

On the Quantity and Quality of Contexts in Discourse Semantics

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1 Introduction

Semanticists use two sources of data: Tradition and imagination. They reuse examples from the literature, or they invent their own. Since reused examples have also once been invented, the two sources ultimately reduce to one: Imagination. This is an overgeneralization, but not a gross one. Authentic examples do occur, but hardly on a noticeable scale, and as yet they have not made an impact.

This attitude to data is difficult to reconcile with the subject matter of semantics. Semantical facts are sensitive to subtle influences, particularly from contexts. To be sure, a measure of simplification and idealization is appropriate in semantics. Sometimes, however, the reliance on constructed data favors false hypotheses, and the use of authentic data can be shown to make a positive difference.

I will focus on a class of phenomena where the semanticist's imagination is bound to limit attention to a skewed sample and where such a misrepresentation of facts has in fact resulted in misguided analyses. Specifically, the paper is about context dependent expressions where the relevant context can be more or less local. In constructed examples, it is very local; in random samples, it tends to be less local. So-called additive presupposition triggers, like *again* and *too*, are cases in point.

It has long been known that these items can be necessary in the sense that the text is incoherent in their absence, and there have been attempts at accounting for this. But these accounts only make sense for the minimal discourses we get when we construct examples. In the first case to come to mind, the context consists in the last sentence, and here, the *alternative* will often enough be a *contrastive focus*. Once we take authentic data into account, however, we encounter larger contexts where the accounts do not apply because the alternative is not a contrastive focus. On the other hand, what stays invariant across the range of less local contexts is that the additive item's *associate* is a contrastive focus, threatening to generate a contrast implicature contradicted in the context but stopped by the additive item. Thus the genuine data can be seen to inspire a superior account subsuming the artificial paradigm cases.

On the basis of this case, then, I conclude that in discourse semantics, there is an intimate connection between the quantity and the quality of contexts. Quantity has a double nature, referring to size or number. I have argued elsewhere (Sæbø 2003) that a good theory depends on the quantity of data in the latter sense. Here I will show that good contexts (quality) are big contexts (quantity) and that big contexts are by necessity genuine contexts (quality again), coming from corpora.

2 The Necessity of Additives

So-called additive adverbs and particles like *again* and *too* are context-sensitive in the extreme. Standardly (e.g. Fabricius-Hansen 1983, König 1991, Beaver 1997), they are described as pure presupposition triggers, introducing the presupposition that the sentence they occur in applies to some alternative to the constituent with which they associate as well: Some prior time or event (*again*) or some alternative of any sort (*too*). This presupposition should be verified in the preceding context. If it is not quite, within narrow limits it can be accommodated (Sæbø 1996: 188). The relevant context can be more or less local and it can be more or less verbal. (1a) is an authentic example of *again* where the relevant context is very distant (“old information” is indeed old) and it is more common knowledge than verbal. The picture illustrates the utterance situation (or at least something close enough):



- (1) a. Play it again, Sam!
 b. Play it, Sam!

Now in fact, (1a) is **not** authentic. The line which was in fact spoken is (1b). This shows that although *again* would in this context be very appropriate – so much so that everybody believes it was used – it is not **necessary**.

On the other hand, it has been noted several times (e.g. by Green (1973), Kaplan (1984), Krifka (1999)) that additive adverbs and particles like *too* and *again* **can** be necessary, in the sense that the text would become odd without, as in (2) or (3).

- (2) Female spiders are said to eat their mates. But in fact this happens only occasionally. One of the most notorious is the black widow spider and it is probably true that a male black widow spider must approach a female with care. Usually, the male mates successfully and lives to mate #(again).
- (3) Swift Deer could see pine-clad mountains on the other side of the valley. Far away to the east and west the dry prairies stretched out as far as the eye could see. To the north lay the yellow-brown desert, a low belt of green cactus-covered ridges and distant blue mountain ranges with sharp peaks. To the south #(too) he could see mountains.

This does not follow from any proposed analysis of these words. As stated above, they are described as pure presupposition triggers, and the contexts where they are necessary are contexts where the presuppositions are verified. Indeed, the contexts are relatively local and verbal. Thus *prima facie*, the words should be redundant.

2.1 Two-Clause Texts

In a recent attempt at explaining the necessity of the particle *too* in those contexts where it is necessary (Krifka 1999), Manfred Krifka focuses on texts like (4).

- (4) Peter sings tenor, and Paul sings tenor too.

This may seem a promising point of departure, because at CLS 4, Georgia Green claimed that “the most ordinary uses of the particles *either* and *too* involve an emphatic coordinate conjunction, as illustrated in (1) and [(5)].” (Green 1968: 22)

- (5) John is a jerk, and he is a liar too.

