final version, to appear in: Féry, Caroline & Shin Ishihara (eds) *Handbook of Information Structure*. Oxford University Press.

(Contrastive) Topic

Daniel Büring (University of Vienna)
daniel.buring@univie.ac.at

March 2014 (final version)

Abstract
This chapter discusses the semantics and pragmatics of contrastive topics vis-à-vis focus. A semi-formal characterization of its main properties is given, using the techniques of alternative semantics and questions under discussion. This treatment is compared to various analyses proposed in the literature for contrastive topics and arguably related constructions, such as the English rise-fall-rise contour. Finally a brief discussion of non-contrastive topics is provided.

Keywords: topic, contrastive topic, alternative semantics, question under discussion, rise-fall-rise

1 Contrastive Topics: The Un-Focus

To approach contrastive topics, we take focus as our point of departure (non-contrastive or thematic topics will not be discussed until section 5 below). A focus-marked (F-marked) constituent, roughly, is interpreted as 'the new information in response to a question':[1]

(1) (Who did they kick out? —) They kicked ME out.

Either because of the meaning of focus, or because of the pragmatics of question–answer pairs, focus is interpreted exhaustively ('⇝' marks a pragmatic inference):

[0]Thanks to Manuel Križ, the editors, and an anonymous reviewer for valuable comments and corrections.

[1]Small caps indicate intonational prominence; sentences in parentheses are given as context and not annotated for intonation.

(1) $\rightsquigarrow$ it was me they kicked out; no-one else was kicked out

This sometimes carries over to sentences with two intonational prominences:

(2) (Did you kick her out? —) SHE kicked ME out!
$\rightsquigarrow$ it was her who did the kicking out, and it was me who got kicked out; no one else kicked anyone out

It seems therefore plausible to analyze (2) as a double focus:

(3) (Did you kick her out? —) SHE_{F} kicked ME_{F} out!

In some instance (or some contexts), however, the two prosodically highlighted elements are interpreted asymmetrically:

(4) (Who do they want to kick out? —) SHE wants to kick ME out.
a. NOT: it is her who wants to do some kicking out, and it's me who (she hopes) is going to get kicked out; no one else wants to kick anyone out
b. BUT: as far as she is concerned, it's me that should get kicked out; she does not want to kick out anybody else

The answer in (4) suggests a continuation along the lines of '... whereas someone else wants to kick so-and-so out'. In that case, *she* is — by assumption — marked as a contrastive topic (henceforth CT), rather than a focus:

(5) (Who do they want to kick out? —) SHE_{CT} wants to kick ME_{F} out.

Like focus, a CT relates to alternatives ('someone else'), but whereas with the double focus in (2) all combinations of alternatives are, pragmatically, excluded ('no one else kicked anyone out'), with the CT+F in (5), the exclusion only concerns who she wants to kick out (see Rooth, this volume, for more on alternatives). It is in fact implied that *others* want to do some kicking-out as well.

The notion that CT marking results in a set of alternative propositions which are explicitly *not* used for exhaustification lies at the heart of the recent proposals in Hara and van Rooij (2007), van Rooij (2010), and Tomioka (2009, 2010). In fact, at least Tomioka (2009, 2010) does not explicitly state anything more about what is done with these alternatives. The idea is that from the mere existence of such non-excluded alternatives, a hearer can deduce that the speaker must find these alternatives potentially relevant, and at least possible (otherwise she would have explicitly excluded them, i. e. have used a focus instead).

This may ultimately be the most elegant account of CT, but for the time being we will outline an account here which specifies the reasoning that leads from the presence of non-excluded alternatives to their actual pragmatic effects in more detail, as part of the linguistic rule system.

In Büring (2003) I argued for the following view: Whereas F relates a declarative sentence to alternative propositions, CT+F relates it to alternative questions. In (4), the alternative propositions say things like 'she wants to kick George out', 'she wants to kick Marcy out' etc., whereas the alternative questions are 'Who does Bob want to kick out?', 'Who does Kim want to kick out?' etc. (I use single quotes to characterize meanings). The alternative propositions are alternative answers to the question, so by the pragmatics of questions, and following the line of analysis just quoted, they are excluded: she doesn't want to kick George/Marcy... out, only the speaker. The alternative questions, on the other hand, are not excluded in any way; rather at least one must be pertinent to the conversation. This is the case in (4): The original question was who they want to kick out. Given that the answer is limited to *her* intentions, there must be other relevant people — the other members of the group referred to by *they* — for whom it is pertinent to ask: Who does *(s)he* want to kick out?

This basic idea can be implemented via an extension of alternative semantics for focus (von Stechow 1981; Rooth 1985, this volume), which derives from a sentence like (4), repeated with information structural marking in (6), the set of F-alternatives, (6a), as well as the set of CT-alternatives, (6b):[2]

(6) SHE_{CT} wants to kick ME_{F} out
   a. F-Alternatives: the set of propositions like 'she wants to kick x out', for some individual x
   b. Ct-Alternatives: the set of questions meanings like 'Who does y want to kick out?', for some individual y

We will write $\text{S}^{\text{CT+F}}$ for a sentence containing CT+F (analogously for F+F, F etc.), and $[\![\text{S}^{\text{CT+F}}]\!]_{\mathcal{O}}$, $[\![\text{S}^{\text{CT+F}}]\!]_{\mathcal{F}}$ and $[\![\text{S}^{\text{CT+F}}]\!]_{\mathcal{CT}}$ for its ordinary meaning, F-, and CT-alternatives, respectively.

What to do with the CT-alternatives? That is, how are they *interpreted*? For the purpose of this paper, (7) will serve as our sole rule:

(7) Ct-Interpretation Rule (cir)
   For a sentence $\text{S}^{\text{CT+F}}$ to be felicitous, there must be at least one question meaning in $\text{S}^{\text{CT+F}}$'s CT-value which is

[2]See Büring (2003, sec. 12.1) for how to do that, Büring (1997b, sec. 3.3) for details.

a. currently pertinent, and — PERTINENCE
b. logically independent of $[\![S^{CT+T}]\!]_{\mathcal{O}}$, and — INDEPENDENCE
c. identifiable. — IDENTIFIABILITY

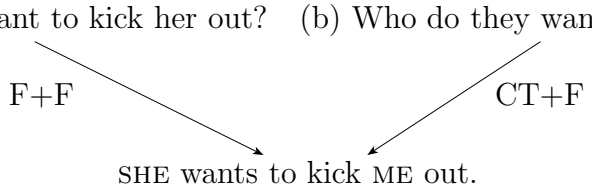
The requirements on S^{CT+F} introduced by the CIR should be understood as conventional implicature triggered by the presence of CT marking. Applied to (6), (7) requires that speaker and hearer can identify at least one question instantiating 'Who does y want to kick out?' which is pertinent and independent of (6) itself. We will elaborate on what exactly is meant by Pertinence, Independence, and Identifyability in the course of this chapter, but it should be clear already that in a context in which it was asked who X want to kick out, X some group, there are at least as many such pertinent questions as there are members of X. If one knows who the members of X are, one can identify the questions about them. And only one of those questions is resolved by — i. e. not independent of — the answer *She wants to kick me out* (namely 'Who does she want to kick out?'); the other questions ('Who does Jeanne want to kick out?'...) are independent of that answer, meeting (7).

Note that (7) is *not* met in (2) (*Did you kick her out?* — SHE *kicked* ME *out!*). If *she* were a CT (and *me* a focus), (7) would require that there is at least one question like 'Who did y kick out?' which is pertinent to the conversation *and logically independent of (i.e. not resolved by) the answer*. But this is not the case: What we are interested in is whether he kicked her out, or she him. Answering that she kicked him out resolves this issue completely, in violation of the CIR in (7), in particular Independence, (7b).

