Topic

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1.   Focus and Topic

1.1.   Focus and Question/Answer Pairs

Before I introduce the concept of Topic, let me briefly outline the assumptions about Focus I am presupposing. Syntactic Focus is represented by labeled brackets around the Focused part. The material outside of the Focus is called the Background. In English and German, the languages that I will be concerned with here, Focus is realized by an accent (represented by capitals) on the so-called Focus exponent. From the Focus exponent, Focus may project onto higher nodes. Due to the optional nature of Focus projection, a sentence like (1a) might yield any of the bracketings ins (1b).

(1)   a.   All the pop stars wore dark CAFTANS.
        b.   [all the pop stars [wore [dark [CAFTANS]$_F$

Each Focus-Background structure is especially suited to an appropriate utterance of (1a) in a specific discourse setting. Among other things, each of the structures in (1b) answers a specific question, e.g. *What was the consequence of that?*; *What did the pop stars have in common?*; *What did the pop stars wear?*; or *Did the pop stars wear anything dark?* Obviously, the answers within these question-answer pairs are by no means mutually exchangeable.

Let us say that at any stage of a discourse there is not only a Common Ground (of believes and knowledged agreed upon by the participants) but also a certain restricted range of possibilities as to where the conversation might move to next. We may view this range of possibilities as a set of sentences/propositions with which the conversation might be continued. Technically, we call this set a D(iscourse)-Topic, and the most straightforward way to establish a D-Topic - that is to set course for the next utterance - is to ask a question. What (1) serves to show then is that the appropriateness of a certain Focus-Background structure at some point of the conversation crucially depends on the current D-Topic.

In a Question/Answer sequence the Focused part within the answer must be that information which is asked for by the question (i.e. usually the part corresponding to the question word). And vice versa, the Background must only consist of information which the D-Topic - and thus the person asking - already takes for granted. Following Rooth's (1985) idea, we can formalize this by deriving from a sentence S a second semantic value, its *Focus value*, $[\![S]\!]^f$ for short. If the Focus is on the object NP in (1), $[\![(1)]\!]^f$ is the set of propositions we get by sticking in alternatives for the Focus.

(2)   all the pop stars wore dark caftans/ suit and tie/ dresses/ Rococo costumes...

We can transform $[\![S]\!]^f$ into a proposition by conjoining each of the propositions by *or*. Set theoretically, the meaning of this big disjunction is the union of all the propositions denoted by $[\![S]\!]^f$, that is $\cup[\![S]\!]^f$. Not too surprisingly, $\cup[\![S]\!]^f$ - sometimes called the *Trivialization* of $[\![S]\!]^f$ - is just as informative as the question that s was supposed to answer. For we said that all the new information conveyed by s is within the Focus part. So replacing the Focus part by all its alternatives will again get us where we started, with nothing but the Topic viz the question.

    Notice that a question Q, being represented as a set of propositions, can be trivialized too, giving us again a single set of worlds, $\cup[\![Q]\!]^o$. We can thus formulate the relation that has to hold between a question and an answer as the following rule of thumb:

(3)   A sentence A can appropriately uttered as an answer to a question Q iff $\cup[\![A]\!]^f=\cup[\![Q]\!]^o$

This then readily explains why for example the following sequence is ill-formed:

(4)   A: What kind of caftans did the pop stars wear?
        B: All the pop stars wore [dark CAFTANS]$_F$.

The trivialization of B's answer will be something like *all the pop stars wore dark caftans or suit and tie or dresses or Rococo costumes or...* But that is not what A considered for she already knew that what they wore were caftans. In a sense, B is trying to sell as new what is really old, namely the fact that they were wearing caftans. In order to answer A's question appropriately, B had better said something like

(5)   All the pop stars wore [DARK]$_F$ caftans.

Here the trivialization of the answer - 'all the pop stars were wearing *X-colored* caftans' - is just what the question is asking.

    By a similar token the following sequence is ill-formed:

(6)   A: What did the pop stars wear?
        B: All the pop stars wore [DARK]$_F$ caftans.

It should be clear what went wrong here: A didn't presuppose that the pop stars wore caftans. The D-Topic hence contains all sorts of clothes such as those in (2) above. But B's answer is constructed as if only the color of caftans had been under dispute. The Focus is thus too narrow, leaving new information (*caftans*) within the Background part. So much for Focus.

1.2.   Sentence Internal Topics

The general phenomenon of what I call Topics is illustrated by sentence (7):

(7)   a.   On fifty-/NINTH street I bought the SHOES\.

        b.   Auf der /NEUNundfünfzigsten Straße habe ich die SCHUHE\ gekauft.

Take (7b): The sentence contains two intonationally marked constituents, the fronted PP *auf der 59ten Straße,* 'on 59th street,' and the direct object *die Schuhe,* 'the shoes.' The former is marked by a rising pitch contour, L-H*, the latter by a falling one, H-L*.[1] I will occasionally refer to these accents as Rise and Fall, respectively. Semantically, the constituent marked by the Fall corresponds to the Focus in the sense of subsection 1.1.

(8)   A: What did you buy on 59th street?

        B: Auf der /NEUNundfünfzigsten Straße habe ich [die SCHUHE\]$_F$ gekauft.

(9)   A: Where did you buy the shoes?

        B: #   [Auf der /NEUNundfünfzigsten Straße]$_{*F}$ habe ich die SCHUHE\ gekauft.

Text (9) is meant to show that the PP bearing the Rise cannot be understood as marking the Focus of the sentence. Accordingly the question answer sequence is illformed. In analogy to our notational convention for Focus marking, I will indicate Topic marked constituents by brackets subscripted with a T, for Topic:

(10)   [Auf der /NEUNundfünfzigsten Straße]$_T$ habe ich [die SCHUHE\]$_F$ gekauft.

The PP in (10) is called the Topic. Accordingly, we might refer to the Rise accent as *Topic accent.* To avoid confusion, we must differentiate between such sentence internal, or S-Topics (e.g. *[on 59th street]$_T$* in (7)) as opposed to D(iscourse)-Topics (established for example by a preceding question, as discussed in subsection 1.1.).

      How do S-Topics relate to the Focus/Background structure of a sentence? There are several types of answers to this question that have been proposed in the literature. The answer that I will subscribe to is that the Topic is simply an (improper) part of the Background. Topics may or may not be present in a given sentence, i.e. sentences are either bipartite or tripartite from the point of view of Topic/Focus/Background structure. I will henceforth call the *Background* that part

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[1] The H*-L and L-H* notation are adapted from Pierrehumbert 1980. The starred tone, H(igh) in this case, is associated with the strongest syllable of the pertinent domain. The non-starred tone, L(ow), is then associated with the syllable following or, respectively, preceding the strongest syllable. The intonational facts in English are more complicated and will not be discussed here. See also the discussion of B- (as opposed to A-) accents of Jackendoff (1972:258ff), whose insights lie at the heart of the treatment proposed here.

of the sentence which is neither Topic nor Focus. In (7) *on 59th street* is the (S-) Topic, *the shoes* is the Focus, and *I bought* is the Background. If a sentence contains no Topic, Background and Focus are complementary, as before.

