3 deepens the comparison by examining their predictions 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 how these results extend to other notions of contrast, other focalization exchanges, and their crosslinguistic validity.

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

Krifka (2008) and N&V (2012) follow Rooth (1985, 1992) in maintaining 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 – what Rooth defines as 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 (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, 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).² When this subset relation does not hold, the exchange becomes incongruous, and hence infelicitous. For example, if B had its main stress on the object, as in (4), focalization would have shifted to the object³. This affects the focus value of B, which now corresponds to propositions involving different object-referents like ‘Ede wants tea’, ‘Ede wants coffee’, ‘Ede wants milk’, as in (5). This set does not contain the set of propositions denoted by the question listed in (2). The only proposition shared by both sets is ‘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 also involve contrast.⁵

² Not everyone agrees on the role of focalization in question/answer congruence. Krifka (2004) offers some counterexamples. 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.

⁴ Students are often taught that in a question/exchange, they can identify the constituent focused in an answer as “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 in their articles, 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. Under Rooth’s definition, though, 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 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

When contrast is absent, Krifka (2008) and N&V (2012) analyses converge. For example, open questions exchanges like (1) above are considered by both 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 already described above.⁶

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 (2012:12) 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 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 as in (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.⁷ For N&V, whenever we want to convey this type of information we add contrast, i.e. the semantic statement in (8), making focus contrastive.

- (6) A: John wants coffee.
 B: No. EDE_F wants coffee.

incorrectly referred to as *narrow* and *broad* focus. These latter terms are misleading because they refer to the size of the focused constituent, which does not perfectly correlate with its contrastive or non-contrastive nature. Instances of non-contrastive focus can often involve large constituents, e.g. whole clauses, whereas instances of contrastive focus often involves 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 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 To avoid any confusion, please note that for these authors, and throughout this paper, the mere evocation of alternative propositions determined by Rooth's focalization has no bearing on the presence/absence of contrast, even if the evoked propositions might obviously be described as contrasting with each other. This is worth stating, as some scholars do use the label 'contrast' as a description for focalization à la Rooth, as is for example the case in Kratzer & Selkirk (2018). Their notion of 'contrast' focus would correspond to focalization in absence of contrast in this paper.

⁷ 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').

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

(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 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.

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. This is a necessary assumption, given Krifka's view of open question exchanges like (1), repeated in (9), as lacking 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 and open questions would turn out to involve contrast. Indeed, Krifka (2008:246) assumes 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

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. Questions never determine any update themselves. While generally agreeing with Krifka (2008), Repp (2010:1336) 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 its contrasts with the subject of A's question, as if the question had affected the common ground, contra Krifka's assumptions.

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

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

(Rooth 1992)

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 have no consequences with respect to open questions and corrective exchanges, where contrast is assumed to be respectively absent and present by both Krifka and N&V. They diverge, however, when we consider additional types of exchanges.

3. Predicted absence/presence of contrast under other types of conversational exchanges

This section examines whether contrast is predicted present or absent 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), the semantic denotation of closed and open questions is inevitably similar. Closed questions restrict the set of alternative propositions they denote through the overt alternatives they propose, but otherwise they are questions, and therefore they necessarily behave like open questions and do not add those propositions to the common ground. Consequently, no contrast ensues in the common ground in exchanges like (10). Therefore, under Krifka's definition, focalization in out-of-the-blue closed questions lack contrast.

- (10) A: Who wants coffee, John or Ede?
B: EDE_F wants coffee.

N&V (2012:8), instead, view closed questions as involving contrast, since they describe example (11) below as similar to focalization in corrective exchanges, which are contrastive. Under their definition of contrast, this view would require 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.

Later in their paper, N&V (2012:9) examine the source of contrast, wondering whether the denied proposition could be the result of an implicature drawn on the basis of Gricean reasoning rather than emerging from the information structure primitive of contrast they have defined. While they are right to consider the import of Gricean implicatures, this latter analysis can be refuted on the basis of an interesting observation that they make about corrective exchanges. They notice that Gricean implicatures are cancellable, whereas the negative statement introduced by their definition of contrast is not. The same reasoning can be applied to closed questions. If closed questions genuinely involve contrast à la N&V, then the denial of one of the evoked propositions required by the presence of contrast 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 indeed read other books.