Crucially, failure to meet (7) does not mean that (2) is infelicitous, only that it cannot be a CT+F structure. As stated above, it does have a well-formed structure on which both *she* and *me* are F, to which (7) simply does not apply.

A question not addressed so far is whether the F+F structure in (2) is prosodically different from the CT+F structure in (4). Or, put differently, whether prosody can disambiguate the declarative sentence in (8) between a double focus (answering (8a)) and a CT+F structure (answering (8b)):

(8)



This question has not been systematically investigated, but it is usually assumed that the two intonational contours resulting from the different questions in (8) are, or at least can be, different. Impressionistically speaking, the F+F contour has a high pitch accent on the first F *she*, followed by a low stretch (presumably H* L- in Mainstream American English ToBI notation, cf. Beckman et al. 2005) and another high pitch accent on *me*, followed by a low boundary (H* L-L%).[3]

The CT+F contour, in contrast, has a rising pitch accent on *she*, after which the pitch remains rising/high (L*+H), followed again by a high pitch accent on *me*, and a low boundary (H* L-L%). In a very stylized form, the CT on *she* would be realized as a 'rise-fall-rise' (L*+H L-L%) —what Jackendoff (1972) calls a B-accent— whereas the F-accent would just be a high pitch accent, followed by a low tone (H* L-).

In what follows I will assume that CT+F sentences are indeed prosodically different from F+F sentences. There are other ways to tease the two patterns apart. In a CT+F sentence, CT may be fronted across F, as in (9b):[4]

(9) (Churchmoth recorded this song in eighty-three.)
   a. And MUCKENSTURM recorded it in SEVENTY-TWO.
   b. And in SEVENTY-TWO, MUCKENSTURM recorded it.

A F+F sentence does not allow for non-canonical ordering of the two F, cf. (10):

(10) (Churchmoth wrote this song in eighty-three.)
   a. No, MUCKENSTURM wrote it in SEVENTY-TWO.
   b. #No, in SEVENTY-TWO, MUCKENSTURM wrote it.

For pragmatic reasons, the answer in (10) — unlike that in (9) — must be a F+F sentence: If Muckensturm wrote the song in 1972, there cannot be other pertinent questions like 'When did Batiston write it?' (or 'Who wrote it in 1982?'), given that songs are only written once. Accordingly, (10b), which involves preposing of one focus across the other, is out. We can thus take the possibility of non-canonical order of two prosodically prominent constituents to be indicative of a CT+F pattern.

[3]See Eady et al. (1986), experiment 2, for comparison of this accent pattern with wide and narrow foci —though not with what we call CT+F here. Mehlhorn (2001) and Braun (2005) compare CT+F in German to 'neutral' sentences, but not systematically to what we call F+F here.

[4]Sub-examples with letters are to be read as *alternative* continuations, so (9b) is not a reply or sequel to (9a), but — like (9a) — to (9).

I will now review some of the uses that have been taken to be typical for CT+F patterns in the literature.

2 CT Phenomenology

2.1 Partial Topics

Answers to multiple *wh*-questions, or single *wh-question* containing plurals, typically allow CT+F answers:

(11) a. (Which guest brought what? —) FRED$_{\text{CT}}$ brought the BEANS$_{\text{F}}$.
b. (Where do your siblings live? —) My SISTER$_{\text{CT}}$ lives in STOCKHOLM$_{\text{F}}$.

The CT values of the answers in (11) are 'What did x bring?' and 'Where does your x-sibling live?', respectively. Given the more general questions about the guests/siblings, we can see how the CIR in (7) is met: The questions in $[\![(11a/b)]\!]_{\mathcal{CT}}$ are obviously pertinent, and independent of the answers in (11).

Languages with topic-mark ing morphemes like Korean *-nun* or Japanese *wa* likewise use these markers, together with intonational prominence, in such discourses:[5]

(12) (Who did what? —)
[JOE**-nun**]$_{\text{CT}}$ ca -ko SUE**-nun** nol-assta. (Korean)
Joe CT *sleep and Sue* CT *play* PAST

The question need not be overt in order for CTs to occur. Simple pair-lists that answer an obvious implicit question like 'Who ate how many mbeju?' suffice, as the following example from Guaraní shows:[6]

(13) (Sambo's father ate 35 mbeju (mandioka starch patties), his mother ate 20. . .)
. . . ha Sámbo=katur ho'u 54 mbeju (Guaraní)
and Sambo-CONTRAST *eat 54 mbeju*

It is not necessary that the speaker knows what the answer to the other question is. The following example from Hungarian is representative for

[5]Lee (1999); for Japanese see Uechi (1998), Tomioka, this volume.

[6]Krivoshein De Canese et al. (2005:81), via Tonhauser (2012:273); the marker *katur* is glossed 'contrast'. It can occur in non-initial answers within a CT+F answer sequence.

contexts showing that:[7]

(14) (Ki aludt a padlón? —) (Hungarian)
who slept the floor
'Who slept on the floor?

[A PADLÓN]$_{CT}$ PÉTER$_{F}$ aludt, és (lehet, hogy) sehol máshol
the floor-SUP Peter slept and perhaps that nowhere other place
nem is aludt senki más.
not too slept nobody different
'It was Peter who slept ont he floor, but (it is possible that) nobody slept anywhere else.

(14) is instructive in two respects: First, the speaker need not believe that someone else slept in a *different* place (see also sec. 4.3 below); and second, (s)he doe not even have to think that the other question does in fact *have* a well-defined answer, as long as the question itself ('where did the others sleep') is pertinent. This shows that it is accurate for the CIR to refer to alternative questions, rather than their answers.

2.2 Shifting Topics

(15) a. (Will Bo come to school today? —) YESTERDAY$_{CT}$ he was SICK$_{F}$.
b. (Where did Fritz buy this book? —) BERTIE$_{CT}$ bought it at HARTLIEB$_{F}$'s.

The CT-questions here are 'How is/was Bo on day x?' and 'Where did x buy this book?'. Which of them are pertinent? For (15b), the very question overtly asked is pertinent and not resolved by the answer. Similarly, for (15a) the question how Bo is today is pertinent, since its answer will indicate whether he will come to school today. (Note that we do not aim to answer the question why the answers in (15) are *relevant* to the question in particular, but only why they can bear the CT+F pattern they do.)

2.3 Purely Implicational Topics

(16) (Where was the gardener at the time of the murder? —) The GARDENER$_{CT}$ was in the HOUSE$_{F}$.

In this case, the answer directly resolves the question that was asked. But the CT indicates additional questions: Where was the chauffeur? The cook?[8]

[7] Gyuris (2002:38f), see also É. Kiss, this volume
[8] Though of course, the gardener did it!

Are they pertinent? Quite plausibly 'yes' in a case like (16), where the questioner is easily construed as trying to find the murderer. This is not always the case, of course:

(17) (Where did Thomas Mann write *The Beloved Returns*? —)
MANN_{CT} wrote it in $[\text{LOS ANGELES}]_{\text{F}}$.

The odd implication of the CT-marking on *Mann* is that someone else might have written the novel elsewhere, which defies word knowledge (similarly to (10b) above).

Somewhat in-between are cases like (18):

(18) (Do you remember where you were when you first heard about Chernobyl? —) I_{CT} was at HOME_{F}.

Using the CT-marking on the first person subject here adds the implication that someone else's whereabouts (at the time of their learning about Chernobyl) are a pertinent question. Unlike in the murder case (17), this is not so easily accommodated here, but unlike in the Thomas Mann case, one can probably come up with something that the speaker considers pertinent, maybe that her dog was vacationing in the Ukraine.

