

INGREDIENTS OF A SEMANTIC THEORY OF CONTRASTIVE TOPICS¹

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Abstract

The paper investigates four phenomena having to do with the interpretation of Hungarian sentences with contrastive topics (CTs), including the apparent wide scope as well as narrow scope readings of CTs, the lack of interpretations for particular, otherwise well-formed sentences with a CT, and the predictability of collective versus distributive readings for plural NPs in CT position. Some previous theories are reviewed, and claimed to be unable to handle all of the above phenomena simultaneously. The paper argues that the first puzzle should be handled along the lines of Jacobs (1997), the third and the fourth along the lines of Büring (1997), and it proposes a new approach to explain the second one.

1 Aim

The aim of the paper is to look at the issue of what factors need to be taken into account in order to be able to determine whether a sentence with a contrastive topic can have an interpretation at all, and if so, which of some theoretically possible interpretations will be available for it. Four phenomena from Hungarian will be identified which will be claimed to cause problems for existing theories concerned with the interpretation of sentences with contrastive topics, and therefore require a novel perspective.

The four phenomena to be discussed include the availability of a narrow scope reading for quantificational expressions playing the role of the contrastive topic in the sentence; the lack of wide scope readings for particular quantificational expressions in the same position, and the availability of the wide-scope reading for others; the uninterpretability of certain sentences with monotone decreasing and non-monotonic determiners in the above position; and the lack of collective readings for particular plural NPs there.

In section 2, the types of data listed above will be illustrated with examples, whereas section 3 will review some relevant claims made by previous theories on related phenomena. section 4 takes a new look at the wide scope phenomena, section 5 makes a proposal about the treatment of narrow scope readings, sentences with no available interpretation are looked at in section 6, while section 7 examines the availability of collective/distributive readings. The paper closes with the conclusions in section 8.

2 The phenomena

Consider the available readings for (1) and (2) below:

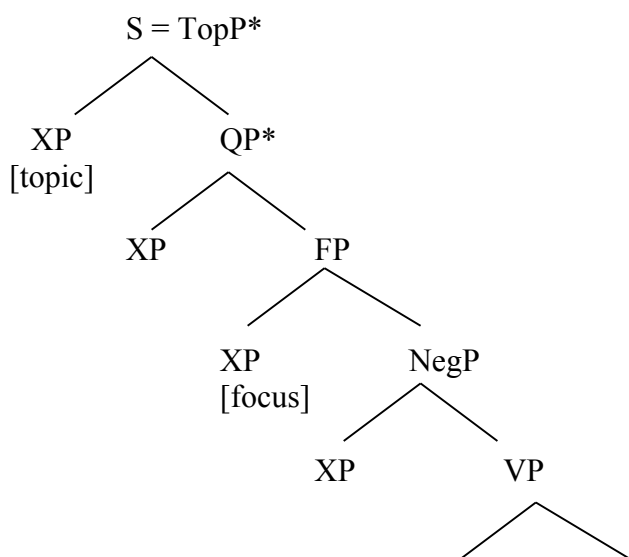
- (1) [CT /Két könyvet] [QP \minden gyerek elolvasott.]
two book-acc every child VM-read
a. ‘As for two books, they were read by all children.’
b. ‘As for (at least) two books, so many were read by all children.’²

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- (2) [CT /Legalább három gyerek] [QP \minden könyvet elolvasott.]
 at least three child every book-acc VM-read
 a. # ‘As for at least three kids, they read every book.’
 b. ‘As for at least three kids, every book was read by that many.’

The labeled brackets above refer to the positions of the constituents in the tree in (3), representing the surface structure of the Hungarian sentence, as proposed in É. Kiss (2002), irrelevant details aside:

- (3) The surface structure of the Hungarian sentence:



Since there are strong arguments supporting the view (discussed more thoroughly in É. Kiss and Gyuris (2003)) that contrastive topics and topics occupy the same structural positions, the contrastive topic constituents, marked here with the label CT will also be assumed to be situated in spec, TopP.

Note that the term ‘contrastive topic’ is used here to refer here to maximal projections and not to smaller units. This choice follows the tradition of using the terms ‘topic’ and ‘focus’ in the Hungarian generative literature, cf. É. Kiss (2002). Some part(s) of the contrastive topic constituent as well as of the constituent following the contrastive topic in the sentence bear a heavy accent, marked with ‘/’ and ‘\’, respectively, which help to identify the alternative propositions the sentence is assumed to be contrasted with, to be discussed later.