1.3. The Meaning and Use of Topics

As we already saw in example (8), repeated here, the Topic is not new information. It is given in the context, in this case in the question.

(11) A: What did you buy on 59th street?
  B: Auf der /NEUNundfünfzigsten Straße habe ich [die SCHUHE\]$_F$ gekauft.
  'On 59th street I bought the shoes.'

However, the Topic is not just an arbitrarily selected part of the given information. It is understood as 'what the rest of the sentence is about,' or 'the entity anchoring the sentence to the previous discourse.' A common syntactic means to signal Topichood is by an initial *as for...* phrase:

(12) As for 59th street, that's where I bought the shoes.

However, this is not the only use of S-Topics. It has sometimes been noticed that an S-Topic can be used to move the conversation away from an entity given in the previous discourse. This is called a *contrastive Topic*:

(13) A: Do you think that Fritz would buy this suit?
  B: Well [I]$_T$ certainly [WOULDN'T]$_F$.
(14) A: Glaubst Du, Fritz würde diesen Anzug kaufen?
  B: [ICH]$_T$ würde ihn sicher [NICHT]$_F$ kaufen.

Speaker B obviously doesn't answer A's question. Instead, she gives a different, though related statement. The constituent that is 'replaced' (i.e. *I* instead of *Fritz*) is marked as Topic.

Moreover, S-Topics might be used to 'narrow down' a given D(iscourse)-Topic. Take examples (15) and (16)

(15) A: What did the pop stars wear?
  B: The [female]$_T$ pop stars wore [caftans]$_F$.
(16) A: Was hatten die Popstars an?
  B: Die [weiblichen]$_T$ Popstars trugen [Kaftane]$_F$.

Again, speaker B does not really answer A's question, at least not exhaustively. The part where she deviates from the original question is marked by the Topic accent. Let us call this a *partial Topic*.

Finally, S-Topics can be used to indicate that the speaker would like to discuss alternative issues:

(17)   A: Did your wife kiss other men?
       B: [My]$_T$ wife [didn't]$_F$ kiss other men.
(18)   A: Hat deine Frau fremde Männer geküßt?
       B: [Meine]$_T$ Frau hat [keine]$_F$ fremden Männer geküßt.

B literally answers A's questions. However, that would not have required the Topic accent on the possessive. What B expresses by this additional accent is that he considers other wives to be relevant in the given context. For example, he might intend his answer to make A think about his own wife. For reasons that should become clear later, I will call this the *purely implicational Topic*.

In this paper I will sketch a formal account of how S-Topics are interpreted. I will then show that the proposed semantics can in fact handle the different uses of S-Topics - contrastive Topics, partial Topics and purely implicational Topics - just discussed (section 2). That means that 'contrastive Topic,' 'partial Topic,' and 'purely implicational Topic' are just convenient descriptive labels without any theoretical significance. They are just more or less different uses of S-Topics. In section 3 I then discuss another effect of Topic marking connected with adnominal quantifiers.

I will give examples both in English and in German, although the discussion (and the conclusions drawn) is based on the German examples mainly. Although I tend to think that the semantic aspects of the examples - but not the phonological ones - are basically the same, the gentle reader is asked to understand the English examples merely as convenient means of explanation where this is not the case. Furthermore, I do not think that the treatment to be proposed here can be adapted to cases of single fall-rise contours (which would be Topics without Foci in our terms) as discussed in Cutler 1977, Ladd 1980, Ward & Hirschberg 1985 among others, which - to the best of my knowledge - have no corresponding counterpart in German.

2.   The Semantics of S-Topics

2.1. Presuppositions
Let us start by considering examples of contrastive and partial Topics. Why? Because it seems that the S-Topic is necessary in order to warrant the wellformedness of the discourse in these cases:

(19)   a.   A: What did the pop stars wear?
            B: The [female]$_T$ pop stars wore [caftans]$_F$.
            B':# The female pop stars wore [caftans]$_F$.
       b.   A: Was hatten die Popstars an?
            B: Die [weiblichen]$_T$ Popstars trugen [Kaftane]$_F$.
            B':# Die weiblichen Popstars trugen [Kaftane]$_F$.

(20) a. A: Which book would Fritz buy?
           B: Well, $[I]_T$ would buy ['The Hotel New HAMPshire']$_F$.
           B':# Well, I would buy ['The Hotel New HAMPshire']$_F$.
      b. A: Welches Buch würde Fritz kaufen?
           B: $[ICH]_T$ würde ['Das Hotel New HAMPshire']$_F$ kaufen.
           B':# Ich würde ['Das Hotel New HAMPshire']$_F$ kaufen.

The answers (B') are not appropriate in the given contexts. In (19) it seems as if B' tries to sell a part of the story (what the women wore) as the whole (what the pop stars wore). In (20) she even tries to sell an entirely different story (what she would buy) for the one A is asking for (what Fritz would buy). And obviously, the laws of discourse don't allow for this kind of betrayal.

Let us therefore try to revise the condition on question/answer pairs given in subsection 1.1, repeated here.

(21) A sentence A can appropriately uttered as an answer to a question Q iff the question meaning matches the Focus value of the answer ($\cup[\![S]\!]^f = \cup[\![Q]\!]^o$).

Obviously the A-B' sequences in (19) and (20) violate this condition. Question (19A) denotes a set of propositions of the type 'the pop stars wore _____' while the Focus value of the answer consists of propositions like 'the female pop stars wore _____.' Similar in (20). The question would contain propositions like 'Fritz would buy _____.' But the answer's Focus value consists of things like 'I would buy _____.' The mismatch is obvious.

Now, what does the S-Topic marking do to prevent this mismatch? The idea is to let the S-Topic induce alternatives, in a way very similar to the Focus. But these alternatives do not have any impact on the Focus value. Instead, we introduce a third semantic object important to the meaning of a sentence, its *Topic value*. The Topic value is basically a 'typed up' Focus value, i.e. a set of sets of propositions. Or, as one might put it more perspicuously, a set of questions. How is this set arrived at? Take (20bB) as an example:

(22) a. $[ICH]_T$ würde ['Das Hotel New HAMPshire']$_F$ kaufen.
      b. $[I]_T$ would buy ['The Hotel New HAMPshire']$_F$.