However, a search in a corpus (the Oslo Multilingual Corpus) shows that the cases where 4 or less words separate *and* and *too* account for only 15% of the *too* cases. So these are not so ordinary uses. Besides, the necessity of *too* in cases like (4) or (5) may seem debatable – because of the conjunction. Cases like (6) are better:

- (6) Peter sings tenor. Paul sings tenor #(too).

Kaplan (1984) formulates a generalization about the cases where *too* is obligatory, appropriate for examples like (6) or the authentic (7): “... *too* is obligatory when we need to emphasize what is important about the content of a two-clause text, when ... the same thing is predicated about two contrasting items.” (1984: 515)

- (7) – I want to see Son-of-Thunder. Fetch him.
So Good Care rose, fetched the newborn boy and held him out before his dying father. Swift Deer opened his eyes for the very last time, and Son-of-Thunder had his eyes open #(too).

There are two important elements in Kaplan's generalization: First, his focus on "two-clause texts", and second, the assumption that the same thing is predicated about two contrasting items. Both recur in the analysis proposed by Krifka (1999) (see Section 3). We will see that the first is misguided but the second is not.

2.2 Same Thing about Two Items

Indeed, the second point, that in the relevant contexts, the same thing is predicated about two contrasting items, is supported by contrastive facts about *again* and its counterpart in German, *wieder*. On the basis of a parallel corpus (the OMC – Oslo Multilingual Corpus), Fabricius-Hansen (2001) found that as many occurrences of German *wieder* are not translated at all as are translated by *again* or an equivalent. Interestingly, almost all those instances that are not translated at all are instances of the **restitutive**, not the **repetitive** reading (Fabricius-Hansen 1983).

This distinction can be observed when *again* or *wieder* occurs in connection with a transformative (change of state) verb, as in (8), where the presupposition carried by *again* can be either that the snitch had disappeared once before (repetitive) **or** simply that it had been away some time before (restitutive). (As it happens, in the source text only the restitutive reading is verified, so this is what is intended.)

- (8) The snitch had disappeared again.
(from J. K. Rowling: *The Prisoner of Azkaban*)

The distinction is usually described in terms of scope, exploiting a decomposition of the transformative verb (Fabricius-Hansen 1983, Stechow 1996): *Again* applies either to the whole change of state description or just to the new state description, within a change operator; thus the adverb is consistently repetitive. The important point is here that on the repetitive reading, the same thing is, in Kaplan's words, predicated about two items (times), while on the restitutive reading, this is not so, since here, the presupposition only concerns an implicit part of the verb.

So these findings about German *wieder* as translated or not translated by English *again* seem to confirm Kaplan's hypothesis. If we assume that what is translation persistent is more likely to be necessary than what may disappear in translations, we have reason to assume that repetitive *again* is more likely to be necessary than is restitutive *again*. And given that only on the repetitive reading, the same thing is explicitly predicated about two different items, it seems likely that this factor is indeed characteristic of a necessary additive.

According to Kaplan, *too* is obligatory when the same thing is predicated about two **contrasting** items. We will see in the next two sections how this notion can be assigned an explanatory role in an account of the necessity of additive particles and adverbs – in two different ways, where the quantity of the contexts considered will be seen to help decide which way is the more adequate.

3 Contrastive Topics and Contrast Implicatures

Referring to examples like (4), Krifka (1999) proposes an account of the necessity of *too* in terms of **contrastive topics** and **contrast implicatures**. To understand it, we need some basic notions concerning the meaning of *too*.

In (6), repeated below, *too* “associates with” *Paul*; *Paul* is **the associate**.

(6) Peter sings tenor. Paul sings tenor #(too).

The particle generates a presupposition which is verified in the first sentence; viz., that an alternative to the associate sings tenor. *Peter* is **the alternative**.

3.1 Krifka’s Proposal

Krifka’s proposal is now: *Peter*, the alternative, is a contrastive topic (as is *Paul*, the associate; cf. Section 4.3), and so the first sentence generates a conversational implicature (**Distinctiveness**; I will call it a **contrast implicature**), viz., that there is no alternative to the topic for which the speaker is prepared to assert the same.¹ Specifically, the first sentence implicates that the speaker is not prepared to assert that Paul sings tenor. Still, the speaker then goes on to assert just that, cancelling the contrast implicature. This is where *too* comes in, to alleviate this cancellation by explicating an affirmative element.

“Stressed additive particles ... realize an affirmative element explicitly ... and hence express a particular emphasis. This ... emphasis is motivated, as the first [sentence] of [(6)] suggests that [Paul does not sing tenor], due to the condition of distinctiveness ... [...]