The fact that the narrow scope interpretation is allowed for the CT in both of the above examples contradicts the so-called *scope-principle* for Hungarian (proposed, among others, by É. Kiss (2002)), according to which quantifiers scope over the domain they c-command, which needs to be accounted for. A comparison of the available readings of (1) and (2) reveals another property of contrastive topics, namely, that they sometimes also appear to take widest scope, although this option is not always available for them.

If we look at the first example, we find that it has no interpretations whatsoever, although it does not seem to be grammatically defective, particularly in view of the examples in (5) and (6), which have two and one reading available, respectively.

² When possible, the English translations try to convey not only the truth conditions of the Hungarian examples but also their implicatures. Only the truth-conditions of the readings of (1) would be conveyed by the paraphrases ‘Two books are such that they were read by all kids.’ versus ‘All kids have read at least two books.’

- (4) #_[CT] /Ötnél kevesebb vendéggel] [_{VP} \találkoztam tegnap délben.]
 five-than fewer guest-with met-1sg yesterday noon-at
 a. # ‘As for fewer than five guests, I did meet them at noon yesterday.’
 b. # ‘As for fewer than five guests, I did meet that many at noon yesterday.’
- (5) [_{CT} /Három vendéggel] [_{VP} \találkoztam tegnap délben.]
 three guest-with met-1sg yesterday noon-in
 a. ‘As for three guests, I did meet them at noon yesterday.’
 b. ‘As for three guests, I did meet that many at noon yesterday.’
- (6) [_{CT} /Ötnél kevesebb vendéggel] [_{QP}\sokszor [_{VP} (össze)találkoztam.]]
 five-than fewer guest-with many times VM-met-1sg
 a. # ‘As for fewer than five guests, I did meet them many times.’
 b. ‘As for fewer than five guests, I did meet that many many times.’

(6) also illustrates that the uninterpretability of (4) should not automatically be attributed to the fact that its contrastive topic contains a monotone decreasing determiner.

The fourth phenomenon, which I believe has not been discussed in the literature so far, concerns the availability of collective readings for plural noun phrases situated in CT position. Compare the possible readings of the following examples:

- (7) [_{CT} /Öt gyerek] [_{VP} \felemelte az asztalt tegnap ötkor.]
 five kid VM-lifted the table yesterday five-at
 a. ‘As for five kids, they did lift the table collectively/individually at five yesterday.’
 b. ‘As for (at least) five children, that many did lift the table #collectively/individually at five yesterday.’
- (8) [_{CT} /Öt gyerek] [_{QP} \sok asztalt felemelt tegnap ötkor.]
 five kid many table-acc VM-lifted yesterday five-at
 a. ‘As for five kids, they did lift many tables collectively/individually at five yesterday.’
 b. ‘As for five kids, many tables were lifted collectively/individually by that many at five yesterday.’

As illustrated above, both sentences have interpretations according to which the table was lifted by a group of specific kids collectively or individually (reading a). However, when the sentences are used for stating that a type of event with non-specific participants did occur (e.g., as opposed to a previous assumption according to which such an event did not occur), only (8) allows for the collective reading of the contrastive topic in all circumstances. (7) allows for the collective reading only in cases where the occurrence of other collective table-lifting events is presupposed, e.g., in the context of a competition between groups. (Note that, as pointed out by Szabolcsi (1997), (7) can also have a reading according to which it ascribes the ability to lift the table to groups, but this will be ignored in the rest of this paper.)

3 Previous approaches

3.1 Büring (1997) on scope

Büring (1997) claims that sentences containing an expression capable of scope-taking in CT (Büring’s *Topic*) and another operator following it are potentially ambiguous as to the relative scope of the operators. The availability of a particular reading is dependent on the availability of ‘reasonable implicatures’, introduced by the CT. The notion of *topic value* introduced by him helps to define more precisely the above implicatures. The topic value of a sentence *A*, abbreviated as $[[A]]^t$, is a set of sets of propositions which differ from the one expressed by *A* in that the denotations of the stressed parts of the contrastive topic and of the focus

constituents are replaced by type-identical alternatives in them. The sets of propositions constituting the topic value correspond to a set of questions, in the spirit of Hamblin (1973). Informally, the questions constituting the topic value of A could be regarded as the questions which could have been asked in the discourse instead of the one which A answers.