The Focus value of (22) might be a set like (23):

(23) {I would buy 'War and Peace.', I would buy 'The Hotel New Hampshire', I would buy 'The World According to Garp', ...}

The Topic value is a set of such sets, with alternatives to the S-Topic *I* replacing *I*:

(24) { {I would buy 'War and Peace.', I would buy 'The Hotel New

> Hampshire', I would buy 'The World According to Garp', ...},
> {Paul Simon would buy 'War and Peace.', Paul Simon would buy 'The Hotel New Hampshire', Paul Simon would buy 'The World According to Garp', ...},
> {Fritz would buy 'War and Peace.', Fritz would buy 'The Hotel New Hampshire', Fritz would buy 'The World According to Garp', ...},
> {Fritz's brother would buy 'War and Peace.', Fritz's brother would buy 'The Hotel New Hampshire', Fritz's brother would buy 'The World According to Garp', ...}, ... }

The alternatives to *I* in (24) are thrown in arbitrarily, as are the ones to 'The Hotel New Hampshire.' The important thing is that (24) consists of sets of propositions, each set with a fixed subject - the S-Topic - but varying wrt. to the object - the Focus. As said before, (24) can be understood as a set of questions:

(25)   {which book would you/I buy, which book would Paul Simon buy, which book would Fritz buy, which book would Fritz's brother buy, ...}

Let us write $[\![S]\!]^t$ for the Topic value of a sentence. Hence (24) = $[\![(22)]\!]^t$. What will $[\![(22)]\!]^t$ do for us? Notice that the original question 'What would Fritz buy?' is an element of (25) (alias (24) alias $[\![(22)]\!]^t$). Let us assume that this is the effect of the S-Topic in this example: It induces alternative Focus values for the sentence, and one of these must match the original question. Accordingly, we replace (21) by (26):

(26)   Question/Answer Condition, revised:
        The meaning of the question Q must match one element in the Topic value of the answer A ($[\![Q]\!]^o \varepsilon [\![A]\!]^t$).

Obviously, the sequence (20A/B), repeated here, meets this condition.

(27)   A: Which book would Fritz buy?
        B: Well, $[I]_T$ would buy $['The Hotel New HAMPshire']_F$.
        B: $[ICH]_T$ würde $['Das Hotel New HAMPshire']_F$ kaufen.

The meaning of (27A) is an element of $[\![(27B)]\!]^t$ (=(24)/(25)). Next, what about the illicit answer B'?

        B':#   Well, I would buy $['The Hotel New HAMPshire']_F$.
        B':#   Ich würde $['Das Hotel New HAMPshire']_F$ kaufen.

The sentences do not contain an S-Topic. So what will their Topic value be? Let us assume that the Topic value of a Topicless sentence is the singleton set containing its Focus value. Hence $[\![B']\!]^t$ = (28):

(28) {{I would buy 'War and Peace.', I would buy 'The Hotel New Hampshire', I would buy 'The World According to Garp', ...}}

(Note that (28) is not *identical* to the Focus value of B', but the set containing it!). Does the sequence (27A-B') meet the revised Question/Answer Condition in (26)? Of course not! The only element in the Topic value of the answer corresponds to the question 'Which book would I buy?' And that one does not match the original question 'Which book would Fritz buy?'

This is a typical example of a contrastive Topic in the sense discussed above. Given an original D-Topic, e.g. a question, the person answering does not answer that question but another, related one. And to do so, she has to use the appropriate intonational marking, e.g. a Topic accent on the constituent that differs from the original question. The meaning of that constituent might then be called the 'contrastive Topic.'

What about the partial Topic, for example (19), repeated here:

(29) a. A: What did the pop stars wear?
               B: The [female]$_T$ pop stars wore [caftans]$_F$.
               B':# The female pop stars wore [caftans]$_F$.
     b. A: Was hatten die Popstars an?
               B: Die [weiblichen]$_T$ Popstars trugen [Kaftane]$_F$.
               B':# Die weiblichen Popstars trugen [Kaftane]$_F$.

It is easy to see what explains the mismatch found with the B' answers: the answer just doesn't match the question. What we should do now is look for a replacement for *female* that would make the answer match the question. If we succeed in that, we have explained why the Topic marking on the adjective makes the sequence come out fine. Such an alternative is readily found, although not easy to express. It is simply the trivial property. Or the property *male or female* for that matter. So we assume that (29B) looks like (30):

(30) { {the female popstars wore caftans, the female popstars wore dresses, the female popstars wore overalls, ...},
     {the male popstars wore caftans, the male popstars wore dresses, the male popstars wore overalls, ...},
     {the female or male popstars wore caftans, the female or male popstars wore dresses, the female or male popstars wore overalls, ...},
     {the italian popstars wore caftans, the italian popstars wore dresses, the italian popstars wore overalls, ...}, ... }

The third element in (30) (excuse me for numbering set members) is the set we are looking for: It matches with the meaning of the question 'What did the pop stars wear?'

Examples with trivial properties might strike the reader as far fetched

(though I can find nothing wrong with it). But notice that partial Topics can also be found without such properties:

(31)   A: What did the German musicians wear?
       B: The [Bavarian]$_T$ musicians wore ['Lederhosen']$_F$.
       B: Die [bayerischen]$_T$ Musiker trugen [Lederhosen]$_F$.

Although there is evidence to the contrary, Bavaria is a part of Germany. So (31) is an instance of a partial Topic, too: speaker A asks for all the German musicians but speaker B only answers about some of them, the Bavarians. But this time, we don't need other properties but those expressible by ordinary adjectives: *Bavarian, Swabian, German, Flemish, Dutch...*

    So we have seen that the treatment of S-Topics proposed here can quite naturally account for both contrastive Topics and partial Topics. What about the purely implicational Topics? To account for these, we have to look at the semantic effects of S-Topics from another point of view. Instead of exploring what effects they have wrt. the previous discourse, we have to check out how they affect the utterances to follow.

2.2. Implicatures

I will assume that there is an implicature carried by the S-Topic, which we might characterize as follows:

(32)   Given a sentence A, containing an S-Topic, there is an element Q in $[\![A]\!]^t$ such that Q is still under consideration after uttering A.

If we again regard $[\![A]\!]^t$ as a set of questions, as we did above, we say that there is a question in the set of questions denoted by $[\![A]\!]^t$ which is still disputable. This remnant question we call a *Residual Topic*. For example in (29), repeated here, (33b) might be a Residual Topic.

(33)   a.   Die [weiblichen]$_T$ Popstars trugen [Kaftane]$_F$.
       a'. The [female]$_T$ pop stars wore [caftans]$_F$.
       b.   What did the male pop stars wear?