Even in (16), though, there is a feeling that the speaker stretches the use of CT, flouting the CIR, which govern its use. Why? Recall from (7) that the CIR requires that the pertinent questions referenced by CT should be *identifiable* — (7c). This amounts to knowing at least some value for x in 'Where was x at the time of the murder?' which makes for a pertinent question (see section 4.4 below for more). While e.g. with partial topics (section 2.1 above) the question itself names a group containing such x (so Identifyablity is met), additional common knowledge between the speaker and addressee about who the suspects are is needed in (16); and the more unclear the group of potential xs is, the more enigmatic the answer appears, as in (18) (where additionally, Pertinence is a problem).

(16) and (18) show that CT-marking does not necessarily just 'echo' something that is in the context already, but may itself contribute, possibly by way of accommodation, the notion that more questions are pertinent at this point. Conversely, the CT marking on e.g. *the gardener* in (16) can be omitted without loss of coherence. But without it, there is no implication of other suspects (via other questions). So here the speaker is making a choice as to whether to indicate the presence of other questions prosodically or not.

2.4 Ineffability

In some cases, CT marking appears impossible, regardless of context. One such case from German is (19) (Büring 2003:534):

(19) #ALLE$_{\text{CT}}$ Politiker SIND$_{\text{F}}$ korrupt. (German)
all politicians are corrupt

Without CT-marking (but retaining F on the finite verb), (19) would be perfectly well-formed. But CT-marking on the determiner *alle* leads to unacceptability (even though *alle* can be CT-marked under other circumstances, as we will see momentarily). Why is that?

Assuming that F on a finite verb signals polarity focus, the F-alternatives of (19) are that all politicians are corrupt, or that they aren't. This means that the CT-alternatives are questions like 'Are Q politicians corrupt?', where Q is some determiner.

Now note that none of these questions are independent of (19)'s assertion: If all politicians are corrupt, that logically entails the answers to 'Are most/some/the... politicians corrupt?', namely: 'Yes'. In other words, independently of actual context, (19) cannot possibly meet the CT-Interpretation Rule (7), specifically Independence, (7b), and hence is ungrammatical (or 'unpragmatical', if you like).

If we change the example slightly, CT+F is possible again:

(20) a. EINIGE$_{\text{CT}}$ Politiker SIND$_{\text{F}}$ korrupt. (German)
some politicians are corrupt

b. ALLE$_{\text{CT}}$ Politiker sind ETWAS$_{\text{F}}$ korrupt.
all politicians are a little corrupt

The CT-alternatives of (20a) are the same as in (19), but since the sentence itself does neither entail nor preclude that all, or most, politicians are corrupt, these will be unresolved (and potentially pertinent) questions. In (20b), with the added degree expression, CT-alternatives are 'How corrupt are Q Politicians?', i. e. questions that could be answered by *Only a handful are totally corrupt* or *Some are not at all corrupt*. And while the latter is again resolved by (20b)'s assertion, the former, for example, is not. There are thus unresolved (and potentially pertinent) questions among the CT-alternatives, as required by CIR.

2.5 Scope Inversion

If a S^{CT+F} is structurally ambiguous between a construal on which it violates the CIR — along the lines just discussed in section 2.4 — and one on which it does not, CT marking will effectively disambiguate the sentence towards the latter. A case in point is sentence (21), with CT+F marking as indicated, which can only mean that not all politicians are corrupt. Without CT marking, it can either mean that, or that all politicians are non-corrupt:[9]

(21) ALLE$_{CT}$ Politiker sind NICHT$_{F}$ korrupt. (German)
all politicians are not corrupt
'Not all politicians are corrupt.'

The same can be observed e.g. in Hungarian (from Gyuris 2002:80): (22) only has the 'not... everybody' reading, although quantificational elements in Hungarian usually have a preference for surface scope:

(22) MINDENKI$_{CT}$ NEM$_{F}$ ment el. (Hungarian)
everybody not went PREFIX
'It is not the case that everybody left.'

Let us focus on the available construal first: The sentence asserts that not all politicians are corrupt, and its CT-alternatives will be 'Is it false that Q politicians are corrupt?', for example 'Is it false that many politicians are corrupt?'. This question is not resolved by the assertion, and it is plausibly pertinent, meeting the CIR.

On the other construal, the sentence says that all politicians are uncorrupt, with CT-alternatives like 'Are Q politicians corrupt?'. But since the sentence asserts that none of them are, any such question is resolved by the assertion alone. As was the case with (19), this construal of (21) cannot possibly meet the CT Interpretation Rule (7). But in (21), unlike in (19), there is a second construal which *is* (or can be) felicitous, so that the sentence is acceptable, though not ambiguous, with CT+F marking.

A similar effect can be observed in (23):

(23) Ich habe NICHT$_{CT}$ getrunken, weil ich TRAURIG$_{F}$ bin. (German)
I have not drunk because I sad am
'I didn't drink because I'm sad.'

With the CT+F marking as indicated, the sentence invites the question 'Then why DID you drink?'. For that to make sense, the sentence itself must

[9] From Jacobs (1984), analysis following Büring (1997a).

be interpreted as 'it is not the case that my being sad is the reason for my drinking'. If it meant 'my sadness is the reason I don't drink' it would be incoherent to ask what, instead, is the reason the speaker drinks. Without this CT+F marking, on the other hand, that latter reading is easily possible. So here, just as in (22), the CIR disambiguates by way of rendering one logical construal of the sentence contradictory.

3 Single CT and F+CT

English has a rise-fall-rise (RFR) pattern — L*+H L- H% in MaeToBI notation — which can occur sentence finally, i. e. without a following F:[10]

(24) a. (Will Uncle Michael and Aunt Carolyn be coming to the rehearsal dinner? —) They're INVITED$_{\text{RFR}}$.
b. (What about the beans? Who ate them? —) FRED$_{\text{F}}$ ate [the BEANS]$_{\text{RFR}}$

For both the 'sole RFR' and the 'F+RFR' we should ask whether the RFR is the same as CT in CT+F. The parallels are striking, not just prosodically, but pragmatically. For example RFR on *all* in (25) disambiguates the otherwise scope ambiguous string towards the 'not all' reading, much like CT+F on *alle... nicht* ('all... not') did in (21) above:[11]

(25) ALL$_{\text{RF}}$ the men didn't go$_{\text{R}}$.

Likewise, Japanese stressed *wa*, and Korean stressed *nun*, the pragmatics of which appear very similar to English and German CT marking, can appear without an accompanying focus, yielding scope disambiguation:[12]

(26) MOTU -NUN o -ci anh -ass -ta (Korean)
all *CT* *come* CONN *not* PAST DEC
'Not all of them came.'

Furthermore, RFR may occur in partial answers and shifting topics, similar to the cases discussed in sections 2.1 and 2.2 above:[13]

[10] See a. o. Ward and Hirschberg (1985); Pierrehumbert and Steele (1987); Hirschberg and Ward (1991); examples from Bolinger (1982:507) and Jackendoff (1972:261).

[11] From Ladd (1980:146). I notate the final R at the end of sentence here, indicating that it is not part of the pitch accent on the prominent word — *all* in (i) — but a rise at the right edge of the intonational phrase.

[12] Lee (1999); see Hara (2008), Oshima (2008) and Tomioka (2009, this volume) for Japanese

[13] O'Connor and Arnold (1973:173), Ladd (1980:153), examples (16) and (19).

(27) a. (Can Jack and Bill come to tea? —) BILL_{RF} can_{R}.
b. (Did you feed the animals? —) I fed the CAT_{RFR}.
c. (Do you want a glas of water? —) I'll have a BEER_{RFR}.