The implicature carried by a sentence A containing a contrastive topic is then defined by him as follows: there is an element Q (a question) in $[[A]]^t$ such that Q is still under consideration (or: disputable) after uttering A . Disputability of a question means the following: given a common ground, there should be at least one element in the set of propositions corresponding to the question which is informative and non-absurd with respect to the common ground, i.e., not included in it and are not in contradiction with it.

For example, the reason why reading b) is not available for (9) below is that the answers to the questions in its topic value, shown in (10), are all entailed by the truth of the proposition intended to be expressed with this reading. (In other words, the propositions corresponding to the possible answers to the relevant questions are all entailed or contradicted by the truth of the intended reading of the sentence.) (10a) illustrates the structure of the propositions in the topic value of A , where the function ALT associates with the denotation of particular expressions the set of their type-identical alternatives, (10b) lists some actual members of the above set in the form of sets of sets of propositions, whereas (10c) lists the questions corresponding to the sets of propositions in (10b):

- (9) /ALLE Politiker sind NICHT\ korrump.
 all politicians are not corrupt
 a. ‘It is not the case that all politicians are corrupt.’
 b. # ‘No politician is corrupt.’
- (10) a. $\square P. \square Q_{\text{TP}, \text{TP}, \text{TP}, \text{TP}} [Q \square \text{ALT}(\mathbf{all}) \ \& \ P = \square p. \square \square_{\text{TP}, \text{TP}} [\square \square \text{ALT}(\mathbf{not}) \ \& \ p = \text{Q}(\text{politicians})(\square x. \square (\text{corrupt}(x)))]]$
- b. $\{ \{ \text{all}(\text{politicians})(\square x. \square \text{corrupt}(x)), \text{all}(\text{politicians})(\square x. \text{corrupt}(x)) \}, \{ \text{most}(\text{politicians})(\square x. \square \text{corrupt}(x)), \text{most}(\text{politicians})(\square x. \text{corrupt}(x)) \}, \{ \text{some}(\text{politicians})(\square x. \square \text{corrupt}(x)), \text{some}(\text{politicians})(\square x. \text{corrupt}(x)) \}, \{ \text{one}(\text{politician})(\square x. \square \text{corrupt}(x)), \text{one}(\text{politician})(\square x. \text{corrupt}(x)) \}, \{ \text{no}(\text{politicians})(\square x. \square \text{corrupt}(x)), \text{no}(\text{politicians})(\square x. \text{corrupt}(x)) \} \square \}$
- c. $\{ \text{Are all politicians corrupt?}, \text{Are most politicians corrupt?}, \text{Are some politicians corrupt?}, \text{Is one politician corrupt?}, \text{Are no politicians corrupt?} \dots \}$

Consider now what would happen if we tried to apply the above method to give an account of why the a) reading is not available for (2). The structure of the propositions in the topic value associated with the intended reading in the fashion of Büring (1997) is shown in (11a), (11b) lists some actual sets of propositions in it, and (11c) illustrates the questions corresponding to them:

- (11) a. $\square P. \square Q_{\text{TP}, \text{TP}, \text{TP}, \text{TP}} [Q \square \text{ALT}(\mathbf{at \ least \ three}) \ \& \ \& \ P = \square p. \square R_{\text{TP}, \text{TP}, \text{TP}, \text{TP}} [R \square \text{ALT}(\mathbf{every}) \ \& \ \& \ p = \text{Q}(\text{children})(\square x. R(\text{book})(\square y. \text{read}(x, y)))]]$
- b. $\{ \{ \text{at least three}(\text{children})(\square x. \text{every}(\text{book})(\square y. \text{read}(x, y))), \text{at least three}(\text{children})(\square x. \text{many}(\text{book})(\square y. \text{read}(x, y))), \text{at least three}(\text{children})(\square x. \text{one}(\text{book})(\square y. \text{read}(x, y))), \square \}, \{ \text{at least four}(\text{children})(\square x. \text{every}(\text{book})(\square y. \text{read}(x, y))), \text{at least four}(\text{children})(\square x. \text{many}(\text{book})(\square y. \text{read}(x, y))), \text{at least four}(\text{children})(\square x. \text{one}(\text{book})(\square y. \text{read}(x, y))), \square \},$

{ at least five(children)(\forall x.every(book)(\forall y.read(x,y))),
 at least five(children)(\forall x.many(book)(\forall y.read(x, y))),
 at least five(children)(\forall x.one(book)(\forall y.read(x, y))), \square }, \square }

- c. {How many books were read by at least three children?, How many books were read by at least four children?, How many books were read by at least five children?... }

In order to be able to account for the impossibility to assign the a) reading to (2) in Büring's framework, we would have to prove that the answers to all questions in the topic value follow from the truth of the proposition associated with this reading, or, in other words, that all propositions associated with the questions in the topic value are either entailed or contradicted by the above proposition.