The use of *too* allows to violate distinctiveness ... ” (Krifka 1999)

The explicit affirmative element saves the discourse from incoherence. Crucially, the stressed additive is necessitated by an implicature arising from the context, the sentence verifying the presupposition. Because this implicature is triggered by the presupposed alternative *qua* a contrastive topic, this account only makes sense for such cases where the presupposed alternative is indeed a contrastive topic. If it is to be a general account, it presupposes (the formulation is mine):

Contrastive Alternative Hypothesis

Whenever an additive is necessary, the alternative is a contrastive topic.

¹ The reason, Krifka writes, is that if the speaker could assert [Paul sings tenor], she would have done so right away by conjoining *Peter* and *Paul*. He attributes this implicature to the maxim of manner. I follow Rooth (1992: 82f.) (who only used the term focus) in assuming that it is a scalar implicature to be derived from the maxim of quantity.

3.2 Counterevidence I

And considering a certain kind of data, this is more or less correct. In fact, as long as we focus on the kind of ‘two-clause texts’ we get when we construct examples, the alternative in the first clause will tend to be a contrastive topic. But once we turn to authentic data, we find other kinds of two-clause texts, and we find texts where the alternative is farther removed from the additive, and then the alternative will not normally be a contrastive topic in any reasonable sense of the term.

First, note that even if the presupposed alternative is arguably a contrastive topic, as in (3), it is far from always a contrastive topic in the intended sense; namely, in the sense that the *too* sentence contradicts the corresponding contrast implicature. The sentence verifying the presupposition is not equivalent to the (instantiated) presupposition; it entails it unilaterally. It does not say in so many words that to the north, he could see mountains; what is actually stated is something stronger. Thus the contrast implicature is too weak to be contradicted in the *too* sentence. The analysis might be adequate if the alternative sentence were weaker, as in (3a), or the *too* sentence were stronger, as in (3b).

- (3) a. Swift Deer could see pine-clad mountains on the other side of the valley. Far away to the east and west the dry prairies stretched out as far as the eye could see. To the north he could see mountains. To the south too he could see mountains.
- b. Swift Deer could see pine-clad mountains on the other side of the valley. Far away to the east and west the dry prairies stretched out as far as the eye could see. To the north lay the yellow-brown desert, a low belt of green cactus-covered ridges and distant blue mountain ranges with sharp peaks. To the south, too, lay the yellow-brown desert, a low belt of green cactus-covered ridges and distant blue mountain ranges with sharp peaks.

It is natural that a constructed example of a context verifying a presupposition will tend to copy the presupposition word by word (instantiating the alternative), but this is not representative and cannot serve as the basis of a general account.

Next, let us turn to cases where the alternative may be a topic but not a contrastive topic. A contrastive topic in Krifka’s sense is what is by some called a topic focus (or a theme focus), i.e. an accented constituent different from the comment focus (or the rheme focus). This accented topic should belong to a set of alternatives:

“Contrastive topics are **topics** – they refer to something about which information is required. But they are also **contrastive**, that is, they come with **alternatives** – there are other things about which information is required.” (Krifka 1999)

It is debatable whether (theme or rheme, topic or comment) foci (accents) induce alternatives or whether they have alternatives if the context provides alternatives. Rooth (1992) (who did not distinguish between topic and comment (rheme) foci) ascribed a presupposition about alternatives to focus itself. By contrast, Hetland (2002) (e.g.) accentuates the role of the context in defining a set of alternatives, so that whether an accented topic is a contrastive topic depends on the context.² This issue is not important in our connection, however, because usually when the presupposed alternative is not a contrastive topic it is not even an accented topic – not in the relevant part of the discourse, the part verifying the presupposition.

It may be a **continuing** topic (cf. e.g. de Hoop 2004), in which case its antecedent may be a contrastive topic, but not with respect to the relevant sentence, verifying the presupposition. Consider (9): The first paragraph does not suggest that we can only form things out of Lego blocks.

- (9) So now you see what I meant about Lego blocks. They have more or less the same properties as those which Democritus ascribed to atoms. And that is what makes them so much fun to build with. They are first and foremost indivisible. Then they have different shapes and sizes. They are solid and impermeable. They also have “hooks” and “barbs” so that they can be connected to form every conceivable figure. These connections can later be broken so that new figures can be constructed from the same blocks.
[...]
We can form things out of clay #(too), but clay cannot be used over and over, because it can be broken up into smaller and smaller pieces.

And in (10), the alternative – Natalie’s best dress, or the dress she had put on – is hardly a topic at all; it might be considered a focus (a comment, or rheme, focus). Here, when we learn that the dress was blue, we do not immediately require color information about other things; we cannot reason that if the narrator could assert that her eye make-up was blue she would have done so right away, by conjoining the dress and the eye make-up. She has not brought any alternatives into play yet.

