Refining Contrast: Empirical Evidence from the English *it*-Cleft

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This paper is concerned with the contrastive component associated with English *it*-cleft sentences. We argue for a more complex notion of contrast than has previously been used in much of the semantic literature and provide empirical evidence showing that defining contrast in purely semantic terms cannot fully explain the felicity of clefts and their competition with canonical sentences. On the notion we support here, expressions are contrastive to the extent that they conflict with expectations. Crucially, this allows for *degrees* of contrast, corresponding to stronger or weaker conflict with expectations; and it permits us to consider, not only expectations about the world, but also metalinguistic expectations about the discourse itself. This scalar and multifactorial notion of contrast allows us to make better predictions about the contexts in which clefts are judged to be felicitous.

Keywords: contrastive focus, *it*-cleft, speaker's expectation, at-issueness, English

1 Introduction

The English *it*-cleft, exemplified in (1), is generally seen as indicating *identificational focus* (Kiss 1998). Following Kiss, we assume that identificational focus has two distinctive semantic and pragmatic components: it leads to an exhaustive interpretation of the sentence as in (1a) and in some cases can also indicate contrast, as in (1b). In this paper, we are specifically interested in the second component, contrast. Our goal is twofold; we refine the definition of contrast and investigate what the connection is between contrastivity and the cleft, given that, in English, not all clefts are required to be contrastive.

(1)   It was John who cooked the beans.

    a. → Nobody other than John cooked the beans.

    b. → The fact that John cooked the beans contrasts with something in the discourse context.

In the previous literature, the contrastive component of an *it*-cleft's meaning is generally modeled as a categorical discourse constraint, a necessary *but not sufficient* condition which must be met by the discourse context for a cleft sentence to be uttered. Often, it is formalized using the same mechanisms that are used for anaphora. A cleft sentence, on this analysis, must find an antecedent in the immediate discourse context; and this antecedent must be one of its focal alternatives.

This anaphoric analysis of contrast accounts for some important judgments. For instance, it explains why clefts often sound odd as direct answers to overt questions, as in (2). A question alone does not provide the right kind of antecedent; and with no antecedent available, the cleft is infelicitous.

(2)   A: Who cooked the beans?
        B: #It was John who cooked the beans.[1]

And on the other hand, it explains why clefts often sound good as corrections, as in (3). The previous utterance being corrected provides exactly the right kind of antecedent.

(3)   A: I wonder why Alex cooked so much beans.
        B: Actually, it was John who cooked the beans.

But there are also facts which it does not account for. Here is one: in contexts in which an antecedent *is* available, speakers may nevertheless choose not to use a cleft. Indeed, in some such contexts, clefts seem actively dispreferred, and their use sounds stilted and odd. For instance, (4b), while still perhaps technically felicitous, does not strike us as good idiomatic English; and in the rating experiment which we describe in this paper, (4b) was actually given a lower naturalness rating than (5b), despite the fact that (4b) has an antecedent available (viz. Canada) and (5b) does not.

(4)   A: Darren sounded really excited about his vacation. I think he might be going to Canada.
        a.   B: Actually, he's going to Mexico.
        b.   B: ? Actually, it's Mexico that he's going to.

(5)   A: We were planning Amy's surprise party for weeks. I can't believe she found out about it. Who told her about it?
        a.   B: Ken told her about it.
        b.   B: It was Ken who told her about it.

And even when a cleft does not sound noticeably odd, if we consider the rate at which clefts are actually produced, we find that there are dramatic differences between contexts. In a pilot production study, we restricted our attention to contexts in which a suitable antecedent is present and still found that some such contexts induce a much higher rate of cleft production than others.

Our intuition to account for these observations is that clefts are optimal candidates in contexts where they do more than just introduce a *linguistic* contrast but also perform a *metalinguistic* contrast, which we conceptualize in terms of speaker-hearer's expectations. This idea is already present in the work by Zimmermann (2008, 2011) who argues that the classic analysis of contrast in purely semantic terms (i.e. via the introduction and subsequent exclusion of alternatives) is not well suited to fully explain the variation observed in the marking of focus in the Chadic languages that he explores. Instead, Zimmermann proposes a more elaborate treatment of contrast as a discourse-semantic phenomenon in terms of speaker-hearer mismatch: according to the *Contrastive focus hypothesis*, contrastive focus is used when speaker has reasons to suspect that hearer does not expect the assertion of the focus constituent as likely to be in-

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[1]Throughout the paper, we will indicate ungrammaticality with an asterisk (*) and infelicity with a hash (#).

cluded into the Common Ground (see definition, 2011:1167). Another antecedent for this idea is Krifka's (2008) distinction between "common-ground content" and "common-ground management." By "common-ground content", Krifka means the truth-conditional information which has been shared by interlocutors so far in the discourse. Common-ground management, on the other hand, "is concerned with the way how the CG content should develop"; for instance, raising a question has a common-ground management function, because it suggests what sort of truth-conditional information ought to be added to the CG content of the discourse.

The goal of this paper is to show that some of the variation occurring in English can also be accounted for by broadening our understanding of contrast. Rather than a single categorical constraint, we argue, the relevant notion of contrast should be a gradient one, and should comprise at least two related factors. Following Zimmermann's hypothesis, we propose that contrast, at least the sort of contrast which is relevant to clefting in English, should be understood in terms of *conflict with expectations*. Crucially, we claim that two types of expectations are relevant here, not just expectations about the state of the world, but also expectations about the shape and direction of discourse. Our "expectations about the world" correspond to Krifka's expectations about CG content that is likely to be added, and our "expectations about the discourse" are, in his terms, expectations about what sorts of CG management are likely to take place. Using data from a controlled rating task, we show that the intensity of this conflict matters: a cleft sounds more natural if the speaker is contradicting a firm assertion than if she is contradicting a tentative suggestion, and a cleft sounds more natural if the speaker is addressing content which had previously been marked as not-at-issue, thereby violating the expectation that such content will not need to be discussed.