Note, however, that if the reading (2a) expresses the proposition represented by the first formula in the set in (11b) then there is no way to prove the unavailability of this reading on the basis of Büring (1997), since the truth of this proposition does not entail the truth or falsity of all other propositions corresponding to the formulae in (11b). For example, the fact that there are at least three kids each of whom read many books does not entail or contradict the truth of the proposition that there are at least five kids who read every book, corresponding to the seventh proposition in (11b).

3.2 Jacobs (1997) on the scope of contrastive topics

Jacobs (1997) introduces the distinction between *i-specification* versus *i-topicalization* constructions, illustrated by him with the help of (12) and (13), respectively:

- (12) Ein Werk von Grass hat Reich-Ranicki \NICHT verrissen.
 one work of Grass have Reich-Ranicki not pulled to pieces
 'One work by Grass Reich-Ranicki did not criticize severely.'
- (13) ALle Grass-Romane kann man \NICHT empfehlen.
 all Grass-novels can one not recommend
 'Not all novels by Grass can be recommended.'

As the notation above shows, both constructions can be uttered with the same intonation pattern consisting of two accented positions, the first of which bears a so-called root contour, and the second a falling tone. A characteristic feature of *i-specification* constructions is that the constituent with the root contour must refer to a specific individual, this is the reason why they can be followed by an expression which further specifies the referent, as illustrated in (12a). (12b) shows that (12) cannot easily be imagined to be contrasted to its affirmative variants containing a different determiner:³

- (12) a. ... nämlich die "BLECHtrommel".
 namely the tin drum
 ... 'namely, The Tin Drum.'
- b. ? ... aber MANche Werke HAT er verrissen.
 but several works have he pulled to pieces
 ... 'but several works he did severely criticize.'

One of the defining characteristics of *i-topicalization* constructions, however, is that the constituent with the root contour should be associated with narrow scope with respect to the constituent bearing the falling tone.

³ I believe, however, that there exists an alternative explanation for why (12) cannot easily be continued with (12b) along the lines of the proposal made in section 6.

The narrow scope requirement for *i*-topics is explained by Jacobs in the following way: the construction introduces an illocutionary operator ASSERT taking widest scope into the logical representation of the sentence, which then takes the form $\text{ASSERT}^{\text{IT}}(\text{TOP})(\text{PRED})$. Jacobs defines the rule generating the semantic interpretation associated with the above structure in the following way:

$$(14) \quad [[\text{ASSERT}^{\text{IT}}(\text{TOP})(\text{PRED})]]_{\text{prop}} = [[\text{PRED}]]([[\text{TOP}]])$$

As (14) shows, the narrow scope of the contrastive topic is due to the fact that it is interpreted as an argument of the denotation of the predicate part in the particular construction. The presence of the illocutionary operator ASSERT in the structure is justified by the fact that *i*-topicalization is only possible in assertive and directive sentences in German.

One of the problems with trying to adopt this theory to account for the Hungarian data under consideration would be that in Hungarian, wide-scope contrastive topics are not only possible in assertive/directive sentences, but also in questions:

$$(15) \quad \begin{array}{l} [\text{CT} \quad / \text{Ötnél} \quad \text{több} \quad \text{gyerek}] [\text{FP} \quad \backslash \text{mikor} [\text{VP} \quad \text{érkezett?}]] \\ \quad \quad \quad \text{five-than} \quad \text{more} \quad \text{kid} \quad \quad \quad \text{when} \quad \quad \quad \text{arrived} \\ \quad \quad \quad \text{'When did more than five kids arrive?'} \end{array}$$

We have seen in this section that the proposals made in Büring (1997) and Jacobs (1997) cannot directly be transferred to account for the possibility of contrastive topics to receive narrow scope. However, as will be shown in the rest of this paper, some of Büring's and Jacobs' insights are essential for providing the correct interpretation of the sentences under discussion.