- (10) “He 's been delayed,” said Natalie. She had put on her best blue dress with the wide white collar. Now she peered in the bedroom mirror, bevelled around the edges, and put on her eye make-up. That was blue, #(too).

Of course, the alternative could not be a contrastive topic if it is not even a topic. But even when it is arguably a topic, there may be no requirement for information about alternatives to it because the context does not as yet provide any.

² Questions are singularly well suited for defining things about which information is required, so when Krifka bases his analysis on question – answer pairs, it is natural that in his setting, topics are contrastive.

3.3 Counterevidence II

Further and even clearer evidence that the presupposed alternative to a necessary additive's associate is not generally a contrastive topic comes from cases where the alternative is not just a deaccented topic but a covert, an **implicit** topic. This case is particularly frequent when the associate and the alternative denote times in narrative discourse. In (11), the alternative – the time when Loki averts the danger – is implicit, and there is no suggestion that this is the last time he does so.

- (11) When the gods arrive at Jotunheim, the giants prepare the wedding feast. But during the feast, the bride – Thor, that is – devours an entire ox and eight salmon. He also drinks three barrels of beer. This astonishes Thrym. But Loki averts the danger by explaining that Freyja has been looking forward to coming to Jotunheim so much that she hasn't eaten for a week. When Thrym lifts the bridal veil to kiss the bride, he is startled to look into Thor's burning eyes. This time, #(too), Loki saves the situation, explaining that the bride has not slept for a week for longing for Jotunheim.

In this light, it is not surprising that the case that *again* is obligatory even though the presupposed alternative is not a contrastive topic is frequent; cf. (12) and (13).

- (12) The UN appointed a unique politician to head this new commission. Gro Harlem Brundtland had been environment minister of Norway, and from that post she had gone on to become prime minister. She likes to claim that she is the only politician ever to rise from the traditionally thankless and dead-end job of the environment portfolio to lead a nation, and that this gives her an insight most political leaders lack. Even more important, for the purposes of the new commission, she had lost the prime minister's job, and had time to devote to the commission.
In 1986, in the middle of the commission's work, she became prime minister #(again), which forced greater respect from other countries for her and her commission as they travelled the globe studying the situation.

Note that these are no longer “two-clause texts”. The alternative is increasingly far away from the additive sentence; in (11) there is one, in (12) there are two, and in (13) there are three rather lengthy sentences between them. At the point in the discourse where the alternative has just been introduced, more or less implicitly, there is no requirement for information about particular alternatives to it.

- (13) After less than nine months in the job, in March 1956, Mikhail Gorbachev was called to a meeting held under strict security in the Stavropol party headquarters, where the local first secretary read aloud Khrushchev's “secret speech”, exposing the crimes against the party committed by Joseph Stalin, the man Gorbachev had been brought up to believe was a demigod.
[...]

But the speech neither shook Gorbachev's faith nor interrupted his career. Now married to Raisa, a fellow Moscow graduate with a degree in philosophy who was working on her thesis on the sociology of Stavropol, **he was quickly promoted** from the agitprop department to be 1st secretary of the Komsomol organisation in the city of Stavropol. The local capital and rail centre, with a population of some 200.000, the city was in effect run by its party committee, of which Gorbachev was now a member. The speed of his rise doubtless owed much to his family connections and to what must have seemed, in the sleepy steppes of Stavropol at the time, the awesome qualification of a Moscow diploma. But it must also have come through his own merits, and through his personal charm, which has struck everyone who has met him, Russian or Western, communist or capitalist.

In 1958, he was promoted #(again), to be second secretary of the entire regional Komsomol, where his main task was to create the technical education facilities that would train a new generation of workers to exploit the vast natural gas deposits that had been discovered in the area.

Summing up, when we consider authentic examples in some breadth, the case that the sentence verifying the additive presupposition generates a contrast implicature which the additive sentence goes on to cancel turns out to be extremely rare – be it that the additive sentence does not cancel it (because the sentence verifying the presupposition is stronger than the additive sentence modulo the alternative), that the presupposed alternative is not a contrastive topic, or that it is not a topic at all. But understandably, that is our first choice when we set out to construct examples of an additive sentence with a context verifying the additive presupposition: The context will tend to be identical to the additive sentence up to the substitution of the alternative for the associate, and these two sentences will tend to be adjacent. What we typically find, however, is that the verifying context is more complex and more informative than the additive sentence or that it is not adjacent, or both, and these factors make a decisive difference for the contrastive topic and contrast implicature hypothesis. This is what makes the present problem so appropriate for illustrating the risks of constructed examples and the value of authentic examples.