Constant (2006, 2012) assumes that the accent in RFR is a focus, and that RFR operates on the focus alternatives, conventionally implicating (28):

(28) a. There are contextually salient focus alternatives to S^{RFR}, which are informative (i. e. neither contradictory nor redundant after the utterance of S^{RFR}),[14] and
b. for all such alternatives a, the speaker cannot 'safely claim' a. (cf. Constant 2012:408,414,424)

(28a) states that there are alternatives in the focus value which are independent of the assertion of S^{RFR} (as well as the Common Ground). It should be transparent that that derives the scope disambiguation effects, as well as cases of wholesale infelicity in case the assertion of S^{RFR} entails or contradicts all its alternatives:

(29) a. ALL_{RF} my friends didn't come_{R}.
no alternatives 'n of my friends did not come' open, but open alternatives 'not n of my friends did come'; compare (21)
b. # ALL_{RF} of my friends liked it_{R} [15]
no open alternatives 'n of my friends liked it' at all; compare (19)

It should be noted that (29b) (as well as (19) — ALL *politicians* ARE *corrupt*) has F-alternatives which are entailed ('some/most of my friends liked it'), as well as ones that are contradictory ('none/fewer than half of my friends liked it'). This is captured by the word 'informative' in (28a), as well as the word 'independent' in the CIR, (7b). Weaker conditions which merely require alternatives that are compatible (but possibly redundant, such as Wagner 2012:24, (46)), or non-redundant (but possibly known to be false, such as Oshima 2008:7, (17)), or simply not equivalent to S^{RFR} (e.g. Ludwig 2008:391, (19)) will systematically fail to derive the desired result.

Turning to the examples in (27), here, too, (28a) is crucial, in particular the 'salient' bit: In (27b), repeated below, as well as (30b), we are looking for alternatives like 'I fed x' which are informative; this holds for any alternative

[14] This half of the rule is also assumed in Wagner (2012:24), where it is assumed that any additional meaning of RFR follows by Gricean reasoning, instead of being grammatically encoded.

[15] Constant (2012, ex. (33b)).

$x \neq$ 'the cat'. Assuming that the speaker fed the cat only, none of these is 'safely claimable', either, so (28) appears to be met in both (30a) and (30b):

(30) a. (Did you feed the animals? —) I fed the CAT_{RFR}.
b. (Did you feed the cat? —) # I fed the CAT_{RFR}.

Crucially, then, such alternatives must be salient in (30a), precisely because the question *asks* about them (namely whatever other animals are in $[\![\text{the animals}]\!]_{\mathcal{O}}$); the anomaly of (30b), on the other hand, must arise because the question only makes one proposition salient: 'I fed the cat'. Since that proposition is entailed by the answer, (28a) is violated, not because there are no informative unclaimable F-alternatives, but because none of them qualifies as 'salient' in the context of (30b). Similarly in (27a) and (27c).

The alert reader will notice that 'salient' in (28) plays much the same role as 'pertinent' in (7a) in the CIR. Unsurprisingly, then, cases like (25)–(27c) can be analyzed using the CIR as well, if we replace the informative and non-claimable *proposition* required in (28) by the yes/no-question based on it, i. e. 'Did not n of my friends come?', 'Can x come to tea?', 'Did you feed x?' and 'Will you have an x?'. This was suggested in Büring (2003:532), where it was assumed that the CT-value of a declarative with CT but without F is a set of yes/no-question meanings (see Constant 2012, sec. 5.3 for more discussion).[16]

4 Details, Open Questions, and Alternatives

4.1 Last Answer

Crucial to the treatment of scope disambiguation in section 2.5 was the fact that an $\text{S}^{\text{CT+F}}$ must not be a *complete* answer to the questions in its CT-value, i.e. that the latter contain at least one independent question. It bears pointing out that, according to the CIR in (7), there need not be an actual open question (in $[\![\text{S}^{\text{CT+F}}]\!]_{\mathcal{CT}}$) *after* uttering $\text{S}^{\text{CT+F}}$; there only needs to be a question that is not resolved by $\text{S}^{\text{CT+F}}$ alone. (31) helps to illuminate the difference:

(31) (Where are these two from?)

[16] Strikingly, parallel German cases appear to have a focus on the finite verb or negation, as in (21) above, which — by standard F semantics — yields the meaning of a yes/no-question as the focus value. Generally, German does not allow for CT (or RFR) without a following F, so one can hypothesize that German here chooses an F-marking — on the finite verb — which yields the same result that a CT-only/RFR sentence would (see Büring 2003:532).

a. #BOTH OF THEM$_{\text{CT}}$ are from HUNGARY$_{\text{F}}$.
b. $^{\text{(i)}}$HE$_{\text{CT}}$ is from AUSTRIA$_{\text{F}}$. $^{\text{(ii)}}$SHE$_{\text{CT}}$ is from SCOTLAND$_{\text{F}}$.

(31a) is infelicitous as an answer, which is predicted: The CT-value of (31a) contains questions like 'Where is x from?', and for the pertinent ones, x must be her or him. Since (31a) resolves both of these questions, there is no question in $[\![(31a)]\!]_{\mathcal{CT}}$ that is independent of (31a) itself, in violation of Independence, (7b).

Now, the two answers in (31b), taken *together*, also completely resolve the question, so why is CT+F possible here, in particularly in (31b-ii), which completes the answer to (31)? To see why, it is important to realize that the Independence part of the CIR, (7b), prohibits CT+F in sentences which *themselves* completely answer the questions in $[\![\text{S}^{\text{CT+F}}]\!]_{\mathcal{CT}}$, but not in sentences which *together with the common ground* (in particular together with previous partial answers) completely answer the question. That is to say, the crucial difference is that (31a) itself is a complete answer, whereas (31b-ii) is merely a 'completing' or last answer. The former, but not the latter, are excluded from containing CT+F.[17]

Interestingly, as noted e. g. in Constant (2012:430), the single peak RFR pattern discussed in section 3 above cannot occur in a last answer (Constant 2012, ex. (76)):

(32) (Can Elizabeth and Persephone come over tomorrow? —)
ELIZABETH$_{\text{RF}}$ can$_{\text{R}}$.
a. #PERSEPHONE$_{\text{RF}}$ can$_{\text{R}}$
b. PERSEPHONE$_{\text{CT}}$ can TOO$_{\text{F}}$.

While the CT+F pattern in (32b) is fine here, a sole RFR on *Persephone* as in (32a) is not, pointing to an essential difference between the two contours.

4.2 Pertinence

In a double correction like (33), it seems that any two teams could be replaced for *England* or *Spain*, preserving felicity:

(33) (What games are on tonight? Is Brazil playing England? —)
a. No ENGLAND$_{\text{F}}$ is playing SPAIN$_{\text{F}}$.

[17] The interpretation rules for topic in Büring (1997b) has rightly been faulted for creating the 'Last Answer Problem', since it ruled out CT+F not just in complete answers, but also, wrongly, in last answers (Krifka, 1999, sec. 3.4; Hara and van Rooij, 2007, slides 19f; Aloni and van Rooij, 2002:32f). This was corrected via the 'highest attachment' condition in Büring (2003), as well as, explicitly, in the Independence condition in (7b) here.

b. No, SPAIN$_{\text{F}}$ is playing GERMANY$_{\text{F}}$.

This is different when we use a CT+F pattern instead:[18]

(34) (What games are on tonight? Is Brazil playing England? —)
a. No, BRAZIL$_{\text{CT}}$ is playing SPAIN$_{\text{F}}$.
b. No, ENGLAND$_{\text{CT}}$ is playing GERMANY$_{\text{F}}$.
c. #No, SPAIN$_{\text{CT}}$ is playing GERMANY$_{\text{F}}$

(34c) is certainly fine with F+F intonation, but with a proper rise on *Spain*, the likely reaction to (34c) is: 'Spain?! Who is talking about Spain?'