Note that (33b) - or rather: its meaning - is an element of $[\![(33a)]\!]^t$ as given in (30) above. So (33a) meets (32). The residual Topic might also be the 'original' Topic, provided of course that it has not been resolved. This happens with contrastive Topics such as (27), repeated here:

(34)   a.   A: Which book would Fritz buy?
            B: Well, [I]$_T$ would buy ['The Hotel New HAMPshire']$_F$.
            B: [ICH]$_T$ würde ['Das Hotel New HAMPshire']$_F$ kaufen.
       b.   Yeah, but what would Fritz buy?

Here A's first question comes back as a residual Topic since B hasn't answered it (it is still disputable which book Fritz would buy). We already know that the meaning of A's question must be in the Topic value of B's answer. Otherwise the sequence in (34) wouldn't be wellformed to begin with (due to condition (26) above). Accordingly, (34b) is licensed as a residual Topic to B's answer.

Let us next ask: What does 'disputable' mean? Naturally we would want to say that a question is disputable if the answer to the question is not yet known. So let us say that a question (a set of propositions, more generally) is disputable if there are informative but non-absurd answers to it. As already said, this notion of disputability must be relativized to the current Common Ground:

(35) Disputability:
      A set of propositions P is disputable given a common ground CG, DISP(P,CG), iff there are propositions $p \varepsilon P$ such that p is informative and non-absurd wrt. CG; formally DISP(Q,CG) iff $\exists p \varepsilon Q$: $p \cap CG \neq \emptyset \neq CG$ & $(\neg p) \cap CG \neq \emptyset \neq CG$

Now that we know what a disputable question looks like, we might sharpen the implicature connected with the S-Topic, given as (32) above:

(36) Implicature connected with S-Topic in a sentence A: $\exists q[q \varepsilon [\![A]\!]^t$ & $DISP(q, CG \cap [\![A]\!]^\circ)]$

We are now ready to give an account of purely implicational Topics. Consider (37), repeated from above:

(37) a.   A: Did your wife kiss other men?
            B: [My]$_T$ wife [didn't]$_F$ kiss other men.
      b.   A: Hat deine Frau fremde Männer geküßt?
            B: [Meine]$_T$ Frau hat [keine]$_F$ fremden Männer geküßt.

In (37) the Topic accent doesn't seem to serve any particular purpose. Note that the question answer sequence would be wellformed without it as well. On the other hand it doesn't do any harm. Since everything is an alternative to itself, the original Focus value will necessarily be an element of the Topic value. As we have already suggested above, $[\![(37B)]\!]^t$ could look like (38):

(38) {{my wife kissed other men, my wife didn't kiss other men}, {your wife kissed other men, your wife didn't kiss other men}, {Paul Simon's wife kissed other men, Paul Simon's wife didn't kiss other men}, {Fritz's wife kissed other men, Fritz's wife didn't kiss other men}, ...}

The question meaning $[\![(37A)]\!]^\circ$ is an element of (38), so (26) is met. By (36), the Topic implicature, at least one element in (38) is disputable and can serve as

a residual Topic. So speaker B can use his utterance to signal that - according to his knowledge - there is at least one person whose wife might or might not have kissed other men. Depending on the choice of contextually salient alternatives, speaker A might understand it that his wife is the one in question.

The S-Topic in (37) then serves the sole purpose of implicating the existence of a residual Topic. This is why I called this use of the S-Topic the purely implicational Topic.

This completes my account of the semantics of S-Topics. We have seen that the basic cases discussed in subsection 1.2 are readily explained. We understand why S-Topics can help to maintain discourse appropriateness even in cases where the answer doesn't seem to match the question. And we have modelled the implicational effects of the S-Topics, namely to establish a Residual Topic. The remainder of this paper explores a particular usage if S-Topics more thoroughly, namely Topic marking on quantifiers. Other applications of the theory presented can be found in Büring 1995 and 1995a.

3.   Quantifiers as S-Topics

The phenomena to be discussed in this section have received some attention in the literature, though the - as I will argue - crucial role of the accent patterns has not always been recognized. The first set of data consists of sentences with a Topic accent on a weak quantifier, a phenomenon that has sometimes been described as a strong or partitive reading of these quantifiers. The second set of data concerns the interplay of Topic on (weak or strong) quantifiers and narrow Focus on adjuncts.

I will try to show that the semantic and pragmatic effects noticed in the literature follow straightforwardly from the treatment of S-Topics developed in section 2. No further assumptions are needed.

3.1.   Strong Readings for Weak Quantifiers
Since Milsark 1974 it is well-known that the class of natural language quantifiers is lexically divided into two disjoint sets called weak and strong quantifiers. However, it is also well-known that weak quantifiers may have what is called a strong reading, in particular one which is presuppositional (other terms have been used in this connection, for example partitive, proportional or truly quantifying, to name just a few). A number of researchers have taken this to indicate a true ambiguity in lexical type. While weak quantifiers on their weak (or cardinal) reading are taken to denote individuals (type $<e>$) or predicates (type $<et>$), they are supposed to be true quantifiers or properties of properties (type $<et,<et,t>>$) on their strong reading. This ambiguity has been taken to be either lexical (Diesing 1992) or derived by rules of semantic interpretation (de Hoop 1992). Finally, weak quantifiers on their strong reading always come with a special intonational pattern. As we will see, this special intonational pattern is in fact the

rising accent indicating an S-Topic.

The claim I want to defend in this section is that the strong reading for weak quantifiers is just a natural consequence of their being the S-Topic. In other words, we might get by without type shifting or lexical ambiguity. Let us inspect a run-of-the-mill example of a so-called partitive weak quantifier:

(39)   a.   Ein /PAAR Cowboys beschlossen, zu HAUSE\ zu bleiben.
        b.   [Some]$_T$ cowboys decided [to stay home]$_F$.

In (39) we have the falling stress on *home* project its Focus up to the embedded infinitival clause node. What then would the D-Topic for (39) look like? Let us look at $[\![(39)]\!]^t$:

$$
(40)\quad
\left\{
\begin{array}{l}
\text{the} \\
\text{all} \\
\text{many} \\
\text{some} \\
\text{two}
\end{array}
\right\}
\text{cowboys decided}
\left\{
\begin{array}{l}
\text{to stay home} \\
\text{to go to the saloon} \\
\text{to go gambling} \\
\text{to read Hegel} \\
\text{to shave}
\end{array}
\right\}
$$

Simplifying a little, (40) is the set of questions of the form 'What did Q cowboys decide on?' with *Q* some quantifier. What (40) shows is that there is a set of cowboys around in the discourse. Whatever element out of (40) may be the actual D-Topic, it has to be a cowboy-issue.