4 Contrastive Topics and Contrast Implicatures: The True Story

So what is wrong with a discourse like (14)? What is wrong with one like (15)? What goes wrong when a necessary additive is deleted, if what goes wrong is not that the sentence verifying the additive presupposition gives rise to a contrast implicature which is contradicted by the sentence where the additive was?

- (14) # Swift Deer could see pine-clad mountains on the other side of the valley. Far away to the east and west the dry prairies stretched out as far as the eye could see. To the north lay the yellow-brown desert, a low belt of green cactus-covered ridges and distant blue mountain ranges with sharp peaks. To the south he could see mountains.

- (15) # The UN appointed a unique politician to head this new commission. Gro Harlem Brundtland had been environment minister of Norway, and from that post she had gone on to become prime minister. She likes to claim that she is the only politician ... to lead a nation, and that this gives her an insight most political leaders lack. Even more important, for the purposes of the new commission, she had lost the prime minister's job, and had time to devote to the commission.
In 1986, in the middle of the commission's work, she became prime minister, which forced greater respect from other countries for her and her commission as they travelled the globe studying the situation.

Corpus studies cannot answer this question for us; it is essentially a matter of interpreting negative evidence. Still, as I have argued elsewhere (Sæbø 2003), corpus studies can, in addition to disproving given hypotheses, be expected to play a constructive role as well, stimulating the formation of new and better hypotheses. It seems a promising procedure to inspect closely a range of originally authentic texts where *too* or *again* have been omitted, searching, in a relatively inductive way, for characteristic features. Two observations seem to point in an interesting direction. The first is that the necessity of *too* seems to be particularly pronounced when the associate is a demonstrative phrase, as in (10) and (11); cf. 4.3.

4.1 Self-Correction

The second observation is that in a dialog, like (16), the version without *too* reads as a **correction**. There is nothing incoherent about this version, but it implies that the second speaker disagrees with the first. The version with *too* implies that the second speaker agrees with the first but adds a piece of information.

- (16) Little Eagle and Son-of-Thunder lay safe and warm under a big fur.
Swift Deer squatted down beside them.
“He takes after you,” said Little Eagle.
Swift Deer stroked her forehead gently.
“He takes after you too,” he said.

So if the dialogue is recast as a monologue, as in (17), one may expect the speaker to correct **herself**. This expectation seems to be borne out.

- (17) ? He takes after his father. He takes after his mother.

To the extent that this effect generalizes, it seems to vindicate Krifka's hypothesis about contrast at a basic level. It would seem that there is indeed a contradiction between something which is stated and something which is implicated. And the effect does seem to generalize. (14) and (15) are reminiscent of self-corrections: It is as if the writer is no longer sure that mountains were to be seen to the north or that Gro Harlem Brundtland had become prime minister earlier on.

4.2 The Accent Issue

Actually, the self-correction effect may be eclipsed by another effect, depending on the intonation of the sentence without *too* or *again*. There are two ways to intone a sentence like (14): Some other constituent could inherit the accent from *too*, as in (14b), or the rest of the sentence – everything but the (former) associate – could remain deaccented, as in (14a). In its pure form, the self-correction effect depends on the rest of the sentence remaining deaccented.

- (14) a. To the north lay the yellow-brown desert, a low belt of green cactus-covered ridges and distant blue mountain ranges with sharp peaks. To the SOUTH he could see mountains.
b. To the north lay the yellow-brown desert, a low belt of green cactus-covered ridges and distant blue mountain ranges with sharp peaks. To the SOUTH he could see MOUNTains.

It seems that the version where another constituent – here *mountains* – inherits the accent from the additive violates another, more basic constraint, namely the ban on accenting second occurrence material (cf. van Deemter (1994) and references). (14b) seems to be incoherent for two reasons: First, because the last sentence suggests, contrary to fact, that mountains have not just been mentioned, and second, because it suggests that only to the south could he see mountains (self-correction).

In cases of necessary *again* with a covert associate, there is no way to get around this more basic constraint, as leaving all else deaccented will result in a sentence without any accent at all, a phonological impossibility. This is the fault with (2): Accenting *mate* will violate the rule that accents presuppose first occurrence; deaccenting *mate* will violate the rule that a sentence (even, as here, a VP conjunct) must have an accent somewhere. And what saves (1b) is that *play* is not a second occurrence in the relevant sense: The last mention is too far removed from this utterance situation. (18) is another instance of *again* where the sentence without it violates **either** the constraint that second occurrence material should be accent free **or** the constraint that there should be an accent somewhere in a sentence.