In short, our claims are as follows:[2]

(6)   *Conflict with expectations*: Clefts are more felicitous the more they conflict with interlocutors' expressed expectations.

    a.   *Expectations about the world*: These expectations may involve beliefs about the world, expressed as assertions or presuppositions. More strongly expressed beliefs lead to stronger conflict.

    b.   *Expectations about the discourse*: These expectations may involve beliefs about the direction in which the discourse is going, expressed, among other ways, by marking content as at-issue or not-at-issue.

2 Background

2.1 What is Focus?

In the literature, the notion of *contrast* is often discussed in relation to two other primitives of information structure, topic and focus. Because this paper is mostly interested in contrast in focus-related contexts, it is in order to briefly introduce how we understand the notion of *focus*.

Traditional accounts of focus have defined focus as evoking a set of alternatives relevant for the interpretation of the sentence and which are taken to be salient by the speaker (Rooth 1985, 1992, Krifka 2008). One common way to diagnose focus is within question-answer pairs, like (7).

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[2]Note that, in this paper, we frame expectations about the world as scalar, with stronger expectations leading to stronger conflict, but we have not adopted a scalar framing for expectations about the discourse. It is an interesting question whether there might also be degrees of at-issueness. But we leave this as a question for future work.

(7)   a.   Question: Who cooked the beans?
       b.   Answer: [John]$_f$ cooked the beans.
       c.   Incongruent answer: *John cooked [the beans]$_f$.

In this example, the *wh*-element in the question instantiates a set of propositions of the
form {x cooked the beans} (Hamblin 1973), from which an actual answer is selected – the focus
element – here, *John*. Focus marking on the wrong element, as illustrated in (7c), leads to an
incongruent Q-A pair.

2.2 Notions of Contrast and the Function of Clefts

Contrast, like focus, is assumed to operate on a set of alternatives relevant for its interpretation.
However, contrast is different in the way it exploits these alternatives, leading to the commonly
acknowledged distinction between two focus types: *informational* (or *presentational*) focus vs.
contrastive (or *identificational*) focus (Rochemont 1986, Vallduví and Vilkuna 1998, Kiss 1998). It
has been widely suggested that the function of clefting is to highlight instances of contrastive
focus (Kiss 1998). We will assume here that this is the case.

But how should contrast be defined? The past literature has typically framed this distinction
in purely semantic terms; there are several ways this can be done, and we will discuss two major
ones. More recently, Zimmerman has argued that if clefts in Hausa and other Chadic languages
are to be understood as marking contrastive focus, it will require a broader notion of contrast,
one which takes discourse pragmatics as well as semantics into account.

One semantic account holds that contrastive focus requires the presence of an antecedent
focus alternative, and more specifically imposes requirements on the size of the alternative set
and the identifiability of its elements. To many scholars, notably Halliday (1967), Chafe (1976),
Rooth (1992), and Kiss (1998), contrastive focus differs from informational focus in that it oper-
ates on a *closed* set of alternatives, that is a limited number of candidates. Chafe (1976:34) argues
that "contrastive sentences are qualitatively different from those which simply supply new in-
formation from an unlimited set of possibilities." Additionally, contrastive focus is thought of
as instances of focus where at least one of the individuals in the set of alternatives is identi-
fiable, meaning that it has been explicitly mentioned in the preceding discourse. For instance,
let's consider the sentence in (7b). This sentence can be uttered in a context where an open set
of individuals – all the friends invited to the party Saturday night – were supposed to bring a
dish and someone cooked beans, namely John. In this case, there is no need to know the exact
number of friends who have been invited or who these friends are (the alternatives can remain
implicit or contextually available), in which case the focus element is simply interpreted as in-
troducing new information into the discourse, answering the *wh*-question in (7a). On the other
hand, if the context explicitly mentions one or more other individual that did not cook beans,
for example, in a question such as *Who cooked the beans, John or his brother Fred?*,[3] the focus
constituent in (7b) receives a contrastive interpretation: the individual denoted in the answer
contrasts with the individual(s) introduced in the discourse.

On the second semantic account, the distinguishing feature of contrastive focus is that it
triggers an *exhaustive* inference. We can see this inference in action in (8). The use of a cleft
here leads to the inference that the prejacent in (8a) is true, but also to the inference that the
exhaustive statement in (8b) is true.

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[3]See Krifka (2008) for the argument that this type of question is not contrastive.

(8)   It was [John]$_f$ that cooked the beans.
    a.   John cooked the beans.
    b.   Nobody other than John cooked the beans.

There is a substantial literature on the question of how this exhaustive inference arises, and how precisely its meaning should be characterized (see e.g. Horn 1981, Atlas and Levinson 1981, Kiss 1998, Velleman et al. 2012, Büring and Križ 2013). On the other hand, there is evidence that in certain languages, clefts or other intuitive contrastive focus constructions do not always trigger an exhaustive inference. This has been argued, for instance, for clefts in St'át'imcets (Salish; Thoma 2009), for focus movement structures in K'ichee' which are arguably clefts (Mayan; Yasavul 2013), and for non-cleft focus movement structures in Tangale (Chadic; Zimmermann 2011) which, Zimmerman argues, still show signs of being contrastive in an important sense. If we want to retain the idea that clefts and other focus movement constructions are inherently contrastive, then these data suggest it will not work to define contrastivity purely in terms of exhaustivity.