(12) 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 proposition that John did not read the Quran cannot be cancelled, making the underlined continuation sentence in (13)B infelicitous. We may thus conclude 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. # He read everything he could lay his hands on, QURAN included.

Summing up, on closed questions Krifka's and N&V's definitions diverge. Krifka's necessarily models them as lacking contrast. N&V must model 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 supports N&V's model

3.2. Confirmative exchanges

Confirmative foci 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 the exchange, whereas under N&V's it depends on whether speaker B intends to deny one of the focus-evoked alternative propositions. We need to distinguish the four cases examined below.

(14) A: John read the Quran.

B: Yes, JOHN_F read the Quran.

(15) 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 lacks contrast under both models. It occurs when the common ground contains no propositions at the time of the exchange 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 that Bill hit everybody. Crucially, this is new information for A, not yet present in the common ground. It is introduced for the first time by B's underlined continuation sentence.

(16) *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 (16)B is non-contrastive under Krifka's model, because the common ground contains no propositions for B's statement to contrast with.⁹ Contrast is absent under N&V (2012:12) as well because B believes that Bill has hit every child, and therefore there cannot be any proposition of the type *hit(Bill,x)* for some child *x* that B intends to 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 already in the common ground. Consider a scenario where the parents of the pupils of the local school have heard the rumor that Bill, a pupil, hit Tom, another particularly vulnerable pupil. The proposition *hit(Bill,Tom)* is then already in the common ground when the two parents A and B engage in the confirmative exchange (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 focalizes via main stress the object 'Jack' with the intention to implicitly deny that Bill hit little Tom. By placing main stress on 'Jack', he implies that yes, Bill hit Jack, and possibly other kids like Jack, but definitely not little Tom.

(17) *A and B are parents commenting 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, 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 alternative proposition *hit(Bill,Tom)* already in the common ground, making contrast present under Krifka's model (Krifka 2008:251-252). 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 speaker's intention, we can build scenarios where contrast is absent under Krifka's model and present under N&V's, and vice versa. The first 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 one or more 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

⁹ 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.

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 present under N&V's model.

- (18) *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!

Confirmative III exchanges thus provide a second case, besides 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. As we will see, N&V's definition will gain even more support from the examination of confirmative case IV and additive exchanges I, and from the focus fronting data discussed in section 4.

Confirmative IV – For the final confirmative scenario, let's go back to 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 where Bill hit a pupil other than Jack. 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 by N&V 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 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. In fact, he's hit everybody.

To wrap up, in confirmative exchanges contrast is present or absent depending on the content of the common ground under Krifka's model, and the presence of an intended denied focus-evoked proposition 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 potential variation in the presence/absence of contrast across confirmative exchanges under each of the two models – i.e. within each table column – is also worth noticing, since it is not mentioned in either Krifka (2008) or N&V (2012).¹⁰

¹⁰ Some exchanges might appear to be confirmative when actually they are not. The sentences below, from Birner and Ward's corpus study (2009:1174), might at first look as a confirmative case, since the underlined continuation sentence is uttered by the same speaker and to some degree supports the content in the first sentence by confirming that 'she' spent time 'here'. But the expression 'five semesters' does contrast with 'two years', since it does not refer to the same length of time. The continuation sentence thus clarifies that the relevant time-period is five semesters, not just four semesters, which is what two years would correspond to. The exchange thus is of the corrective type, hence involving contrast, which, in turn triggers, focus fronting.