- (18) She returned to the boardinghouse, ... , and with her baby in one arm and her suitcase in the other, she went looking for another place to live. [...] She walked the entire day [...] She had thought that she would find another place within hours, but her choices were few. [...] As the evening approached she cursed the aching feet that were beginning to fail her and she cursed her haste in leaving the only shelter they had, but then she thought about ... and kept walking.
She had her week's pay; she could go to a hotel.
She could buy a one-way ticket home.
Tomorrow was Sunday; she could look #(again). She could go home.
If she found nothing Sunday, she could try again Monday.

So it is not *prima facie* obvious what constitutes the corresponding sentence without the additive. One could argue that the closest correspondence is the version where the additive takes its accent with it. On the other hand, one might argue that the version where the sentence retains two accents is closer; then the associate remains a topic (a theme focus), while in the one-accent version it would arguably be reinterpreted as a focus (a rheme focus). There is a methodologically interesting indeterminacy here. However, since the version with two accents seems to involve two violations of something whereas the version with only one accent seems to only involve one of the two, I will concentrate on the latter, where, we may say, the self-correction effect occurs in its pure form.

4.3 It is the Associate

So we can again hypothesize that the additive is necessary because without it, there will be an unwanted contrast implicature. But how can that be, when we have established that the context does not implicate anything that is contradicted, at least not often enough, partly because all too often, the presupposed alternative is not a contrastive topic?

- (10) “He 's been delayed,” said Natalie. She had put on her best blue dress with the wide white collar. Now she peered in the bedroom mirror, bevelled around the edges, and put on her eye make-up. That was blue, #(too).
- (11) When the gods arrive at Jotunheim, the giants prepare the wedding feast. But during the feast, the bride – Thor, that is – devours an entire ox and eight salmon. He also drinks three barrels of beer. This astonishes Thrym. But Loki averts the danger by explaining that Freyja has been looking forward to coming to Jotunheim so much that she hasn’t eaten for a week. When Thrym lifts the bridal veil to kiss the bride, he is startled to look into Thor’s burning eyes. This time, #(too), Loki saves the situation, explaining that the bride has not slept for a week for longing for Jotunheim.

The demonstrative observation referred to above may give a clue: Demonstratives are prototypical contrastive topics or foci, and the special necessity of *too* when they are associates might be due to that. This inspires the following hypothesis:

Contrastive Associate Hypothesis

Whenever an additive is necessary, the associate is a contrastive topic.

This descriptive hypothesis compares directly to the one formulated in Section 3, viz., whenever an additive is necessary, the **alternative** is a contrastive topic. That hypothesis was the basis of Krifka’s proposal, and it has since been falsified. Now the present hypothesis was in fact assumed by Krifka all along, generally:

Contrastive Topic Hypothesis

The associated constituent of stressed postposed additive particles is the contrastive topic of the clause in which they occur. (Krifka 1999)

And it seems to be borne out, at least with respect to *too* (with respect to *again*, which is not an additive particle but an additive adverb, we have to acknowledge the possibility that the associate is covert; cf. below). Let us examine the *too* sentences we have considered so far, without *too* (and without a second accent):

- (7) a. Son-of-THUNDER had his eyes open.
- (9) a. We can form things out of CLAY, ...
- (10) a. THAT was blue.
- (11) a. THIS time, Loki saves the situation.
- (14) c. To the SOUTH he could see mountains.

One might rather want to say that the accented constituents here are (rheme) foci, not topics (theme foci). However, it does not matter much whether these accents are or are interpreted as focus or topic accents, for, as assumed by Rooth (1992), who used an indiscriminate notion of focus, a topic focus and a focus focus will amount to essentially the same regarding contrast, generating a scalar implicature (Rooth 1992: 82f.).^{3 4}

Interestingly, in cases where the additive is not necessary, as when the associate and alternative are predicates, the associate does not strike us as contrastive:

- (19) Quite soon Joseph was tired of sitting on his haunches in the gloom. He was hungry, damp, and desperate for nicotine. He was embarrassed, (too,) by the way the elderly woman who had passed him in the tunnel did so with such nervousness and haste that she had missed the pleasant smile he'd given her.

The sentence "He was embarrassed" does not suggest or implicate that this was all he was, in contrast to, say, hungry, damp, and desperate for nicotine.

So along with the new descriptive hypothesis we can form a new explanatory one, the old hypothesis being that the context implicates something which the sentence without *too* contradicts (cancels). Rather, it is the other way around: The sentence without *too* implicates something which the context has already contradicted.

³ In an interesting study, Hetland (2002) concludes that in a language like English or German, every pitch accent can be used to signal contrast, if the context provides a set of alternatives; but that the fall-rise accent is special in presupposing a set of alternatives and thus a contrast.