Zimmermann (2008) points out that both of the semantic approaches above do not fully predict when contrast-marking constructions such as clefts will be used. In diverse languages which are argued to use clefts to indicate exhaustivity or the presence of an antecedent, it is nevertheless sometimes possible to use canonical sentences when an exhaustive meaning is intended and an explicit antecedent is present — as in the following example from Hausa:

(9)   a.   You will pay 20 naira.
    b.   A'a, zâ-n   biyaa shâ   bìyar̃ nèe.
         no, FUT-1SG pay   fifteen PRT
         'No, I will pay [fifteen.]$_f$'

Zimmermann has also pointed out that there are numerous languages where clearly non-semantic factors influence the use of clefts. One fairly common pattern, especially in languages which strongly associate topicality with subject position, is for clefting to be *required* in cases of subject focus, and optional in other cases. Zimmermann (2008, 2011) suggests that this should be understood in terms of *hearer expectation*, following Steedman (2006)'s use of expectation in his model of information structure. Crucially, he suggests that speech acts as well as semantic content can count as unexpected in the relevant sense. In languages such as French and Hausa, because of the strong tendency for subjects not to be foci, any speech act involving subject focus can be said to be unexpected, and this, he argues, explains the requirement that subject foci be clefted in these languages.

2.3 At-Issueness and Metalinguistic Expectations

Following Zimmermann's arguments, we suggest that there are two different sorts of contrast which clefts can be used to mark, repeated from (6).

(10)   *Conflict with expectations*: Clefts are more felicitous the more they conflict with interlocutors' expressed expectations.
    a.   *Expectations about the world*: These expectations may involve beliefs about the world, expressed as assertions or presuppositions. More strongly expressed beliefs lead to stronger conflict.

b.   *Expectations about the discourse*: These expectations may involve beliefs about the direction in which the discourse is going, expressed, among other ways, by marking content as at-issue or not-at-issue.

In Zimmermann's work, the relevant expectations about the discourse are generated by the grammar of the languages he studies, which assign topic status to canonical subjects. Thus, in these languages, any move with subject focus is an unexpected move. We will be interested in a different source of expectations about the discourse: namely, the discourse status of certain propositions as at-issue or not-at-issue.

We assume that at any point in the discourse, participants are *expected* to address the propositions that are currently at-issue. Thus, in English (and presumably in other languages as well), a move which addresses a previously not-at-issue proposition is an unexpected discourse move.

We assume, further, that at-issueness is marked by certain *backgrounding* constructions, including appositives and nonrestrictive relatives (Potts 2012).

(11)   Mary, John's sister, is visiting this week.

(12)   a.   At-issue: Mary is visiting this week.
         b.   Not-at-issue: Mary is John's sister.

Indeed, there is such a strong convention that appositive and nonrestrictive relative clause content is not-at-issue that the use of these constructions can override a previously established current question (CQ). We can only make sense of the discourse in (13) if we understand B to be quite forcefully pushing A's question aside, and redirecting the discourse to address the question of when Mary is visiting. In other words, B's move effects a change in the CQ, by marking his answer to the previous CQ as not-at-issue.

(13)   A: Who is Mary related to?   (CQ: Who is Mary related to?)

         B: Mary, John's sister, is visiting next week.

                                                             (CQ: When is Mary visiting?)

3 New Experimental Data

As mentioned in the introduction, the intuition behind the experiments presented here is that even though *it*-clefts are assumed to indicate contrast, the mere presence of a focus antecedent in discourse and its subsequent exclusion does not seem to suffice for clefts to be felicitous. Although it may be a necessary condition, we do not think it is a sufficient one. Instead, we hypothesize that their use and felicity can be better explained by the notion of expectations, both about the world and about the discourse.

In this section, we present two pilot experiments designed to test this hypothesis by examining how strong the conflict of expectations has to be between interlocutors for the cleft to be selected as the preferred structure (rather than a canonical sentence with prosodic marking for example).

3.1 Experiment 1: Production Task

Given the observation that the *it*-cleft sounds very odd as a direct answer to a *wh*-question, and does not always sound natural when directly contradicting an incorrect assumption, a first step is to determine whether *it*-clefts are indeed produced at a significant rate by native speakers of

English. For that purpose, we conducted a semi-spontaneous production task.

3.1.1 Methods 15 English native speakers took part in this experiment. They were all recruited from an undergraduate class at the University of Texas at Austin. All were naive as to the purpose of the experiment.

Participants sat at a table in a quiet room and were given a paper survey (in the form of a six-page handout) that included the instructions on the first page and the task on the following pages. The instructions informed participants that they would read a series of written stimuli that each included three parts, as seen in (14):

(14)   a.   A *Your friend says* part which constitutes the context and always ends with either a *wh*-question or a sentence containing a piece of information in bold,

b.   An *Answer* or *Correction* part which provides participants with the information to use to formulate their answer in the third part. The information was labeled *Answer* in the condition where it is used to formulate an answer to a *wh*-question, and *Correction* in the condition where it must be used to offer a corrective statement to the false assumption made by the "friend" in the preceding context,

c.   A *You say* part which included a blank line for participants to write out their response.

Participants were instructed to read each context and piece of information thoroughly, and then, depending on whether to offer an *Answer* or a *Correction*, use the information given in the second line to write down their response. The instructions emphasized the fact that participants must think about their response carefully before writing it down, formulating it as naturally as possible, as if they were to say it to the friend in a spoken dialogue. Moreover, participants were asked to use full sentences as much as possible.[4] Finally, the instructions made clear that in cases where a correction must be offered, the bold element in the preceding context is the element to correct and replace using the information in the second part of the stimulus.