(20) Table 1

Predicted presence/absence for contrast	Krifka (2008)	N&V (2012)
Confirmative I <i>No contrast with proposition in CG</i> <i>No denial of evoked alternatives</i>	Absent	Absent
Confirmative II <i>Contrast with proposition in CG</i> <i>Denial of evoked alternative</i>	Present	Present
Confirmative III <i>No contrast with proposition in CG</i> <i>Denial of evoked alternative</i>	Absent	Present
Confirmative IV <i>Contrast with proposition in CG</i> <i>No denial of evoked alternatives</i>	Present	Absent

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 only predicted possible in cases II and IV by Krifka's model, and cases II and III by N&V's model. I will further discuss these predictions in section 4 where we will see how the available evidence appears to support 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 (2008:259), additive focus necessarily involves contrast because the ordinary meaning of the sentence containing focus inevitably contrasts with the focus-evoked alternative proposition already in the common ground. For example, in (21) the new proposition *wants(Mary,coffee)* stated by speaker B contrasts with *wants(John,coffee)* introduced in the common ground by speaker A. Since both propositions also belong to the set of alternative propositions evoked through focalization by B's sentence, contrast is present.

- (21) A: John wants coffee.
 B: MARY_F wants coffee, TOO. (Krifka 2008:259)

N&V do not discuss additive exchanges, but their definition of contrast distinguishes 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 is contextually

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

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 there is no other contextually salient child that Bill could have hit, and consequently there is no proposition of the type *hit(Jack,x)* that B might intend to deny. The focus value of B's utterance contains only two 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 *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. EVERYbody wants coffee!

We thus have yet another exchange type where Krifka and N&V make divergent predictions, and once again we can use focus fronting to test them. As we will see in section 4, preliminary testing appears to support N&V's definition.

Additive II – As mentioned, additive exchanges are predicted to inevitably involve contrast under Krifka, since by definition the newly uttered proposition contrasts with a previously asserted alternative in the common ground. They 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)*.

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.

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

- (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: even Tom was hit, but not Sarah.)

Summing up, additive exchanges provide another case where the presence of contrast is not linked to the exchange type, since under N&V's definition contrast is present or absent depending on the intentions of the speaker. Furthermore, additive case I adds another case where N&V's and Krifka's definitions make diverging 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 systematic testing. Second, it demonstrates that focalization à la Rooth, once combined with a precisely defined notion of contrast, is potentially 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.

(25) Table 2 – Predicted focus type across different focus-eliciting exchanges

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 <i>No contrast with proposition in CG</i> <i>No denial of evoked alternatives</i>	Absent	Absent
Confirmative II <i>Contrast with proposition in CG</i> <i>Denial of evoked alternative</i>	Present	Present
Confirmative III <i>No contrast with proposition in CG</i> <i>Denial of evoked alternative</i>	Absent	Present
Confirmative IV <i>Contrast with proposition in CG</i> <i>No denial of evoked alternatives</i>	Present	Absent
Additive I <i>Contrast with proposition in CG</i> <i>No denial of evoked alternatives</i>	Present	Absent
Additive II <i>Contrast with proposition in CG</i> <i>Denial of evoked alternative</i>	Present	Present

As far as testing is concerned, Krifka (2008) and N&V (2012) both maintain that focus fronting in English can only be triggered if contrast is present.¹³ We may thus use focus fronting as a proxy for contrast and test for each exchange type whether fronting is or is not possible.¹⁴ We may then examine to what extent the resulting presence/absence pattern matches the predictions 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 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 2012:9)
B: # [The Selfish GENE]_F, he read.

- (27) A: John read The Extended Phenotype. (Adapted from N&V 2012:9)
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's predictions 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

¹³ N&V (2012:20) root the assumption that contrast is necessary for fronting in the quantificational nature that their definition assigns to contrast.

¹⁴ Fronting might sometimes occur when contrast ought to be absent. As Ward (1985:135) notices, in the paragraph below the phrase 'the poor man's paradise' is fronted and yet supposedly non-contrastive, since it constitutes the answer to the implicit open question "what was it called?". This suggests that fronting might also be unleashed by features other than contrast. 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)

¹⁵ Example (1), from N&V (2012:11-12), provides another case of fronting in confirmative II exchanges. The father implies that John has not read at least one of the other books he had to read. In the corpus-based example (2), from Ward (1985:136), 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.