⁴ Note that the requirement that a contrastive topic come with alternatives is guaranteed in any context verifying the presupposition of the additive.

Note that this is not a cancellation, as on the old story, where the *too* sentence – without *too* – goes on to contradict a previously generated implicature. Here, on the new story, the *too* sentence – without *too* – generates an implicature which has previously been contradicted. And it is good that the contradiction is not a cancellation, because a cancellation would not be expected to be as bad as the self-correction effect observable here. True, a cancellation will often be accompanied by some affirmative item, but this is normally not as necessary as is the necessary additive particle, and besides, it may be one among a number, including *indeed* and *in fact*; in the cases at hand, however, these items would not help much.

Note that this story can only be told about such cases where the associate is overt. This is the norm with *too*, but not with *again*, where we often encounter a **covert** associate. Then, of course, the associate cannot be a contrastive focus or topic, and the sentence will not generate a contrast implicature; as pointed out above, in connection with (18), the sentence without *again* will violate one or the other of two more basic constraints, depending on whether the verb is accented or not.

Assuming an overt associate, however, we can sum up thus: When an additive is necessary, the corresponding sentence without it generates the implicature that the speaker will not assert it for any relevant alternative substituted for the associate. This, however, will have been contradicted by any context verifying the additive presupposition. It is reasonable to assume that this is what is wrong and that the additive remedies it. But how the additive remedies it is another question.

5 What the Additive Adds: The Alternative

So far, we have only answered half the question: Why the version without *too* is incoherent; we have not answered the question why the version with is coherent. We know why *too* is necessary, but we do not yet know why it is sufficient. In fact, the semantics of *too* as it stands does not suffice to answer this question.

All known formulations of the semantics of *too* (or *also*) or *again* agree on this: The meaning consists in the presupposition; the assertion is not affected by it. With the additive, the sentence presupposes itself modulo the substitution of an alternative for the associate. Once a sentence with some substitute has been found to follow from the context, the additive has done its job and can be disregarded. But the associate will give rise to a contrast implicature *regardless of the additive*. The implicature is computed on the basis of the assertion, not the presupposition. It is a mystery how the additive can make a difference, as long as its meaning consists in the presupposition and does not affect the assertion.

But other presuppositions are known to influence assertions. Best known among these is the presupposition introduced by (anaphoric) definite descriptions, where a referent in the assertion is bound by a referent in the presupposition which in turn to be bound by a referent in the context.

There is a way to make the assertion depend on the presupposition and indirectly on the context in the case of *too* (and *again*) too, so as to make the presupposed alternative escape the contrast implicature. Note that this implicature is based on the associate as a contrastive topic or a contrastive focus, excluding alternatives. Now if the implicature can instead be based on the **merge**, or the **sum**, of the associate **and** the presupposed alternative as a contrastive topic or focus, it will not affect the latter: Alternatives to be excluded will be confined to yet other alternatives. This can be achieved by replacing the associate by the sum of the associate and the alternative in the assertion of the additive sentence, the alternative referent being bound by the presupposition and in turn by the context. This is the analysis I want to propose: Over and above adding the presupposition, the additive adds the alternative to the assertion. To illustrate:

- (20) a. To the south too he could see mountains.

This sentence presupposes that he could see mountains to α , and it asserts that he could see mountains to the south and to α – prior to presupposition verification. If – as indeed in (3) – the presupposition is verified and α is bound to *the north*, then upon verification, (20a) asserts that he could see mountains to the south and to the north. When the presupposition has been verified, (20a) “is” really (20b):

- (20) b. To the south and to the north he could see mountains.

Through the presupposition, the sentence grows by the presupposed alternative, and when the contrast implicature is computed, it does not affect that alternative, for *the north* is no alternative to *the south and the north*; remaining alternatives are *the east* and *the west*, and this implicature is harmless in (3): He could not see mountains there. While (20c), without *too*, will generate the implicature that the speaker is not willing to assert (21a), (b), or (c), (20a) will in (3) only generate the implicature that she is not willing to assert (21b) or (c):

- (20) c. To the south he could see mountains.
 (21) a. He could see mountains to the north.
 b. He could see mountains to the west.
 c. He could see mountains to the east.

So on the analysis I propose, the additive does two things: It introduces the well-known presupposition and it hands the presupposed alternative on to the topic.⁵ As the additive sentence inherits part of its topic from the context, we may say that the topic accumulates and coin the term of an **aggregate topic**.

⁵ Reis and Rosengren (1997) make a parallel proposal for independent reasons: German *auch* contributes a truth-relevant meaning component called ADD (for ‘in addition’), the most salient justification for this being its ability to be focused (Reis and Rosengren 1997: 273f.).