The current experiment consisted of a 2x2 within-subject design testing two types of contexts, INFORMATIONAL and COUNTER-PRESUPPOSITIONAL (which we take as the two opposite ends of the scale for degrees of contrast) and two grammatical functions, SUBJECT and OBJECT. In the informational context condition, the speaker has no overt beliefs or has chosen not to express them in any direct way. We take such a context to be one where the speaker simply seeks information without projecting expectations about what he believes the answer may be, which we encoded in the stimuli via a *wh*-question. In this condition, the information in the second line is always labeled *Answer* since it provides an instantiation to the open variable in the question. Furthermore, the *wh*-question is either a *who* or a *what*-question, triggering a subject or an object *Answer* piece of information, as illustrated in (15) and (16), respectively.

(15)   *Your friend says*: This bean dip is fantastic. I really want to get the recipe. Who made it?
        Answer: Tim.
        You say: _____

(16)   *Your friend says*: Ben and Lucy just bought a new house but had some landscaping work

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[4]We are aware that full sentences often do not constitute natural sentences and that a partial sentence including the focus information seems in fact more natural. We leave open the discussion about whether or not we should enforce full sentences to be used in focus-related experimental tasks.

to do. There were a few trees way too close to the house. Which one did they cut down?
Answer: the oak.
You say: _____

On the other hand, we created a counter-presuppositional condition under which the context only differed from the corresponding informational context in the form of the last sentence in the context. Whereas the last sentence in the informational condition was always a *wh*-question, in the counter-presuppositional condition, the last sentence was always a statement in which the speaker presupposed *x* and expressed an opinion about it. For example, if we take (17) below (as opposed to (15)), the speaker presupposes that Shannon made the dip and expresses his belief about her ability to make a fantastic dip, making a value judgment about her cooking skills. The participant's task in that particular example is to rectify the presupposition that Shannon made the dip using the piece of information in the second line, and therefore offer the correction that the person who actually made the dip is Tim. The experimental item in (18) presents a counter-presuppositional context in the object condition (to oppose to (16) above).

(17)   *Your friend says*: This bean dip is fantastic. I really want to get the recipe. I can't believe that **Shannon** made it – she's normally not a very good cook.
         Correction: Tim.
         You say: _____

(18)   *Your friend says*: Ben and Lucy just bought a new house but had some landscaping work to do. There were a few trees too close to the house. I don't understand why they cut down **the big pine**, though.
   *Correction*: the oak.
         You say: _____

For the current study, we created five lexicalizations for each condition (for a total of twenty experimental stimuli). We then created two lists balanced so that each participant saw a total of ten experimental items – two items for each condition always presented in a different lexicalization – and five fillers. A complete list of the experimental stimuli is presented in Appendix A.

3.1.2 Results The results are given in raw count in Figure 1. As predicted, there is a significant effect of the type of context on the response form produced by participants. The difference between the distribution of responses (canonical versus cleft) across the two contexts is highly significant ($\chi2(1)=36.24$, $p<0.01$), although most of the variation is attributable to differences within the informational context. Indeed, within the informational context, the canonical sentence is the form predominantly produced ($z=7.27$, $p<0.01$). This result confirms that at least in English, clefts make bad answers to explicit *wh*-questions. Under a definition of contrast à la Rooth, this result is expected since an antecedent focus alternative is not present in the context.

In the counter-presuppositional context, on the other hand, we observe that clefts are produced significantly more: the distribution of the cleft is significantly different across the two contexts ($z=-6.02$, $p<0.01$). Put slightly differently, the odds of using a cleft are 13.1 times higher when the speech act involves a correction than when it involves a simple answer. This result indicates that clefts are indeed produced by native speakers but are restricted to specific pragmatic uses of focus – to offer a correction to a presupposition. Again, this in line with what

Figure 1
Raw count of response forms by context (production task)
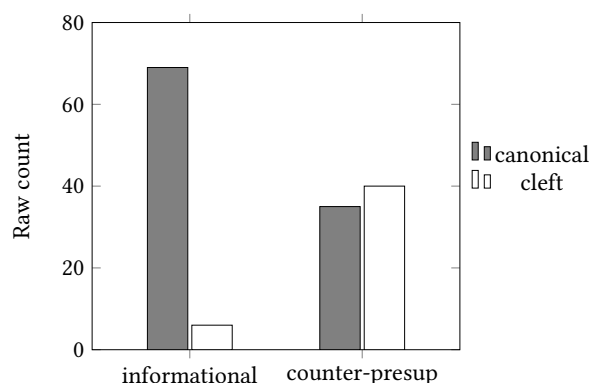
is expected in previous research: the counter-presuppositional context provides the ground for linguistic contrast because of the presence of an explicit antecedent focus alternative and the exclusion of alternatives done via the ensuing response. These results are also expected under Gricean reasoning: simpler structures are assumed to appear in less marked contexts and, reversely, structurally more complex structures are selected by speakers when in need of conveying a stronger interpretation of focus.

However, one aspect of our results represents a challenge for accounts that argue for a fundamental difference in the semantics of the two focus types, informational vs. contrastive (Kiss 1998, Molnar 2002): we find no categorical correspondence between focus interpretation and the grammatical realization of that focus, just a tendency for contrastive focus to be realized via a marked structure. Indeed, while purely semantic accounts predict that contrastive focus must be realized in a particular structure such as the *it*-cleft in English or in a specific syntactic position such as the preverbal position in Hungarian, our results demonstrate that clefting is not the only strategy available to speakers; canonical sentences are also produced to perform a correction (the difference in distribution between the two response forms does not reach statistical significance, z=-0.5, p=0.5).

Let's now turn to exploring the effect of the syntactic factor GRAMMATICAL FUNCTION on the sentence form produced. Figure 2 reports on raw counts for the condition subject focus (on the left) and the condition non-subject focus (on the right).