- (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"]

- (28) *Confirmative II – A and B are parents commenting 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: even Tom was hit, but not Sarah.)

Both models also converge in predicting 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. Using a technique developed in N&V (2012), we ensure that this latter property holds by adding a continuation sentence to B’s utterance – shown underlined – that asserts every focus-evoked proposition, thus making their denial impossible. The relevant example is in (30). While focus in-situ is possible in (30)B, focus fronting in (30)B¹ makes the continuation sentence infelicitous, showing that fronting is not possible unless some focus-evoked alternative proposition is denied. A similar example from N&V (2012:12) illustrating the same point is provided in (31).

- (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. In fact, he’s hit everybody.

B¹: Yes, JACK_F he hit, yesterday. # In fact, he’s hit everybody.

- (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 2012:12)

Dad: Yes, I know. [The Selfish GENE]_F he’s read. # In fact he’s read all five books in the reading list.

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) when the denial of a focus-evoked alternative proposition is excluded through a continuation sentence shows that contrast à la N&V is a necessary prerequisite to focus fronting in these cases. This, however, does not 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 observation that B's reply cannot be accompanied by a continuation sentence asserting that B read the Quran, as in (32)B', supports the claim that the proposition *read(B, Quran)* is denied as required 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.

B': [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)B' 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 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 hit anybody!

B': Yes, JACK_F, he hit, yesterday. # In fact, he's hit everybody.

Predictions switch for confirmative 4 and additive 1 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 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 is not the case.

(34) *Confirmative IV – A and B are parents commenting 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. # In fact, he's hit everybody.

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 evoked 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 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 support 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 exist depending on the context in which exchanges occur and the assertions made in them. What the above observations show is that focus fronting is insensitive to such contrast, whereas the presence of N&V's contrast is a prerequisite.

Before concluding it is worth adding that the above observations were also confirmed by the informal testing of 17 native speakers of British English. The involved sentences and judgements are provided in appendix and involved all exchanges but for confirmative II and confirmative IV exchanges. Interestingly, these speakers find 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. The presence of contrast may at most enable focus fronting, but never force it (see also Horvath 2010).

As for focus fronting, these speakers mostly found focus fronting completely possible or just slightly marginal with corrective exchanges, closed questions, confirmative III exchanges, and, somewhat more marginally, additive II exchanges. These are all exchanges predicted to involve contrast by N&V's definition, and include the closed questions and confirmative III exchanges where Krifka's contrast is instead absent. The same speakers found focus fronting increasingly less acceptable with open questions, additive I exchanges, and confirmative I exchanges. These are exchanges where contrast à la N&V is absent, including the confirmative I exchange where Krifka's contrast is instead present. These were informal judgements, and more 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.

¹⁶ Ward (1985:153) mentions the interesting corpus-based instance of additive focus fronting in (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 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 s/he 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 examine exactly how sentential negation affects 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 found 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 [the PLEASURES]_F, I can't enjoy. [Roth, P. *Goodbye Columbus*, 1963:83]

(2)

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 shows 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 several types of corrective, confirmative, and additive conversational exchanges. Treating different exchanges as 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 results in this paper also suggest additional questions and directions for further research. The most obvious one concerns whether the same results carry over across additional focus-eliciting exchanges, such as those reviewed in Gussenhoven (2008; for a preliminary discussion see Perry 2016).

Similarly, we need to examine whether alternative definitions of contrast 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).¹⁷ Once translated into Rooth's alternative semantics, Kiss' identificational focus requires that only the asserted proposition holds, while 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 (36) and assume that there are four contextually salient children: Mary, Jack, Tom, and Bill. 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 is inappropriate for this exchange, as B clearly does not dispute the truth of A's assertion.