Note a slight shift in perspective: In sections 1 and 2 we have looked at the effects that the S-Topic has on the (in)appropriateness of question answer sequences. In this chapter we look at the 'answers' in isolation. And ask: What does the answer - in particular its Focus/Background structure - tell us about the possible contexts? Since any sentence with a given Focus/Background structure defines the set of contexts it can be used in, we can infer from the sentence alone which kind of contexts it is suited to. Above I called this the presupposition of the sentence. Strictly speaking, this terminology is a bit misleading: Presuppositions are propositional in nature. What we deal with here are not propositions but sets of sets of propositions, or - as I will continue to say - sets of questions. No doubt, we can derive from such a set a 'classical' presupposition (such as the existence of a group of cowboys in (39)), but the object of inquiry is of a different kind. It is not a statement of facts, but a set of potential issues.

With this in mind, let us return to our cowboy example. The S-Topic in (39) allows for the calculation of a set of possible D-Topics, e.g. possible preceding questions. This set is given in (40). The elements in that set have certain things in common. Here they are all statements about cowboys and the decisions they made. Since all possible D-Topics for (39) are statements of that kind, we infer upon hearing (39) out of the blue, that there must be cowboys at stake.

Maybe this is all we have to say here. Taking this set to be a superset of the set of cowboys who decided to stay home will give us the partitive reading.

This story might sound simplistic. For one thing, it explains why we *can* get a partitive reading, but not why we *must* get it. True enough, but it seems that this is just what we need. Consider the following texts:

(41) a. The town was bursting with tension. A cowboy was standing next to the door of the saloon, nervously playing with his gun. [TWO]$_T$ cowboys were posted next to each window.

b. The town was bursting with tension. Ten or more cowboys were standing next to the door of the saloon, nervously playing with their guns. [TWO]$_T$ cowboys were posted next to each window.

In (41a), the partitive reading is excluded, for two cowboys can hardly be a subset of one cowboy. But in (41b) this obstacle is no longer present. If the saloon is relatively small, so small in fact that we might say that the windows all are next to the door, (41b) can be read partitively: The ten (or more) cowboys are standing close to the door, split up into groups of two, each group observing one window. Still, (41b) has another reading - I believe the more plausible one - in which *two cowboys* is not read partitively. If the saloon has five windows, them there are at least 20 cowboys in there. Nonetheless, the last sentence in (41b) requires for there to be previously mentioned cowboys. So, the partitive reading might be possible in these cases, but it is not obligatory.

Another objection might be that the partitive reading seems to violate the Familiarity Condition of Heim 1982, according to which an indefinite NP (and cardinal NPs clearly count as indefinite in this sense) may not refer to a familiar discourse referent. In fact, this is what distinguishes them from definites, who have to find a previously introduced referent. But it is important to separate the notions of discourse referents from the notion of 'present in the discourse' or 'discourse inferable.' Introducing a group of cowboys, for example by saying *There were ten cowboys loitering around the saloon*, tells us that a set of ten cowboys is part of the universe of discourse. And of course, we can infer that there is also a set of nine, five or two cowboys. However, the only discourse *referent* introduced is the set of ten, none of its subsets. This can easily be seen by the following sequences:

(42) There were ten cowboys loitering around the saloon.
a. They were nervously playing with their guns.
b. The (ten) cowboys were nervously playing with their guns.
c. # Ten cowboys were nervously playing with their guns.
d. # The three cowboys were nervously playing with their guns.
e. /THREE cowboys were nervously playing with their guns.
f. /TEN cowboys were nervously playing with their guns.

First, sentence (42) introduces a discourse referent, a group of ten cowboys. As a result we find the contrast between (42b) and (42c): The definite article has to be used in order to refer to that group. Second, there is no smaller group available

as a discourse referent, as the impossibility of (42d) shows. Rather, we have to use another indefinite in order to introduce a subset of the ten, as in (42e). Again, (42e) may be partitive, but it doesn't have to, remember the examples in (41). Finally, partitivity is not an option in (42f). The ten cowboys mentioned in (42f) must be a different group than those we know from (42). Understanding the indefinite in (42f) as partitive would violate the familiarity condition for this time part and whole would be identical, thereby introducing the same discourse entity twice.

Let me sum up briefly. I have argued that the so-called strong or partitive reading of NPs with weak quantifiers is just a consequence of the quantifier being the S-Topic. In general, the Topic accent on the determiner of an NP signals that another NP* which differs from NP only in the determiner has previously been used, namely in the D-Topic. In full accordance with Heim's (1982) Familiarity Condition, the referent of NP must be different from that of NP*, either a subset of NP*'s referent or an entirely different group. The former case will result in a true partitive reading. Let us call these *token partitives*. The latter case, such as in (41a), is not truly partitive. Rather, the discourse referent introduced by the second NP is just another token of the same type as NP*. This we might call a *type partitive*.

It is worthwhile to stress that token partitivity is arrived at purely epiphenomenal. No modifications in the theory of discourse representation are needed. This crucially distinguishes the approach developed here from treatments such as the one developed by G. Jäger (1994, 1994a). In Jäger's system, the representation of discourse referents is explicitly being refined so as to allow for the notion 'part of' directly. In a nutshell, Jäger's approach has it that a Topic NP that introduces a discourse referent can only introduce a referent which is part of an already existing one. Importantly Jäger's account fails to generalize to the cases I have call type partitives, i.e. cases in which the second discourse referent is related to the first one only in terms of membership in an even bigger group, the type, or kind.

There are two more cases in which the alleged strong reading of weak quantifiers cannot be constructed as a relation among individuals and groups. First, we have only said that the sequence 'determiner-noun' must have been previously mentioned. But that does not imply that the existence of an individual has been asserted. Consider the following sequence:

(43)   Q: Are there dealers in this part of town?
        A: [TWO]$_T$ dealers have just been arrested.

In (43Q) the existence of dealers is not asserted but merely considered. Accordingly, the answer does not establish any subset relation (how could it?) but nevertheless picks up the Topic '___ dealers VP' in the same way as before.

As for the second case, note that quantifiers bearing a Topic accent are not restricted to referential uses. One case in question are generic uses of Topic marked quantifiers. These we will discuss next.

Let us ignore the question what exactly is responsible for whether or not an indefinite is or can be interpreted generically for the moment. Sentences like (44) - with a sole Focus accent - have a generic reading for the indefinite *two books*.

(44)   Er schickt zwei Bücher immer [mit der POST]$_F$.
          he sends   two books always   with the mail
          'He always sends two books by mail.'

What if we place a Topic accent on the generic indefinite?

(45)   Er schickt /ZWEI Bücher immer mit der POST\.
          a.   if the cardinality of the books is two, he always sends them by
                   mail
          b.   there are two books which he always sends by mail

As suggested by the paraphrases, (45) is ambiguous between a generic and an existential statement. Let us concentrate on the generic reading (45a) first. The only thing that makes (45) in this reading different from (44) is that the latter requires *two books* to be part of the Topic, while the former - by virtue of the Topic accent - requires only *books* to have been mentioned before. A possible D-Topic for (44) would be the question 'How does he transport two books?' (the reading becomes easier replacing *many* for *two*). A possible D-Topic for (45) - on the generic reading - would be any question of the form 'How does he transport ____ books?' for example 'How does he transport more than one book?' Answer: Sets of two books he always sends by mail.