We first observe that this factor has no effect in an informational context: clefts are bad regardless of whether they encode a subject or a non-subject focus. The results are quite different for the counter-presuppositional context, revealing a structural asymmetry in the way subjects vs. non-subjects are realized when conveying contrast: the cleft is produced more frequently when the focus is a grammatical subject ($\chi 2(1) = 6.4$, p=0.01). We explain this asymmetry by arguing that non-subjects are less likely to be clefted due to further structural differences: extraction of lower constituents (non-subjects) is more complex than higher constituents (subjects).[5]

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[5]We note that, as opposed to Skopeteas and Fanselow (2010), who find clefts only in the identificational context with subjects, we find a non-null number of clefts with non-subjects as well. We may wonder if it is due to the difference between their identificational context and our counter-presuppositional context: although both are intended to trigger contrast, Skopeteas and Fanselow set up their context as a *wh*-question including a wrong piece of information to be corrected by the participant, whereas we embed the wrong piece of information under an attitude predicate. We feel that if this context difference was indeed the culprit of the difference in non-subject cleft occurrence, this could constitute further evidence for our intuition that the stronger the contrast is, the more a cleft

Figure 2
Raw count of response forms by context and for focus subject and non-subject conditions
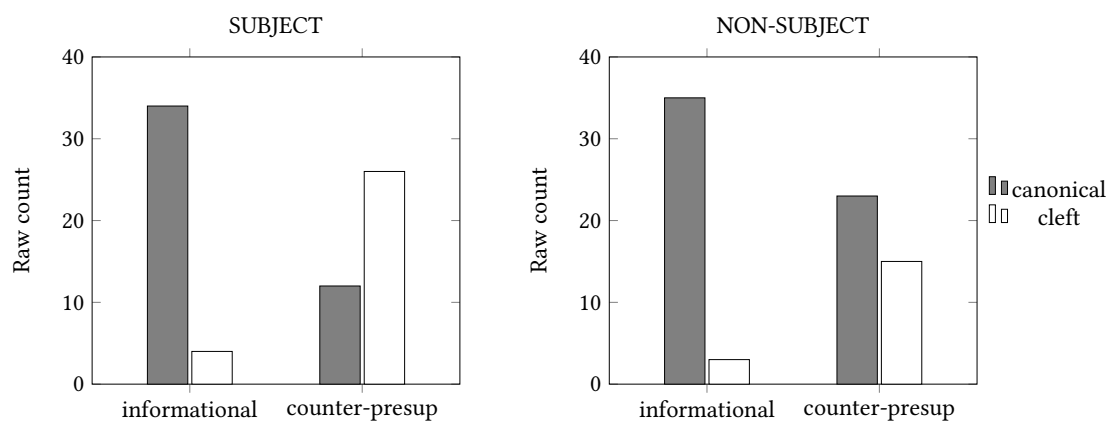
Of course, due to the design of the experiment being a written task, one can wonder if in a spoken task, participants would produce less clefts because of the possibility to rely more systematically on using a higher pitch accent to convey contrast. There are good reasons to believe that this could be the case, as there exists a large body of literature on English showing that the pitch accent signaling contrastive focus is consistently more marked than that used in informational cases (Truckenbrodt 1995, Kratzer and Selkirk 2007, Katz and Selkirk 2011, Féry and Samek-Lodovici 2006).[6] But, to the best of our knowledge, we are not aware of any evidence that the availability of prosodic contrast-marking competes with or inhibits clefting in the spoken medium. This remains an open question and a point for further investigation.

For now, the results from the pilot study presented here can only tell us so much about the cleft's use. The question remains as to what makes the cleft a better alternative than marking contrastive focus in situ via a more prominent pitch accent, and what differences actually matter between informational and counter-presuppositional contexts. In our opinion, the answer lies in the fact that the cleft is doing more than just *semantic* contrast, as defined among others by Kiss (1998) – it is also marking a *metalinguistic* contrast, which we understand in terms of *expectations*. This hypothesis is explored in the rating experiment presented in the next subsection.

3.2 Experiment 2: Rating Task

In the rating task presented here, we investigate English native speakers' judgments on the naturalness of the *it*-cleft in different contexts. The working hypothesis is that the cleft is increasingly better when the speaker's expectations are expressed more strongly and the conflict with the hearer's expectations intensifies. If, as we claim, the cleft is not simply marking linguistic contrast but is also marking metalinguistic contrast – indicating a conflict between the interlocutors' beliefs about the world and expectations about the advancement of discourse – speakers should rate the cleft more highly when both types of expectations are strengthened. And we hypothesize that they should rate a canonical sentence more highly in conditions where the conflict between interlocutors' expectations is null or weak.

is likely to be used. See section 3.2 for further discussion.

    [6]Although, the question "Is the difference between the pitch accent used to mark informational focus and the pitch accent used to mark contrastive focus only gradual or categorical in nature?" is still debated.

3.2.1 Methods 12 English native speakers were recruited from an undergraduate class at St Edwards University in Austin. All were naive as to the purpose of the experiment.

Participants sat at a table in a quiet room and were given a paper survey (in the form of an eight-page handout) that included the instructions and the task. Participants were asked to carefully read a series of written stimuli that consisted of a dialogue between two speakers, A and B, and rate how natural B's response sounds on a 5 point scale, given A's preceding sentence. Participants indicated their choice by circling the number on the scale.

In the design of this study – a 4x2x2 between-subjects design – we controlled for (i) the context (speaker A's part), (ii) the form of the target sentence (speaker B's response), and (iii) the grammatical function of the focus element. Let's look at these three parameters in more detail.