One might be tempted to conclude that CTs in general have to be 'anaphoric' (in some sense). But note the contrast with (35):

(35) (What games are on tonight? Is Brazil playing England? —)
Yes, and SPAIN$_{\text{CT}}$ is playing GERMANY$_{\text{F}}$.[19]

The oddness of (34c) must hence have to do with corrections in particular. I would like to suggest that it has to do with Pertinence, (7a), i. e. with which question is currently under discussion. Presumably the basic question in (34)/(35) was which games are on tonight. We then tackle the subquestion which team Brazil is playing tonight, suggesting (34)/(35). If the answer to that is 'yes', as in (35), we can continue with the general question of which games are on, saying who Spain is playing, as in (35).

If the answer to 'Is Brazil playing England tonight?' is 'no', on the other hand, we cannot go on to the next question — who Spain is playing — as (34c) is trying to. We first have to resolve the question who Brazil is playing.[20]

[18] To get in the right mood for the intonation patterns, you may try the left-dislocated versions first, i. e. *No, Brazil, they're playing Spain* etc. The contrast with *No, Spain, they're playing Germany* is rather stark. However, what I claim here is that the same contrast can be observed with intonation alone, and is not a function of syntactic dislocation.

[19] I am inclined to think that in (35) we accommodate that, for example, Spain belongs to the same group as England and Brazil, and the relevant task was to find out who (out of the four) was playing who tonight. That is to say, *Spain*, too, seems to have to be identifiable or anaphoric in some sense. If this were not the case, *Spain* would just have to be F, as in (33b). The point is that no such accommodation can come to the rescue of (34c), it seems.

[20] In fact it seems likely that *both* the question who Brazil plays and who England plays have to be resolved (or aborted by means of saying 'Brazil isn't playing' or 'We can't find out right now who England is playing') before we turn to other countries as topics:

(i) Is Brazil playing England tonight? — [(i)] No, BRAZIL$_{\text{CT}}$ is playing SPAIN$_{\text{F}}$. [(ii)] # ... and SWEDEN$_{\text{CT}}$ is playing ITALY$_{\text{F}}$

If this is the right conclusion to draw from these examples, it shows that the notion of Question under Discussion — and hence the mentioning of Pertinence in the CIR in (7a) — is highly relevant for the modelling of CT. After all, the fact that Spain is playing Germany is equally informative and even relevant in (34c) and (35). The crucial difference is that, since it addresses a new subquestion (about Spain), it can only do so after the current subquestion (about Brazil and/or England) has been resolved.

To complete the picture, consider (36):

(36) Is Brazil playing tonight? If so, against whom? — Well, SPAIN_{CT} is playing $\text{GERMANY}_{\text{F}}$.

The difference between (34c) and (36) is that we can understand the answer in (36) as part of the strategy to figure out if and against whom Brazil is playing. We are thus not introducing Spain as a topic in its own right, but as part of figuring out if and who Brazil is playing.

4.3 Distinctness of Foci

The CIR in (7) requires that there be an independent and relevant question among the CT alternatives. It does not require that the answer to that question have a different focus than $\text{S}^{\text{CT+F}}$. Thus, on the face of it, the condition allows for texts like (37):

(37) (Where are you guys from? —)
[(i)] $\text{JACQUES}_{\text{CT}}$ is from PARIS_{F}, [(ii)] # and $\text{COLETTE}_{\text{CT}}$ is from PARIS_{F}.

But (37) is clearly odd, and that oddness vanishes if we replace either occurrence of *Paris* (but not both) with *Marseille*. So it appears to be infelicitous to pair two CTs with the same focus. How to rule this out? One possibility is to blame the oddness of (37) on the Gricean Maxims of Manner: Basically the speaker should have said *Jacques and Colette are from Paris*, whereas otherwise one wrongly infers, via scalar implicature, from (37i) that only Jacques is from Paris (this was the line taken in Büring 1997b).

Oshima (2008, sec. 3.3), van Rooij (2010:14f) and Constant (2012), a. o., point out that the effect appears too strong to be a conversational implicature. Van Rooij (2010) instead assumes that CT is grammatically exhaustified independently, so that e. g. (37i) implies 'only Jacques lives in Paris'; consequently (37ii) creates a contradiction.

This, however, would also, wrongly, rule out (38ii), since it contradicts the CT-exhaustification of (38i) ('only Jacques is from Southern California'):[21]

(38) (Where are these guys from? —) [(i)]JACQUES$_{CT}$ is from somewhere in Southern CALIFORNIA$_{F}$, [(ii)]BILL$_{CT}$ is from LA$_{F}$, and [(iii)]SUSAN$_{CT}$ is from OREGON$_{F}$.

Oshima (2008), too, assumes that CT-alternatives are not questions, but propositions, just like F-alternatives, namely propositions in which both CT and F are replaced by alternatives. That means that (37i) would require that there be some proposition 'x is from y', *where* $x \neq$ *Jacques and* $y \neq$ *Colette*, which is not assumed yet (hence *a fortiori* independent of 'Jacques is from Paris'); 'Colette is from Paris' in (37) would not qualify here, since it sets $y =$ Paris (whereas 'Colette is from Marseille' would). Unlike van Rooij (2010), this does not wrongly rule out (38).

What Oshima (2008) (as well as van Rooij 2010) has difficulty explaining is that (39) is notably better than (37):[22]

(39) (Where are these guys from? —) [(i)]JACQUES$_{CT}$ is from PARIS$_{F}$, and [(ii)]COLETTE$_{CT}$ is from Paris, TOO$_{F}$.

This suggests that CT+F should not rule out the *proposition* that Colette is from Paris as satisfying the CIR for (37i) and (39i) (as van Rooij and Oshima do), but the particular *realization* of that proposition in (37ii). Plausibly one can blame the infelicity of (37ii) on the repeated focusing of *Paris*: There simply is no alternative 'live in x' to license F on the given element *Paris* in (37ii) (cf. Rochemont, this volume). This is avoided by focusing the particle *too* in (39ii) (see Féry and Samek-Lodovici 2006:146 for basically this idea).

4.4 CT–F Asymmetries

In introducing CT-values, we have added an additional layer of semantic computation to the compositional semantics. We should ask whether this is strictly necessary. For example, we saw in section 3 that scope inversion effects can be achieved by requiring that a *proposition* (rather than a question) which replaces CT and F be independent and informative.

[21] Thanks to an anonymous reviewer for pointing out this example and its significance.

[22] Van Rooij (2010:15) actually notices the felicity of (39) and proposes that the presence of *too* in (37ii) 'cancels' the otherwise obligatory exhaustification of *Jacques$_{CT}$ lives in Paris$_{F}$* to 'only Jacques lives in Paris'. Note, though, that this does not offer an explanation for the acceptability of (38).

Of course, if we ignore the difference between CT+F and F+F altogether, it is impossible to differentiate whether (40) answers (40a) or (40b) (repeated from (8) above):

(40) a. Do you want to kick her out?
b. Who do they want to kick out?
SHE wants to kick ME out.

In section 1 above I suggested that the answer in (40) would be pronounced differently, depending on the question, reflecting the difference between F+F (answering (40a)) and CT+F (answering (40b)). If this is correct, we cannot treat CT+F just like F+F.

Assuming then that the rule for interpreting CT+F is different from that for F+F, couldn't the former nevertheless operate on the same formal object, a set of propositions, as proposed e. g. in Ludwig (2008) or van Rooij (2010)? I submit that the answer is 'no'. It would predict that CT and F would generally be symmetrical, since they both introduce alternatives at the same 'level', the F-alternatives. But CT and F, while often exchangeable, sometimes are not:

(41) (When are you guys' birthdays? —)
a. MARCY_{CT}'s birthday is on the 12th of $\text{SEPTEMBER}_{\text{F}}$, and...
b. #On the 12th of $\text{SEPTEMBER}_{\text{CT}}$ it's MARCY_{F}'s birthday, and...