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

This shows that in British English the stricter version of contrast in Kiss' identificational focus cannot replace the weaker form proposed by N&V if we want to capture focus fronting across all the exchanges considered in this paper. This further confirms the inappropriateness of identificational focus as the trigger of focus fronting in British English, as already 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

¹⁷ Kiss' (1998:268) own definition of contrast 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, when we interpret contrast in terms of the denial of one or more focus-evoked alternative propositions, Kiss' identificational focus becomes inevitably contrastive when assessed in terms of N&V's definition. A similar issue arises relative to Horvath (2010), who, like Kiss, maintains that contrast should not be defined as the mere exclusion of alternatives.

primitives of information structure. We have seen that as far as focus fronting is concerned, focus à la Rooth and contrast à la N&V (2012) are sufficient to model focalization 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 modeled in terms of N&V's definition of contrast, where the denial of just one focus-evoked alternative suffices, 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 presence of 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, because the presence of contrast à la N&V's would be sufficient for triggering 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 in the common ground to contrast with. The issue here is whether denied expectations should be considered part of the common ground. If they are, then mirative foci would be contrastive for Krifka's as well. If they are not, then 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 causative relation between contrast and focus fronting here explored for British English. Interestingly, it 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, it would point to 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 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), 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. With this paper, I hope to have provided a step in that 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 following a course of mine on focalization and were familiar with Krifka's and N&V's hypotheses on contrast, but at the time neither them nor I had reasons to prefer a judgement over another. The informants were given a written questionnaire with the two-sentence-long dialogues in the table below, each involving one reply with focus in situ and one reply with focus fronting (with the text in bold and capitals as in the original questionnaire). There were confirmative exchanges II and IV, 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 lists Krifka's and N&V's predictions on the availability of focus fronting.

(1) Native speakers' judgements

	Focus in situ	Fronted focus	Krifka	N&V
Open questions <i>A: What did John eat?</i> <i>B1: He ate the COOKies_F.</i> <i>B2: The COOKies_F he ate.</i>	ok: 17 ?: none ??: none *: none	ok: 4 ?: 8 ??: 3 *: 2	no	no
Corrective exchanges <i>A: John ate the COOKies.</i> <i>B1: No. He ate the CANDies_F</i> <i>B2: No. The CANDies_F he ate</i>	ok: 17 ?: none ??: none *: none	ok: 10 ?: 5 ??: 1 *: 1	yes	yes
Closed questions <i>A: What did John eat? The candies or the cookies?</i> <i>B1: He ate the COOKies_F.</i> <i>B2: The COOKies_F he ate.</i>	ok: 17 ?: none ??: none *: none	ok: 10 ?: 5 ??: 2 *: none	no	yes
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, <i>parent B believes that Bill has hit every kid in the class.</i> <i>A: Bill hit JACK yesterday.</i> <i>B1: Yes, he hit JACK_F. He hit EVery child in his class.</i> <i>B2: Yes. JACK_F he hit. He hit EVery child in his class.</i>	ok: 15 ?: 2 ??: none *: none	ok: 1 ?: 7 ??: 4 *: 5	no	no

¹⁸ Many thanks to my informants 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. The speakers of foreign languages in the same course were also asked to test their own language across the same exchanges. If Neeleman's presence in the same institution was a factor, it should have affected these foreign speakers as well, with their judgements resembling those of the English native speakers. This was not the case.

<p>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.</p> <p>A: Bill hit JACK yesterday. B1: Yes, he hit JACK_F. (Not Tom.) B2: Yes. JACK_F he hit. (Not Tom.)</p>	ok: 14 ?: 1 ??: 1 *: 1	ok: 14 ?: 2 ??: 1 *: none	no	yes
<p>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.</p> <p>A: Bill hit JACK yesterday. B1: Yes. He hit TOM_F, TOO. B2: Yes. TOM_F he hit, TOO.</p>	ok: 17 ?: none ??: none *: none	ok: 2 ?: 7 ??: 7 *: 1	yes	no
<p>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.</p> <p>A: Bill hit JACK yesterday. B1: Yes. He hit TOM_F, TOO. B2: Yes. TOM_F he hit, TOO.</p>	ok: 15 ?: 2 ??: none *: none	ok: 8 ?: 5 ??: 1 *: 2 (16 judgements: one informant missed the judgement for this case)	yes	yes