The most straightforward one is the latter. The grammatical function of the focus was always either a SUBJECT or an OBJECT. Second, Speaker B's response was always presented in either of two forms: a CANONICAL or an *IT*-CLEFT. Participants were always presented with only one form to rate and never rated both forms for the same lexicalization. Finally, the context condition was designed to test the core proposal of this paper, that two types of expectations are relevant for the felicity of the *it*-cleft: STRENGTH OF BELIEF and AT-ISSUENESS. Strength of belief corresponds to expectations involving the speaker's beliefs about the world (common ground), which are expressed as assertions or presuppositions. We take this to be a gradient notion ranging from "no (overt) belief" to "strong belief." More strongly expressed beliefs lead to stronger conflict between interlocutors, in which case the *it*-cleft should be more natural. In addition, at-issueness corresponds to the expectations that speakers have with regards to the direction in which discourse is progressing, expressed by marking (part of) the proposition either as at-issue or non-at-issue. Thus, the context variable had four levels (four context types), as illustrated in (19).

(19)   Context types:
  a.   Informational
  b.   At-issue, weak belief
  c.   At-issue, strong belief
 d.   Counter-presuppositional

Example (20) presents the four different contexts. Underneath each context, participants saw either a canonical sentence, as in (21-a), or the cleft, as in (21-b), and a 1–5 scale to provide the naturalness rating.

(20)   Speaker A: This bean dip is fantastic. I really want to get the recipe ...
  a.   *Informational*
        ... Who made it?
  b.   *At-issue weak belief*
        ... I think that maybe Shannon brought it.
  c.   *At-issue strong belief*
        ... I'm sure that Shannon brought it.
  d.   *Counter-presuppositional*
        ... I can't believe that Shannon brought it – she's normally not a very good cook.[7]

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[7]A reviewer brought to our attention the fact that this example is ambiguous: it can be interpreted either as

Figure 3
Mean ratings for response forms by context (collapsed for grammatical function)
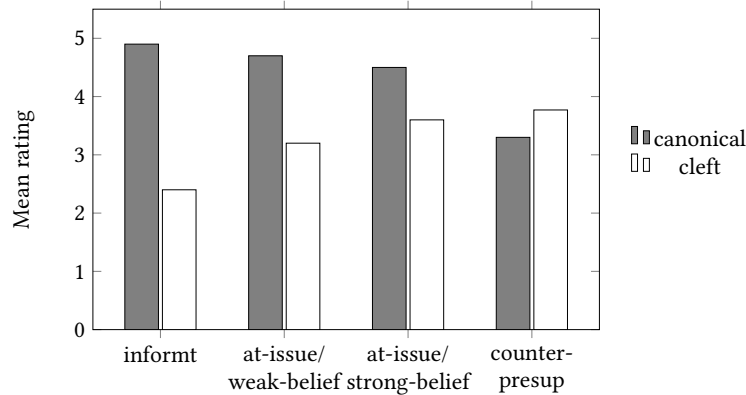
(21) Response to rate
   a.   B: Tim made it.
   b.   B': It was Tim who made it.
        On a scale from 1 to 5, how natural does Speaker B's response sound to you?
        1   2   3   4   5

The different contexts were designed to reflect the idea that speakers' beliefs are gradient; they can vary in strength depending on how the speaker chooses to express them. We take an informational context – where the speaker is simply requesting information via a *wh*-question – to constitute the starting point of the scale since no overt beliefs are expressed. At the next levels, the commitment of the speaker regarding the prejacent increases. In the current task, we used a variety of attitude verbs and adverbs to encode the different degrees: in the weak-belief and strong-belief conditions, the speaker respectively expresses a low or a high degree of commitment toward the asserted prejacent proposition (i.e. "Shannon made it" in (20b) and (20c)). In the counter-presuppositional context, on the contrary, the prejacent is not at-issue – it is presupposed. The speaker expresses a personal, subjective opinion about the truth of another asserted proposition in the sentence (i.e. "It's hard to believe that Shannon made the dip" in (20-d)).

The task included a total of 16 conditions for each of which we created five different lexicalizations. Participants were assigned to one of four lists created in which they saw a total of 16 experimental items randomized with 10 fillers. Three participants were assigned to each list. The exact same five lexicalizations of the informational and the counter-presuppositional context from the production study (described in section 3.1) were used in this rating study. We adapted these lexicalizations to create the two additional contexts "at-issue weak belief" and "at-issue strong belief."

3.2.2 Results Mean ratings for each context (collapsed for grammatical function of the focused element) are presented in Figure 3.

"I doubt that Shannon brought it" or "Shannon brought it and I cannot believe she would do such a thing – the answer being counter-presuppositional only under the second reading. Our intuition is that the reading we wanted to trigger is still the easier one to get. In any case, we had four other lexicalizations that were not ambiguous, so we feel confident this ambiguity alone could not significantly affect the results.

Overall, mean ratings for CANONICAL were the highest in the informational context (4.84), decreased as the strength of belief intensified (mean ratings were 4.71 and 4.5 for weak belief and strong belief condition, respectively), with the lowest rating being in the counter-presuppositional context (3.33). On the contrary, mean ratings for CLEFT were the lowest in the informational context (2.41), increased as the strength of belief intensified (3.22 and 3.58 for weak belief and strong belief condition respectively), and received the highest rating in the counter-presuppositional context when the proposition to be corrected is non-at-issue and the speaker has expressed strong beliefs (3.77). These results are consistent with the results from the production study in indicating that the canonical sentence is clearly the favored way to respond to a simple *wh*-question (informational context), and the need for a more marked structure increases as focus is associated with a stronger pragmatic interpretation. But, here again, the results are gradient in that the canonical sentence, although decreasing in appropriateness across contexts, is never completely bad and is only slightly worse than a cleft in counter-presuppositional contexts.