Note that this move, in contrast to the way the presupposition affects the assertion in cases of definite descriptions, is informationally superfluous: It does not make a difference to the truth conditions of the discourse, as the added information bit is already in the context. It only has an effect on the conversational implicatures. In any other respect, the move is redundant.⁶

I think this analysis compares favorably with that proposed by Krifka (1999). It is more explicit, because it says explicitly what the additive does and how it does it. Besides, it is better motivated, as what it says the additive does ties in with what it is known to do anyway. Note that we would not be pushed towards this analysis unless empirical evidence disproved the basis of the other analysis, forcing us to rethink the issue. It is the “new” diagnosis of the versions without the additives that forces the “new” analysis of the remedy through the additives; in relation to the “old” diagnosis, the “new” analysis would not offer any help. Thus we have here a case where the development of a theoretically more attractive analysis is triggered by the realization that the problem was not correctly formulated in the first place. This realization, in turn, was brought about by a broader range of data brought to bear on the problem; broader in a triple sense:

- Data in greater numbers,
- data not invented but observed, and
- data including broader chunks of context.

6 Conclusions

There is always a risk involved in picking an example sequence of sentences from somebody else’s paper or out of your own head, on the assumption that this is a typical example sequence of sentences exhibiting all the most relevant properties of the phenomenon you are considering. Even if you broaden your perspective to make a little list of such examples, you have no way of ascertaining whether they show a sufficient spread.

This is almost a platitude. What deserves to be demonstrated is that sometimes, necessarily, what we would regard as typical cases are in fact quite atypical cases, so that the risk of being led astray by constructing them is far greater than chance.

The reasons are found in the *limits to the linguist’s imagination*. Now a linguist’s imagination has two dimensions: A **syntagmatic** and a **paradigmatic** dimension. The syntagmatic dimension has to do with the **length** of the example constructed, the paradigmatic dimension has to do with the **breadth** of the **list** of examples.

⁶ The formal details are presented in another paper (Sæbø 2004). Importantly, an anaphoric notion of presupposition verification, as developed by van der Sandt (1992), is essential for the analysis to go through, as only this will ensure that the presupposed alternative is not just some, or any, alternative but one which is unified with the alternative given in the context.

In the paradigmatic dimension, the linguist will have trouble varying the context of the phenomenon under consideration in sufficient breadth to ensure that all its most relevant properties are covered. In the syntagmatic dimension, the linguist will normally not be able to construct a context reaching beyond a certain boundary, a boundary of, say, two fairly short sentences. This paper has mainly been concerned with this dimension of the linguist's imagination and its limitations, arguing the importance of using corpora to overcome them.

When we investigate presuppositional elements, like the additive particle *too*, we tend to construct examples consisting of two sentences where the second sentence carries the presupposition and the first sentence verifies it in the most direct way, **instantiating** it – and there are several ways in which this could be, and mostly is, different: The context verifying the presupposition could entail it unilaterally, i.e. it could be more informative than a mere instantiation; it could be information structurally different, i.e. not parallel with respect to topic and focus; and it could be not adjacent but sentences away, so that two sentences are not the whole story.

Counterevidence to the hypothesis that when an element like the additive particle *too* is necessary, this is because the presupposed alternative in the verifying context engenders a contrast implicature being contradicted in the *too* sentence, can be based on all those three real possibilities. If the verifying context is stronger, maybe more complex, than a mere instantiation, a contrast implicature arising from it will not be contradicted in the *too* sentence; if the presupposed alternative is not, like the associate, a contrastive topic but maybe a continuing topic, it will not engender a contrast implicature; and if the verifying context is a good stretch away from the *too* sentence, chances are good that it is both more complex and that the alternative is not a contrastive topic, maybe not a topic at all.

The reason that this hypothesis easily comes up is that in a constructed example, the verifying context is parallel to the presupposing sentence; it is patterned on it, hence it will tend to mirror it. Now this circumstance points to a better hypothesis: The property ascribed to the verifying context can more safely be ascribed to the presupposing sentence. Thus we see that the original hypothesis was not totally off the track but just on a side track, and that it got on that side track by mistaking features of the intrasentential context for features of the intersentential context – quite understandably, considering the methodology.

Quite often in the history of a science, of course, theories have had to be revised in the face of counterevidence. Now the standard situation is then that the theory works well for most cases while a stubborn minority of unruly cases remain. This is quite common in linguistics too. But it may just be that semantics, or discourse semantics in particular, is special in that fairly often, proposed accounts work well for a minority of tidy cases while a majority of cases remain silent and submersed.

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