Were we to ignore the CT/F difference, both (41a) and (41b) would have the alternative set 'x's birthday is on y', so any distributional difference between them would be unexpected. This alone shows that whatever interpretation rule applies to CT+F structures, it must be able to distinguish F- from CT-alternatives.

But what *is* responsible for the difference between (41a) and (41b)? Presumably it has to do with the fact that speaker and hearer in (41) can list all the people who should appear in an answer ('you guys'), but not all the birthdays that will appear in an answer (of course they know all *potential* birthdays, but not which ones are one of you guys'). This is what the word 'identifiable' was included for in (7c) of the CIR: If *you guys* is known to refer to Marcy, Elisabeth, Anton and Kim, speaker and addressee can identify the pertinent questions 'When is Marcy's birthday?', 'When is Elisabeth's birthday' and so on. But they cannot identify the four corresponding 'inverse' questions 'Whose birthday is it on 9/12?', 'Whose birthday is it on 3/26?' etc.

Note that both sets of questions yield the same answers (that Marcy's birthday is on 9/12, Elisabeth's on 3/26 etc.), so a condition that only refers

to the set 'x's birthday is on y' could not possibly encode this effect.

One might note that the same preference is observed with *overt* subquestions: *When are you guys' birthdays?'* is naturally followed up by (42a), not (42b):

(42) a. When is x's birthday?
b. Whose birthday is it on y?

So should this really be a part of the CT-condition, rather than a theory of querying? Note that even if we assume that there are covert sub-questions, and querying principles that choose (42a) over (42b), there still needs to be a part of the CT-condition that tells us that (41a) answers (42a), and (41b) (42b), and not the other way around. And that requires keeping CT- and F-alternatives different. So the main point — that the CT-condition must treat CT and F asymmetrically — remains valid.

5 Thematic Topics

In this last section, I will briefly turn to non-contrastive topics, also called THEMATIC TOPICS. Examples of these include e. g. clitic left-dislocation in Romance, preposing in English, or *wa*-marking in Japanese:[23]

(43) a. Les pomes, jo no les he vist. (Catalan)
the apples I NEG *them have.*1SG *seen*
'The apples, I haven't seen then.'
b. Bagels, John likes.
c. (Tell me about the dog!)
ano inu-wa kinoo kooen-de John-o kande-simatta (Japanese)
that dog-WA *yesterday park-at John*-ACC *bite-ended.up*
'That dog bit John in the park yesterday.'

Presumably, some or all of these constructions can host contrastive topics as well, especially if the topic constituent receives some extra prosodic prominence, say, by pitch accenting. What we are interested in now are examples where this is not the case, i. e. where the dislocated/*wa*-marked phrase is neither a CT, nor an F, but still not just an ordinary part of the background. But why assume that there are designated topics in the background?

Usually this characterization comes about as follows: Some (syntactic, morphological, or intonational) marking does not have a regular truth conditional effect, but seems to shape the pragmatic meaning of the sentence it

[23] Catalan from Lopez (this volume, ex. (1b)), Japanese from Vermeulen (2011, ex.(10a)).

occurs in, i. e. the kinds of contexts it is felicitous in (sometimes, certain restrictions on the kind of constituents that can be so marked — e. g. 'referring expressions only' — go hand in hand with that). If these effects are clearly *not* the ones found with F (answer to a question, new information, locus of correction...), or CT (see sections 1–4 above), the marking is likely to be called (thematic) topic marking.[24]

It is therefore perhaps unsurprising that attempts to characterize the properties of topic marking *pragmatically* have yielded widely diverging results. That said, the described pragmatic effects of topic marking cluster around notions such as 'psychological subject', 'what the sentence is about' etc. As seen in (43c), a common way of eliciting a constituent x as a topic in this sense is to prefix the sentence in question with 'Tell me about x' or 'What about x?' Similarly, an utterance of a sentence with a topic x should be reportable by saying '(s)he said about x that...'; this latter fact is probably the reason such topics are often referred to as ABOUTNESS topics. But, as most recently discussed in detail in Roberts (2011), none of these tests seems sufficient or necessary to identify thematic topics, nor is it clear that they actually test for the same thing; or as van Bergen and de Hoop (2009:173) put it in their foreword to a special issue on topics: 'there is very little consensus among linguists on any ...specific definition. Multiple properties contributing to topichood have been described, but none of these properties seems either necessary or sufficient to classify something as a topic.' Jacobs (2001) for one concludes that this diversity of characterizations is fundamental to the notion of topic itself: 'there is no common functional feature (nor a common set of functional features) that justifies this classification [as 'topic'; DB]' .

A common way of *modelling* aboutness topics is to break the meaning of sentences with topics into two parts: the referent of the topic marked expression (assuming for the moment that it is referential), and the property expressed by the non-topic part of the sentence. This is what Reinhart (1982:6.2) calls the PRAGMATIC ASSERTION of a sentence. The discourse context, too, is structured into individuals, and properties that are agreed to hold of them. The standard metaphor for this is a stack of indexed file cards (one for each discourse referent), on which properties of the individuals are written (Reinhart 1982; Vallduví 1990; Erteschik-Shir 1997).

For concreteness, associate a context C with a partial function f_C from individuals to sets of properties, i. e. a set of of pairs $\langle x, \Phi \rangle$, where x is an individual (or a discourse referent) and Φ is a set of properties. So for any individual i that is part of the context, $f_C(i)$ gives us the set of all properties

[24] See e. g. Aissen (1992), sec. 3.1 for a nice illustration.

that are agreed to hold of i. Adding a sentence about i, i. e. a sentence with a Pragmatic Assertion of the form $\langle i, \phi \rangle$ to the context, results in a new context C' such that $f_{C'}$ is like f_C except that $\phi \in f_{C'}(i)$. Finally, assume that a context C is also associated with a set a_C of ABOUTEES, where a_C is a subset of the domain of f_C. The purpose of this set is to distinguish between individuals that have generally been introduced to the context C (the domain of f_C) and those that are currently 'under discussion', a_C.

For illustration, consider the following short text from Tzozil:[25]

(44) Something had landed at the foot of the tree ... There was a straw mat... They untied it. ...

a. Tzeb san-antrex la te staik un (Tzozil)
girl San Andres CL *there they.found* ENC
'It was a girl from San Andres that they found there.'

b. **A ti tzeb san-antrex un-e**, iyik'ik la ech'el un.
TOP DET *girl San Andres* ENC-ENC *they.took* CL *away* ENC
'They took the San Andres girl with them.'

According to Aissen (1992:51), *Tzeb san-antrex*, 'a girl from S. A.', is focused in (44a). In our model, it will expand the domain of the contextual function f_C so as to include a discourse referent for the girl in its domain, and map that referent to the property of 'being found in the straw mat (that fell from the tree)'. In (44b), *ti tzeb san-antrex*, 'the girl from S.A.' is topic marked (by the prefix *a* and suffix *e*). Such topic marking occurs when a topic is 'new or shifted' (Aissen 1992:51). In our model, the discourse marker for the girl is now added to a_C, the set of aboutees, possibly removing other elements from that set. In the subsequent six sentences of the story, there is neither a full DP nor a pronoun referring to the girl, although they are about her. In other words, the topic marking in Tzozil is only used to *establish* an aboutee, not to refer back to it.

On the other hand, some markings are supposed to pick out an already established aboutee, but cannot newly establish one. For example, Reinhart (1982:63) blames the degraded status of (45b) *vis-á-vis* (45a) on the fact that the first sentence in (45) established Felix as an aboutee (in our terms), and that the *as for...* construction refers back to an established topic, rather than establish a new one, as it would have to in (45b):[26]

[25] Laughlin (1977:67), via Aissen (1992:50f). CL stands for 'second position clitic', ENC for 'intonational phrase enclitic'.