A one-way between-subjects analysis of variance was first conducted to investigate the effect of context on the naturalness of the canonical form. The result showed that there was a significant effect ($F=20.03$, $p<0.001$). Post hoc comparisons using the Tukey HSD test indicated that the only significant difference is between the mean rating of the counter-presuppositional and that of the other three contexts, the informational context (M=4.9, SD=0.3, $p<0.001$), the low contrast context (M=4.7, SD=0.6, $p<0.001$), and the strong contrast context (M=4.6, SD=0.8, $p<0.001$). Put differently, canonicals are significantly worse in the counter-presuppositional context than in the other three. Taken together, these results indicate that the factor STRENGTH OF BELIEF has no significant effect on the naturalness of the canonical sentence (the difference between the weak-belief and the strong-belief context does not come out as statistically significant), but that AT-ISSUENESS does plays a role: canonicals are judged as more appropriate when the component addressed or contradicted is part of the at-issue (asserted) content of the sentence. We interpret this result as suggesting that the use-conditions of canonical sentences must make reference to the distinction at-issue/non-at-issue. The function of canonicals is to signal that "things are proceeding as normal" in the discourse; the update of the common ground is made without difficulties, that is without requiring a shift or an accommodation in the hearer's background assumptions.

To test the hypothesis that the naturalness of the cleft varies with STRENGTH OF BELIEFS and AT-ISSUENESS, we conducted a second one-way between-subjects ANOVA.[8] There was a significant effect of context on rating ($F= 9.03$, $p<0.001$), but a post hoc comparison using Tukey HSD test indicates that most of this effect is attributable to the difference between the mean rating for the informational context and the other three: the low contrast context (M=3.2, SD=1.1, $p=0.015$), the strong contrast context (M=3.6, SD=0.7, $p<0.001$) and the counter-presuppositional context (M=3.7, SD=1.1, $p<0.001$). In sum, *it*-clefts are significantly worse in informational contexts than in the other three, and the factor STRENGTH OF BELIEF has – so far – only a slightly significant effect.

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[8]In the full experimental version of the study which is underway, we have redesigned the experiment to be two separate within-subject tasks – with one task investigating STRENGTH OF BELIEF and the second controlling for AT-ISSUENESS. We plan on fitting a mixed-model effect to test the hypothesis that the cleft is increasingly better as both expectation types strengthen.

3.3 Discussion

What have we learned so far? Linguistic contrast, as defined in semantic terms by the previous literature, is undoubtedly a necessary condition: both the production and the rating tasks show that the cleft's occurrence and naturalness is worst in contexts that do not provide explicit alternatives in the discourse context. So it appears that all it takes for the clefts to be *felicitous* is linguistic contrast.

But what about the question "What does it take for clefts to be *preferred*"? We hypothesized that the level of conflict between interlocutors' expectations should have a direct effect on the naturalness of the cleft. More specifically, we pinpointed two factors that seemed important: *strength of belief* – the expectations that interlocutors have about the world when entering a conversation – and *at-issueness* – the expectations that interlocutors have about the direction in which the discourse is going to progress. When looking at the data simply descriptively, the results from the two preliminary studies presented here suggest that the cleft becomes a better option in response to a strongly expressed belief – although when turning to the statistical analysis, the effect only trends toward significance. But we think that we should also look at the results from another perspective: clefts and canonicals are in competition and this competition is key. Therefore, we should not only draw conclusions from the cleft's results and the direct effects the two factors may have on this specific structure, but also interpret the results from the canonical as indirectly affecting the cleft's results. Thus, we argue that what it actually takes for clefts to be *preferred* is for the canonical to be less natural or to not be available. As the naturalness of the canonical decreases due to metalinguistic contrast (i.e. the conflict about the direction of discourse intensifies), the naturalness of the cleft increases. More specifically, clefts are better than canonicals in the counter-presuppositional context due to a combination of two effects: clefts improve because there is an antecedent and canonicals degrade because the antecedent is non-at-issue.

Furthermore, the findings reported on in this paper have implications for theories of focus. Under purely semantic accounts of focus, proposed notably in Drubig (2003), the interpretational effects of clefts and other strong focus constructions are directly derived from the syntactic configuration, predicting that the felicity contexts for clefts are the same crosslinguistically. Put slightly differently, if it is the case that cleft constructions systematically encode contrast/exhaustivity, then the contexts in which they are felicitous should be identical across languages. But it seems that this assumption is challenged by many empirical observations. Indeed, it has been widely noted that languages differ in the way they use cleft constructions. For example, Skopeteas and Fanselow (2010) and Katz (2014) note a difference in the conditions under which clefts emerge in English and French. While the Hungarian preverbal position seems necessarily associated with a stronger interpretation (i.e. exhaustivity), English *it*-clefts are not unnatural when non-exhaustive (Washburn et al. 2013). This leads us to ask the question why all languages do not use clefts in the same contexts and where the interpretative differences between superficially identical constructions come from. Here, we consider a speculative answer, not in terms of use conditions on the cleft itself, but rather on the canonical form. The reason why this hypothesis is speculative is that it specifies use conditions for the unmarked form, which is not typical when looking at broader phenomena across languages. But we wish to point it out anyway. If what makes the cleft preferred in a certain context is the infelicity of the corresponding canonical sentence in that same context, the contexts that are available for clefting across languages could be predicted from the contexts that are *unavailable* for marking

focus in situ. Under this hypothesis, what varies across languages are the felicity conditions for the canonical form, the options being determined by the grammar of the language. To give a concrete example, English seems to penalize canonicals for addressing non-at-issue content (as shown by the experimental results in this paper), French for marking subject focus (Lambrecht 2001), K'iche' for marking transitive subject focus (Velleman to appear), and Hungarian for providing partial answers. Since we take canonical sentences to signal that "things are proceeding as normal" in the discourse, what is taken to vary across languages is what languages consider to be "normal."