Note that this is not a partitive reading in the literal sense, because there is no given set of books out of which subsets of two are always send by mail. However, remember that we derived the partitive reading as a relation between a D-Topic (a set of propositions) and the Topic value of a sentence (a set of sets of propositions) rather than between sets of individuals. And this is just what goes on here: The S-Topic indicates a D-Topic like 'How does he transport (sets of) books?' and answers the question 'How does he transport (sets of) two books?' And as before it holds that the (reconstructed) D-Topic is an element of the Topic value of the sentence. Note again that this cannot be represented in a theory that assumes the part-of relation between sets or groups of individuals to be at the heart of these readings. Furthermore, theories that assume a dichotomy between quantificational and cardinal uses of weak quantifiers must assume that (45a) and (45b) feature two different quantifiers, the cardinal one (on its generic reading) in (45a), the strong one in (45b). The relation between the actual readings and the accenting remains unaccounted for.

The theory proposed here can handle these cases without lexical

ambiguity. Since 'partitivity' is reconstructed as a relation among propositions (rather than individuals), it naturally carries over to cases of Topic marked generic indefinites. All semantic effects are attributed to the interpretation of Topic marking. Hence we arrive at a true cross-classification for indefinite NPs as [±existential] and [±Topic], where partitive indefinites are simply [+existential] and [+Topic]. Since Topic marking is supposed to lie at the heart of these facts, no further stipulations regarding interpretation and intonation are required.

Let us finally turn to the second reading, (45b). Here the indefinite is interpreted as an existential quantifier, despite preceding the Focus. Since the indefinite itself is existential, we understand reading (45b) to presuppose that there were other books whose possible transportation were being discussed, i.e. type or token partitivity.

3.2.   Proportional Readings

In the preceding section we have seen that a Topic accent on a lexically weak quantifier yields the effect of strong or partitive readings. It should again be stressed that there is nothing in the meaning of the quantifier which makes it inherently partitive or Focus sensitive. And accordingly, the nominal complement to the quantifier has no designated status within the semantic representation. The fact that a lot of the cases discussed seem to express partitivity wrt. the set denoted by the noun (e.g. *books, cowboys* etc.) is just a result of the fact that those nouns were the sole Background elements in their respective sentences. We thus predict the partitive effects to switch with a shift in Focus. There are two ways in which we can do so. First we may enlargen the Background, making the Focus narrower. This will be done below. We'll discuss cases like (46), with a narrow Focus and both weak and strong quantifiers.

(46)   a. $[THREE]_T$ boys $[WALKED]_F$ to the station.
          b. $[MOST]_T$ boys $[WALKED]_F$ to the station.

Second we may remove the nominal complement from the Background by making it Focus. This yields sentences like (47).

(47) $[MANY]_T$ $[SCANDINAVIANS]_F$ won the Nobel Price.

These so-called Focus Affected Readings will be briefly discussed at the end of this section (see Büring 1995a:chap.4 for more discussion). But first for the cases with narrow Focus. In a sentence like (48a), a 'partial indefinite' case, everything but the subject noun is either Topic or Focus. Accordingly, the existence of an appropriate D-Topic boils down to '____ boys did something', i.e. the mere existence of other boys.[2]

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[2] As we have seen, even this is too strong. It suffices that some property of some boys has been discussed, even if that property is non-existence.

(48) a.   [THREE]$_T$ boys [walked to the STATION]$_F$.

  b.   [THREE]$_T$ boys [WALKED]$_F$ to the station.

In (48b) on the other hand, the D-Topic whose existence we can infer from the Focus/Topic/Background structure is way more specific. It is about boys getting to the station in one way or other. By the Familiarity Condition we know that the three boys mentioned in (48b) cannot be those mentioned in the D-Topic. Hence there must be more boys than those three (or at least the existence of such boys was under debate). If those other boys walked to the station as well and the speaker knows that, she violated the Gricean Maxim of Quantity in saying (48b). So either the speaker doesn't know about the other's transfer to the station at all, or she knows that they didn't walk. The latter case licenses an inference that the other boys got to the station in some alternative way. It is exactly this amalgam of truth conditions and contextual restrictions that I claim is expressed by a sentence like (48b).

  One could try to built the effects of Focus directly into the meaning of the quantifier, similar to the alternative analysis of partitives discussed above. Such a theory wouldn't restrict the quantifier by its syntactic complement but by the trivialization of the Focus value. In other words, (48b) would be made to literally mean

(49)   Three *boys who somehow got to the station* walked there   ,

where the restrictor (printed in italics) is the Focus value of the entire sentence (minus the quantifier). Treatments along these lines have been proposed by Eckardt 1993, 1994, 1994a, Geilfuß 1993, Herburger 1992, and de Hoop 1994.

  It is, however, hard to prove the correctness of such an approach with examples like these, where weak quantifiers are involved. The reason is that weak quantifier such as *three* are both symmetric and conservative, i.e. it holds that $Q(A)(B) \Leftrightarrow Q(B)(A)$ and $Q(A)(B) \Leftrightarrow Q(A)(A \& B)$. From these properties it follows that the truth conditions for a conservative symmetric determiner cannot change by copying clause internal material into the restrictor.[3] So there is no case for such a 'direct association approach' to Focus effects, as opposed to the more roundabout treatment that follows from the general semantics of Focus and Topic advocated here.

Things change if we bring strong determiners into the picture. Strong determiners are conservative but not symmetric. Therefore, it should make a truth conditional

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[3] Here, Q is the determiner, e.g. *three*. A is the first argument of Q, here ⟦boys⟧, B the second argument, i.e. ⟦walked to the station⟧. Consider (i) as an illustration:

(i)   Three boys walked to the station.
(ii)   Three persons who walked to the station were boys. (from (i) by symmetry)
(iii)   Three persons who walked to the station were boys/ persons who walked to the station. (from (ii) by conservativity)

difference if material from the matrix (e.g. 'get to the station') appears in the restrictor. Of course, this won't happen if Focus projects:

(50) $MOST_T$ boys [walked to the STATION]$_F$.

Suppose we trivialize Focus and Topic. This gives us *boys* as the previously mentioned group from which the boys in (50) should be a subset. But this again is irrelevant, for boyhood is already part of the restrictor (assuming that both the Focus value *and* the meaning of the syntactic complement provide the restrictor). Now consider our case where only part of VP is non-focused.

(51) $MOST_T$ boys $WALKED_F$ to the station.