[26] As Reinhart herself later notes, *as for* is bad, too, unless 'used to change the current topic of the conversation' (Reinhart 1982:64). Accordingly, (i) does not improve on (45b), suggesting that the problem must lie elsewhere:

(45) Felix is an obnoxious guy.

a. Even Matilda can't stand him.

b. ?As for Matilda, even she can't stand him.

A thorough look at descriptions of topic markings in various languages reveals that differences like these abound, making it impossible to talk about properties of 'topics' in general. An investigation of a suspected topic-marking in a given language should therefore start, not by assuming that, since it is a topic, it has a particular cluster of properties, but by establishing their exact specific properties independently, among them...

1. what items can be so marked (DPs only, definites only...)
2. whether the marking can...
   (a) establish a new discourse referent as the aboutee for the following, or
   (b) establish an existing discourse referent as the new aboutee (as in Tzozil), or
   (c) refer to an established aboutee throughout its tenure as 'what the passage is about'?
   (d) ...or do something altogether different
3. whether elements that meet that description have to be so marked, or merely may be,
4. whether the same marking can serve other pragmatic functions,
5. whether there are other tests (than occurrence with that marking) to establish the status marked by it

Once careful descriptions along these lines are available, we can start a systematic investigation of topic cross-linguistically.

Above, a way of modelling aboutness topics formally was sketched. It is not claimed that this particular version in fact models the effects of any particular marking in any particular language, rather it served to illustrate a common way of thinking about topics. Moreover, as Krifka (2008, sec. 5.1) notes, such a model 'presupposes that information in human communication and

(i) Felix is an obnoxious guy. # As for him/Felix, even Matilda can't stand him.

memory is organized in a certain way so that it can be said to be "about" something. This does not follow from a general definition of information. For example, relational databases or sets of possible worlds, both models for information, do not presuppose any relation of aboutness.' Given that there is no reason to assume *a priori* that information should be structured into aboutees and their properties, models of topic that reduce their meaning to such a structuring of information essentially leave us with the question: What is the *observable effect*? That is: How is an information state in which, say, the information that Mary visited Sue is stored under the Mary-entry different from one in which it is stored under the Sue-entry? Few proposals seem to address this crucial question.

As an example of what we are after, take Portner and Yabushita's (1998) claim that the descriptive content of an anaphoric definite in Japanese preferably describes properties that are filed under the entry of the intended referent (Portner and Yabushita 1998pp. 125f):

(46) John-wa kafe-de onnanohito-ni aimashita. Kanozyo-wa pianisuto deshita. (Japanese)
John-TOP *café*-LOC *woman*-DAT *met* *she*-TOP *pianist* *was*
'John met a woman at a café. She was a pianist.'

a. Pianisuto-no onnanohito-wa totemo omoshiroi hito deshita.
pianist-of *woman*-TOP *very* *interesting person was*
'The woman who was a pianist was a very interesting person.'

b. ??Kare-ga kafe-de atta onnanohito-wa totemo omoshiroi hito deshita.
He-NOM *café*-LOC *met* *woman*-TOP *very* *interesting person* *was*
'The woman he met in the café was a very interesting person.'

In the first clause, *John* carries the topic marker *wa*, so by hypothesis the resulting context stores *about John* that he met a woman in a cafe. In the second clause, *the woman* carries *wa* which establishes about her that she is a pianist. In the continuation (46a), this information is used to form a definite description referring to the woman, which is fine. In (46b) on the other hand, the information in the definite description is taken from the information stored about *John* — that he met the woman in a café — rather than about the woman. This is less felicitous. So we have an independent way of establishing how otherwise equivalent information is stored differently in the context.

This effect, however, proves to be rather weak and subject to various exceptions, some of them pointed out in Portner and Yabushita (1998), others elsewhere (e. g. Fry and Nakamura 2000, who provide further counterexamples), casting doubt on the validity of this diagnostic. But it is such discernible effects we need to find, for without them, the claim that topics determine the way information is added to the context is lacking empirical content, as are any conclusions about the structure of the context required to model this (see Dekker and Hendriks 1996 for similar criticism regarding Vallduví's version of this model).

The above discussion centered around 'aboutness-topics'. A less widely used concept is what we may call FRAME TOPICS. Chafe (1976:50f) (endorsed by Li and Thompson 1976:464), for example, explicitly dismisses the 'what the sentence is about' characterization for topic marking in e. g. Chinese, and describes its effect like this instead:

> 'What the topics appear to do is to limit the applicability of the main predication to a certain restricted domain. ... Typically, it would seem, the topic sets a spatial, temporal, or individual framework within which the predication holds. In English we do something similar with certain temporal adverbs.'

(47) illustrates with two Lahu examples from Li and Thompson (1976:462):

(47) a. hɛ chi tê pê˒ ɔ̄ dà˒ jâ (Lahu)
field this one CLASSIFIER *rice very good*
'This field, the rice is very good.
b. hɔ ɔ̄ na-qhɔ̂ yɨ̀ ve yó
elephant TOP *nose long* PRT DECL
'Elephants, noses are long.'

Extrapolating from Chafe, these sentences are about rice and noses, not fields and elephants. In any case they lack any contrast associated with the 'as for...' paraphrase and therefore constitute — according to Chafe — a category of their own. Krifka (2008:sec. 6) gives the following English examples:

(48) (How is John? —) [HEALTHWISE/As for his HEALTH]$_{\text{Frame}}$, he is [FINE]$_{\text{F}}$.

(49) (How is business going for Daimler-Chrysler? —) [In GERMANY]$_{\text{Frame}}$ the prospects are [GOOD]$_{\text{F}}$, but [in AMERICA]$_{\text{Frame}}$ they are [losing MONEY]$_{\text{F}}$.

Examples like these also lend themselves to an analysis as CT, given that we did not restrict CTs to DPs or indiviual-denoting expressions. Indeed Krifka (2008) subsumes both frame setters and contrastive topics under his notion of DELIMITATION.

Summing up, the notion of 'topic' (without 'contrastive') should be used with great caution. There is no agreed-upon way to identify topics across languages, and therefore inconsistent claims about their properties abound. There is a semi-formal rendering of the notion of aboutness topic, which, however, relies on a notion of context which cannot be reliably established independently. This section can be read as a plea to refrain from using the notion altogether, and characterize 'topic'-markings independently along the lines suggested in the questions above.

References

Aissen, Judith L. (1992). "Topic and Focus in Mayan." *Language* 68(1):43–80.

Aloni, Maria and Robert van Rooij (2002). "The dynamics of questions and focus." In Brendan Jackson, ed., *Proceedings of SALT XII*, 20–39. Ithaca, NY: CLC Publications.

Beckman, Mary E., Julia Hischberg, and Stefanie Shattuck-Hufnagel (2005). "The original ToBI system and the evolution of the ToBI framework." In Sun-Ah Jun, ed., *Prosodic Typology: The Phonology of Intonation and Phrasing*, 9–54. Oxford: Oxford University Press.

van Bergen Geertje and Helen de Hoop (2009). "Topics cross-linguistically." *The Linguistic Review, Special Issue on Topics Cross-Linguistically* 26:173–176.

Bolinger, Dwight L. (1982). "Intonation and its parts." *Language* 58:505–533.

Braun, Bettina (2005). *Production and Perception of Thematic Contrast in German*. Oxford: Peter Lang.

Büring, Daniel (1997a). "The Great Scope Inversion Conspiracy." *Linguistics & Philosophy* 20:175–194.

Büring, Daniel (1997b). *The Meaning of Topic and Focus — The 59th Street Bridge Accent*. London: Routledge.

Büring, Daniel (2003). "On D-Trees, Beans, and B-Accents." *Linguistics & Philosophy* 26(5):511–545.