4 Related Work and Conclusion

We are not the first to suggest that there may be languages in which metalinguistic expectations have an effect on the choice of focus-marking construction. Zimmermann (2008) discusses a number of Chadic languages with asymmetric patterns of focus-marking. Hausa is a representative example: ordinarily, Hausa foci may be realized in situ, but contrastive foci tend to be clefted, and foci which are syntactic subjects *must* be clefted.

Zimmermann's account of these patterns invokes the idea of metalinguistic expectation. He suggests that in these languages, there is a strong expectation that subjects will not be focused; and that clefting marks the violation of this expectation.

In light of his conclusions, our data suggests that there may be no important difference between Hausa and English in the semantics and pragmatics of clefts. In both languages, clefts indicate violation of expectations. What is different is the strength of the relevant expectation: for Hausa speakers, the expectation that subjects will not be focused is so strong that it swamps all other factors, *forcing* focused subjects to be clefted; in English, it is plausible that same expectation is present, but if so, it is weaker and its effects are correspondingly smaller.[9]

A Sample of Stimuli for Production Experiment

(22) Informational context, subject:

    a.   I can't believe that Mark bought that ugly car. It looks like it's about to fall apart. Who convinced him to buy it?

    b.   This bean dip is fantastic. I really want to get the recipe. Who made it?

    c.   The schedule for the final exams is all wrong. The French exam is listed at 2 a.m. instead of 2 p.m. Who made it?

    d.   Amy was up all night cleaning the spare room, and now she's picking someone up at the airport. Who is visiting her?

(23) Informational context, object:

    a.   Everyone who interviewed for that job sounded really good. I bet it was a hard decision to make. Who did they hire?

    b.   Oh look, there are pictures from the party last weekend. Mary sure seems to be having a good time. What was she drinking?

    c.   Look at John this evening. He's all dressed up and he's even wearing a tie. Who is

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[9]On the other hand, an alternative account of the Hausa facts has been offered on which they are not due to metalinguistic expectations, but rather to prosodic constraints (Lovestrand 2009). And there is no independent evidence that speakers actually hold the relevant metalinguistic expectations. By contrast, the effects of at-issueness in English involve metalinguistic expectations for which there *is* independent evidence.

he going out with?

d. Darren sounded really excited about his vacation. He was already packing two weeks in advance. Where is he going?

(24) Counter-presuppositional context, subject:

a. I can't believe Mark bought that ugly car. It looks like it's about to fall apart, too. I have no idea how **Leah** convinced him to buy it.

b. This bean dip is fantastic. I really want to get the recipe. I can't believe that **Shannon** brought it – she's normally not a very good cook.

c. The schedule for the final exams is wrong. The french exam is scheduled at 2am instead of 2pm. I don't understand why they have **the secretary** plan it.

d. Amy was up all night cleaning, and now she's on her way to the airport. I can't believe she's annoyed that **her mom** is visiting.

(25) Counter-presuppositional context, object:

a. Everyone who interviewed for that job sounded really good. I bet it was a hard decision to make. I am wondering what convinced them to hire **Jim**.

b. Oh look, there are pictures from the party last weekend. Mary sure seems to be having a good time. I don't know why was she just drinking **soda**, though.

c. Look at John this evening. He's all dressed up and he's even wearing a tie. I don't know why he is going out with **Tammy**, though.

d. Darren sounded really excited about his vacation. He was already packing two weeks in advance. I don't understand why is he going to **Canada** at this time of year, though.

B Sample of Stimuli for Rating Experiment

Note: The informational context and the counter-presuppositional context used in this experiment are the exact same ones as the ones in the production experiment. In this appendix, the other two contexts are presented, at-issue weak belief and at-issue strong belief.

(26) At-issue weak belief context, subject:

a. I can't believe Mark bought that ugly car. It looks like it's about to fall apart, too. I have a feeling that Leah must have convinced him to buy it.

b. This bean dip is fantastic. I really want to get the recipe. I think that maybe Shannon brought it.

c. The schedule for the final exams is wrong. The French exam is scheduled at 2 a.m. instead of 2 p.m. I wonder if the secretary made it.

d. Amy was up all night cleaning the spare room, and now she's on her way to the airport. I suspect her mom is visiting.

(27) At-issue weak belief context, object:

a. Everyone who interviewed for that job sounded really good. I bet it was a hard decision to make. But I guess they probably ended up hiring Jim.

b. Oh look, there are pictures from the party last weekend. Mary sure seems to be having a good time. But I suspect she's just drinking soda.

c. Look at John this evening. He's all dressed up and he's even wearing a tie. I think maybe he is going out with Tammy.

  d. Darren sounded really excited about his vacation. I guess he is going to Canada.

(28) At-issue strong belief context, subject:

  a. I can't believe Mark bought that ugly car. It looks like it's about to fall apart, too. And it turns out that Leah convinced him to buy it.

  b. This bean dip is fantastic. I really want to get the recipe. I'm sure that Shannon brought it.

  c. The schedule for the final exams is wrong. The French exam is scheduled at 2 a.m. instead of 2 p.m. I am sure the secretary made it.

  d. Amy was up all night cleaning the spare room, and now she's on her way to the airport. It turns out that her mom is visiting.

(29) At-issue strong belief context, object:

  a. Everyone who interviewed for that job sounded really good. I bet it was a hard decision to make. It turns out they finally hired Jim.

  b. Oh look, there are pictures from the party last weekend. Mary sure seems to be having a good time. I know she was just drinking soda, though.

  c. Look at John this evening. He's all dressed up and he's even wearing a tie. I know he is going out with Tammy.

  d. Darren sounded really excited about his vacation. I'm sure he's going to Canada.

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