By trivialization we get '___ boys ___ to the station,' i.e. the set of boys who got to the station. Accordingly, the meaning of (51) could be paraphrased as in (52).

(52)   Most of the boys who somehow got to the station walked to the station.

And in fact this seems to be the reading that (51) has. One might conclude that these cases provide evidence in favor of directly associating the adnominal quantifier with Focus, i.e. giving Focus direct impact on truth conditions as it is done in Eckardt 1993, 1994, 1994a and in Geilfuß 1993. In what follows I will present an analysis that preserves the insights of the Eckardt/Geilfuß analysis but reduces the specific mechanisms put to use there to the general properties of Topics.

The key to analyzing examples such as (51) lies, I believe, in the fact that strong quantifiers are contextually restricted, and that this restriction affects the truth conditions of sentences with strong quantifiers in them.[4] Quantified NPs like *all boys* or *most boys* do not usually mean all or most of the boys in the universe, but only all or most boys out of a contextually given set. And it is in fact crucial for determining the truth conditions to know what this set looks like (note that sentences like *all/most boys are blonde* would always be true if the choice of domain were entirely free). A straightforward way of implementing this is proposed in Westerståhl 1985 and further elaborated in Geilfuß 1993, von Fintel 1994, and Musan 1995, among others. According to this treatment, strong quantifiers come with a *resource domain variable*, which can be written as a superscript on the quantifier.

(53)   Most^C boys walked to the station.

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[4] This is not to say that weak quantifiers cannot be contextually restricted, but only that this will not make a truth conditional difference. A recent discussion of these issues can be found in Musan 1995.

The variable C denotes a property, which is intersected with the syntactic restrictor of the quantifier. Hence, (53) is interpreted as (54).

(54)   most($[\![$boy$]\!]\cap$C)($[\![$walk to the station$]\!]$)

As Westerståhl points out, *C* is not identical to the domain of individuals but can be smaller than that. In many cases, *C* is provided by a preceding NP. Take example (55).

(55)   There were dozens of people on the market place. [Most^C WOmen]$_T$ were standing next to the stage.

Here *C* is presumably the property of standing on the marked place. As a result, the second sentence in (55) is interpreted as 'most women who stood on the marked place stood next to the stage.' *C* is not always unambiguously determined by the context:

(56)   There were dozens of people on the market place. Fifteen women entered the stage. MOST^C women waved their hands.

Here, *most women* might either refer to those on the stage or to all women on the market place, depending on the choice of *C*.

  Finally, note that the resource domain variable is not necessarily dependent on a preceding NP.

(57)   Let us next turn to the village Simmersbach. Most^C men over 55 are unemployed.

Here, *most men* clearly denotes most men in the village of Simmersbach, although there is no preceding NP such as *the men from Simmersbach*.

  This last example shows that those readings are not just token partitives. The resource domain variable is not always a set corresponding to a discourse referent. Instead I would like to pursue the following picture: Resource domain variables are provided by the context in quite a flexible fashion. If we encounter a sentence out of the blue, the only information about the context that we have is again provided by the Focus/Background structure. If the sentence has a wide Focus, little information is won. This is what happens in (50), repeated here.

(58)   [most^C]$_T$ boys [walked to the STATION]$_F$.

After trivializing we only know that the previous discourse must have been about boys. Now, even if take boyhood to be the property denoted by *C*, no change in truth conditions arises. But let us look at (51) again, repeated as (59).

(59)   [most^C]$_T$ boys WALKED$_F$ to the station.

As said above, the D-Topic, whatever it might be exactly, is about boys getting to the station. Accordingly the property of being a boy who gets to the station is a good guess regarding the resource domain variable of *most*. We thus interpret (59) as (60).

(60)   most([[boy]]∩C)([[walk to the station]])
             \
                         λx.x is a boy who gets to the station somehow

By intersecting the syntactic restrictor of *most* with *C* we actually get the property 'be a boy getting to the station' as the semantic restrictor of **most**. At the same time we have maintained that there is no direct influence of Topic or Focus on truth conditions. Truth conditional effects only obtain via the resource domain variable *C*. The only influence that Focus/Background structure has on truth conditions is that it helps us guessing the context if we hear a sentence out of the blue, just as it was.

Let us compare this approach to the more semanticized original in Eckardt 1993 and Geilfuß 1993. According to Geilfuß 1993, Focus directly restricts the resource domain variable. For example, (59) is now interpreted as (61):

(61)   most([[boys]]^o ∩ ∪[[WALKED$_F$ to the station]]^f)([[WALKED$_F$ to the station]]^o)

The trivialization of [[WALKED$_F$ to the station]]^f is of course the property of getting to the station anyhow, which - intersected with the syntactic restrictor [[boys]]^o gives us again the pertinent set of boys who target the rails. Since - as Geilfuß notes - this procedure resembles Association with Focus in the sense of Jackendoff 1972 and, especially, Rooth 1985 (for adverbial quantifiers), let us call it the *direct association approach*.

The problem with this approach is that the predicted truth conditions are sometimes too liberal. Consider the following examples from Eckardt 1993.

(62)   Max had to polish ten cars this afternoon. When I came back, six cars still stood in front of the garage, not even touched by Max. He polished MOST$_T$ cars CAREFULLY$_F$.

Here *most cars* is quantifier raised and adjoined to S. The trivialization of the S node's Focus value - ∪[[he polished *t* CAREFULLY]]^f - is the property of having polished the cars somehow. This property inserted as the resource domain variable of *most* results in reading (63).

(63)   Most cars Max polished he polished carefully.

Again this reading might well be true in the context provided by (62) (imagine that Max has polished three of the remaining four cars excessively), but

intuitively it is not available. The Topic approach fares better here: The only resource domains contextually available are the ten cars or the six untouched cars, but not the relative complement of both. Accordingly, (62) appears contradictory on any interpretation.[5]

It thus turns out that the rather lose relation between Focus/Background structure and resource domain proposed here is indeed needed in these cases.

One might try to rescue the direct association approach by invoking an additional presupposition, namely that in a sentence like (64), all cars must have been polished to begin with.[6]

(64)   Max polished MOST cars carefully.

More generally, $MOST^C(A)(B)$ would have the presupposition $ALL(A)(C)$. Since this presupposition is explicitly contradicted in (62), where it is stated that six cars were left untouched, the presupposition of (64) (all cars have been polished) is clearly not warranted, so (62) is predicted to be unacceptable.

The question is whether we can generally defend such a strong presupposition. For example it seems perfectly fine to say (65).

(65)   I was curious whether the boys would make it to the station. As it turned out, $MOST_T$ boys $WALKED_F$ to the station, but the others didn't get there at all.