Chafe, Wallace L. (1976). "Givenness, Contrastiveness, Definiteness, Subjects, Topics, and Point of View." In Li (1976), 25–56.

Constant, Noah (2006). *English Rise-Fall-Rise: A study in the Semantics and Pragmatics of Intonation*. Master's thesis, UC Santa Cruz.

Constant, Noah (2012). "English rise-fall-rise: a study in the semantics and pragmatics of intonation." *Linguistics & Philosophy* 35(5):407–442.

Dekker, Paul and Herman Hendriks (1996). "Links Without Locations — Information Packaging and Non-Monotone Anaphora." In Paul Dekker and Martin Stokhof, eds., *Proceedings of the Tenth Amsterdam Colloquium*, 339–358.

Eady, Stephen J., William Cooper, V. Klouda, Gayle, Pamela R. Mueller, and D.W. Lotts (1986). "Acoustical characteristics of sentential focus: narrow vs. broad focus and single vs. dual focus environments." *Language and Speech* 29:233–251.

Erteschik-Shir, Nomi (1997). *The Dynamics of Focus Structure*. No. 84 in Cambridge Studies in Linguistics. Cambridge University Press.

Féry, Caroline and Vieri Samek-Lodovici (2006). "Focus Projection and Prosodic Prominence in Nested Foci." *Language* 82(1):131–150.

Fry, John and Juni Nakamura (2000). "On Japanese Definite NPs: A Reply to Portner and Yabushita." Ms., Stanford University.

Gyuris, Beáta (2002). *The Semantics of Contrastive Topics in Hungarian*. Ph.D. thesis, Eőtvős Loránd University, Budapest.

Hara, Yurie (2008). "Scope inversion in Japanese: contrastive topics require implicatures." In *Japanese/Korean Linguistics 13*. CSLI Publication.

Hara, Yurie and Robert van Rooij (2007). "Contrastive Topics Revisited: a Simpler Set of Topic-Alternatives." In *Handout from the 38th Meeting of the North East Linguistic Society*. October 26-28, 2007, University of Ottawa.

Hirschberg, Julia and Gregory Ward (1991). "Accent and Bound Anaphora." *Cognitive Linguistics* 2(2):101–121.

Jackendoff, Ray (1972). *Semantics in Generative Grammar*. Cambridge, MA: MIT Press.

Jacobs, Joachim (1984). "Funktionale Satzperspektive und Illokutionssemantik." *Linguistische Berichte* (91):25–58.

Jacobs, Joachim (2001). "The dimensions of topic-comment." *Linguistics* 39:641–681.

Krifka, Manfred (1999). "Additive particles under stress." In Devon Strolovich and Aaron Lawson, eds., *Proceedings of Semantics and Linguistic Theory (SALT) 8*, 111–128. Ithaca, NY: CLC Publications.

Krifka, Manfred (2008). "Basic notions of information structure." *Acta Linguistica Hungarica* (55):243–276.

Krivoshein De Canese, Natalia, Carlos Martinez Gamba, and Feliciano Acosta Alcaraz, eds. (2005). *Tetãgua remimombe'u: Cuentos populares paraguayos*. Asunción, Paraguay: Servilibro.

Ladd, D. Robert (1980). *The Structure of Intonational Meaning*. Bloomington: Indiana University Press.

Laughlin, Robert (1977). *Of Cabbages and Kings: Tales from Zinacantán*. Washington, DC: Smithsonian Institute Press.

Lee, Chungmin (1999). "Contrastive Topic: A Locus of Interface — Evidence from Korean and English." In Ken Turner, ed., *The Semantics/Pragmatics Interface from Different Points of View*, 317–342. Oxford: Elsevier.

Lee, Chungmin, Ferenc Kiefer, and Manfred Krifka, eds. (to appear). *Contrastiveness in Information Structure, Alternatives and Scalar Implicatures*. Dordrecht, Heidelberg, London, New York: Springer.

Li, Charles, ed. (1976). *Subject and Topic*. New York: Academic Press.

Li, Charles N. and Sanda A. Thompson (1976). "Subject and Topic: A New Typology of Language." In Li (1976), 457–489.

Ludwig, Rainer A. (2008). "Contrast For Two." In Atle Grønn, ed., *Proceedings of Sinn und Bedeutung 12*, 384–398. Oslo: Ilos.

Mehlhorn, Grit (2001). "Produktion und Perzeption von Hutkonturen im Deutschen." In *Linguistische Arbeitsberichte*, no. 77, 31–57. Universität Leipzig: Institut für Linguistik.

O'Connor, J.D. and G.F. Arnold (1973). *Intonation of Colloquial English*. London: Longmans, 2nd edn.

Oshima, David Y. (2008). "Morphological vs. phonological contrastive topic marking." In Rodney L. Edwards, Patrick J. Midtlying, Colin L. Sprague, and Kjerti G. Stensrud, eds., *Proceedings of Chicago Linguistic Society (CLS)*, vol. 41-1, 371–384. Chicago: Chicago Linguistic Society.

Pierrehumbert, Janet B. and Shirley A. Steele (1987). "How many rise-fall-rise contours?" In *Proceedings of the 11th International Congress of Phonetic Sciences*. Tallinn.

Portner, Paul and Katsuhiko Yabushita (1998). "The Semantics and Pragmatics of Topic Phrases." *Linguistics & Philosophy* 21(2):117–157.

Reinhart, Tanya (1982). "Pragmatics and Linguistics: An Analysis of Sentence Topics." *Philosophica* 27:53–94.

Roberts, Craige (2011). "Topics." In Claudia Maienborn, Klaus von Heusinger, and Paul Portner, eds., *Semantics: An International Handbook of Natural Language Meaning, Vol. 1+2*, no. 33 in Handbücher zur Sprach- und Kommunikationswissenschaft / Handbooks of Linguistics and Communication Science, 1908–1934. Berlin: Mouton De Gruyter.

van Rooij, Robert (2010). "Topic, Focus, and Exhaustive Interpretation." Paper presented at the 18th International Congress of Linguists. Available at http://staff.science.uva.nl/~vanrooij/paper.html. To appear in Lee et al. (to appear).

Rooth, Mats (1985). *Association with Focus*. Ph.D. thesis, UMass Amherst.

von Stechow, Arnim (1981). "Topic, Focus, and Local Relevance." In Wolfgang Klein and Willem Levelt, eds., *Crossing the Boundaries in Linguistics*, 95–130. Dordrecht: Reidel.

Tomioka, Satoshi (2009). "Contrastive Topics Operate on Speech Acts." In Malte Zimmermann and Caroline Féry, eds., *Information Structure*, 115–138. Oxford: Oxford University Press.

Tomioka, Satoshi (2010). "A Scope Theory of Contrastive Topics." *Iberia* 2(1):113–130.

Tonhauser, Judith (2012). "Contrastive topics in Paraguayan Guaraní discourse." In Anca Chereches, ed., *Proceedings of the 22nd Semantics and Linguistic Theory Conference*, 268–285. elanguage.net.

Uechi, Akihiko (1998). *An Interface Approach to Topic/Focus Structure*. Ph.D. thesis, The University of British Columbia, Vamcouver.

Vallduví, Enric (1990). *The Informational Component*. Ph.D. thesis, University of Pennsylvania. (published 1992: Garland).

Vermeulen, Reiko (2011). "Non-topical *wa*-phrases in Japanese." In *Interfaces in Linguistics — New Research Perspectives*, vol. 31 of *Oxford Studies in Theoretical Linguistics*, 135–148. Oxford: Oxford University Press.

Wagner, Michael (2012). "Contrastive topics decomposed." *Semantics and Pragmatics* 5:8:1–54.

Ward, Gregory and Julia Hirschberg (1985). "Implicating uncertainty: The pragmatics of fall-rise intonation." *Language* 747–776.