Obviously the last sentence in (65) contradicts the alleged presupposition (furthermore the second sentence might be argued to violate the Gricean Maxim of Quantity, since the stronger *ALL boys* could have been used according to that theory). Matters are even clearer if the speaker expresses uncertainty, as in (66).

(66)   a.   Max polished $MOST_T$ cars $CAREFULLY_F$, but I am not sure whether he polished all of them.
         b.   All the boys wanted to kiss Amalie. $MOST_T$ boys kissed her $PASSIONATELY_F$. As for the others, I am not sure whether they kissed her at all.

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[5] De Hoop (1995:9) claims that a similar example, namely (i) (her (24b)) is in fact true if six linguists don't drink, five do, and three of them at night.
(i)   Most linguist drink [at NIGHT]$_F$.
However, this doesn't seem to be correct. (i) presupposes talk about (potentially) drinking linguists, cf. (ii):
(ii)   Most linguists don't drink and most linguist drink at NIGHT.
Sentence (ii) is clearly odd, though it precisely characterizes de Hoop's scenario. So again, I don't think that the Focus restricts anything but the set of possible contexts. Truth conditions remain constant.

[6] This solution is also discussed by Eckardt (1993, 1994a).

Obviously, the speaker of (66a) does not presuppose that Max polished all cars. Likewise, (66b) does not presuppose that every boy was lucky enough to kiss Amalie (the example is again adapted from Eckardt 1993). The only thing that has to be guaranteed is that Max polishing cars and boys kissing Amalie have been under discussion.[7]

So while the presuppositional version of the direct association approach can presumably handle (62), it is not generally tenable. I conclude that the Topic treatment argued for here accounts for the entire range of data more satisfactorily.

Let us finally look at cases of Focus within the subject NP. Again, we can regard cases involving weak and strong quantifiers:

(67) a.   [MOST]$_T$ [inCOMpetent]$_F$ cooks applied.
      b.   [FEW]$_T$ [inCOMpetent]$_F$ cooks applied.

As noted in Eckardt 1993, cases like (67a) pose a serious problem for the direct association approach. Why? Because the trivialization of the Focus value of (67a) is '____cooks applied,' which - taken as a restrictor - yields the truth conditions (68) for (67a).

(68)   Most cooks that applied were incompetent.

But (67a) doesn't have this meaning. Rather it seems that - in accordance with the treatment proposed here - the resource domain variable is not provided by any sentence internal material. It therefore seems necessary to block the association of the quantifier with the Focus in these cases. However, as Herburger (1992) claims, this very association seems necessary in (67b), which she interprets as (69). She calls this a *focus affected reading*.

(69)   Few cooks that applied were incompetent.

Now, we already saw above that this kind of restriction cannot make a truth conditional difference with symmetric determiners. So - given Herburger's analysis - **few(A)(B)** cannot be taken to mean 'the number of x which are both A and B is small.' Rather, one would have to interpret *few* as a non-symmetric determiner, where the standard of comparison is the first argument. On that interpretation **few(A)(B)** is true if only a small number of A's are also B's, say less than 20 percent. Thus (69) is true if among the applying cooks there are less

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[7] One might argue though, that (i) is decidedly odd:

(i)   Vladimir saw NO$_T$ movie ENTIRELY$_F$, and in fact he hasn't seen any at all.

However, this presumably follows from the fact that the sequel *he hasn't seen any at all* implies the first sentence *he saw no movie entirely*. If the speaker knows that he didn't see any movie, she violates the Maxim of Quantity in making the inappropriately weak statement that he saw none entirely. If the speaker is uncertain, the weaker statement is of course licit:

(ii)   Vladimir saw NO$_T$ movie ENTIRELY$_F$, and I am not certain whether he's seen any at all.

So again, neither (i) nor (ii) indicates a presupposition such as 'he saw the movies.'

than 20 percent that are incompetent. If we apply this meaning to the syntactic structure of (67b) directly - having A = ⟦incompetent cooks⟧ and B = ⟦applied⟧ - we would have it that less than 20% of the incompetent cooks applied. But as Herburger points out, (67b) might be true even if almost every incompetent cook applied, provided their overall number is small.

One can object to this analysis that the intentended interpretation of *few* is not the only one possible. One might as well think that *few* is in fact a symmetric determiner and that the standard of comparison is not determined sentence internally but pragmatically. Thus there would be no truth conditional effect with *few* and Focus at all.[8] One argument in favor of such an analysis comes from the treatment of *many*, which seems to behave in basically the same way as *few*. Consider example (70).

(70)   Many [SWEDISH] models were at my birthday party.

Suppose that among the two hundred guests at my party there were three models, two of them from Sweden. According to the treatment envisioned by Herburger, (70) would mean 'a high percentage of models at Daniel's birthday party were Swedish,' which is true in the given scenario. But (70) would be odd - to say the least - if uttered under these circumstances. So it seems that although there must be an external standard of comparison with *few* and *many*, it is not as directly related to the Focus/Background structure as the structural analysis claims it to be. Accordingly we conclude with de Hoop 1995 that there are no truth conditional effects with weak determiners at all, not even in cases where the Focus sits in the nominal argument.

The general claim of this section then is that there are no semantic (let alone syntactic) peculiarities to partitive, proportional or focus affected readings of adnominal quantifers, be they weak or strong. The effects observed in the literature were shown to be mostly weaker than claimed, usually non-truth-conditional. Let me briefly sum up the cases discussed:

- **Partitive readings of weak quantifiers** result from the fact that the noun, but not the quantifier, is part of the background. Hence an NP containing that noun must have been in the D-Topic. This also holds for cases of type partitives and generic partitives, not analyzable using a mereological analysis of 'partitivity.'
- **Proportional readings of weak quantifiers** are just a special case of partitives, namely one where the background is bigger than just the nominal argument to the quantifier.
- **Proportional readings of strong quantifiers** result from the interplay of Topics and the pragmatic process of finding a resource domain variable.

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[8] This line of reasoning is pursued in de Hoop 1995.

There is no direct association of the Focus value with the resource domain variable, which would yield inappropriate truth conditions.

- **Focus affected readings with *few* and *many* and NP internal Focus** are again not due to direct association with Focus but result from the pragmatic process of finding a standard of comparison.

In general then the theory of Topics proposed characterizes sentence internal Topics as a quite general phenomenon, which can be formally characterized in terms of i) its effects on discourse appropriateness and ii) its implicatures. Apart from its effects in question/answer pairs it could also be shown to figure prominently in a number of puzzling constructions around adnominal quantification. The proposed analysis reduces all these effects to the general semantics of S-Topics, thereby simplifying the syntax-semantics mapping.

It was demonstrated that an appropriately weak characterization of these phenomena can be arrived at using only two devices: Topic/Focus Semantics and Resource Domain Variables.

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