In the next section, we take a closer look at the first phenomenon listed above, namely, the issue of why the reading in which the contrastive topic appears to take wide scope is available in certain sentences but not allowed in others.

4 Wide scope or referential interpretation?

Consider again the two potential readings of (1) and (2). I propose that they do not differ from each other in the scope of the quantificational expressions, but in the fact that in one of them, the contrastive topic DP is assumed to denote a specific referent, and in the other it is interpreted non-specifically. In other words, I wish to claim that the difference between the two readings of (1) is analogous to the difference between the interpretation of Jacobs' *i*-specification and *i*-topicalization constructions.

The above proposal is supported by the fact that (1) can be complemented on its a) reading without a change of interpretation by an expression further specifying the intended referent of the contrastive topic DP, as illustrated below:

$$(16) \quad \begin{array}{l} [\text{CT} \quad / \text{Két} \quad \text{könyvet} \quad \text{a} \quad \text{listán}, \quad \text{mégpedig} \quad \text{azokat}, \quad \text{amelyeket} \\ \quad \quad \quad \text{two} \quad \text{book-acc} \quad \text{the} \quad \text{list-on} \quad \text{namely} \quad \text{those-acc} \quad \text{that-acc} \\ \quad \quad \quad \text{Tolsztoj írt,}] [\text{QP} \quad \backslash \text{minden} \quad \text{gyerek} \quad \text{elolvasott.}] \\ \quad \quad \quad \text{Tolstoj} \quad \text{wrote} \quad \text{every} \quad \text{child} \quad \text{VM-read} \\ \quad \quad \quad \text{'As for two books on the list, namely the ones written by Tolstoj, they were read by} \\ \quad \quad \quad \text{all kids.'} \end{array}$$

Although Jacobs (1997) does not discuss whether sentences with *i*-specification introduce a contrast between alternative statements, this does happen in the case of (1a): on this reading of the sentence, the two specific books read by all kids are set into tacit contrast with other books, which were read by some other subset of the set of students.

On this view about the interpretation of contrastive topic DPs, it becomes clear why (2), (4), or (6) do not have readings a), as opposed to (1) or (5). In the former examples, the contrastive topic DPs cannot pick out a specific referent (they also cannot stand in the ‘ordinary’ topic position of the Hungarian sentence, which only hosts expressions with a referential or generic reading), whereas in the latter they can.

With the problem of wide scope readings out of the way, let us turn to the investigation of the narrow scope readings.

5 Narrow scope readings

5.1 Observations

The possibility for quantificational expressions in the contrastive topic position in Hungarian to be associated with narrow scope is illustrated by the b) readings of (1), (2), (5), and (6), among others.

I would propose that the above problem can be tackled on the basis of an observation made in Kálmán (1985), according to which contrastive topics in Hungarian can only appear in non-neutral or corrective sentences, where they are obligatorily followed by a constituent bearing an *eradicating stress*. (Eradicating stress is defined by Kálmán as a type of stress that removes the stress from the words following it, unless this stress is also of the eradicating type.) In previous works, including, for example, Lambrecht (1994), Vallduví and Engdahl (1996), Lee (1999), von Stechow (1994), Büring (1997), it is claimed that contrastive topics have to be followed by a focus. In Hungarian, however, as (1), (2), (5), (6), (7) or (8) above illustrate, the constituent with the eradicating stress following the contrastive topic does not have to be identical to the constituent for which the term *focus* has been used in the generative literature i.e., the constituent sitting in the spec, FP position, as in (17), but can be situated in spec, QP, as in (1) and (2), in the VP, as in (5) or (7), or in NegP, as in (18):

- (17) [CT /Öt gyerek] [FP az \asztalt emelte fel tegnap ötkor.]
 five kid the table-acc lifted VM yesterday five-at
 a. ‘As for five kids, it was the table they lifted collectively/individually at five
 yesterday.’
 b. ‘As for five kids, it was the table lifted by that many collectively/individually at five
 yesterday.’
- (18) [CT /Öt vendég] [NegP \nem érkezett meg.]
 five guest not arrived VM
 a. ‘As for five guests, they didn’t arrive.’
 b. ‘As for five guests, that many didn’t arrive.’

Therefore, in order to avoid terminological confusion, I will refer to the constituent with the eradicating stress following the contrastive topic as the *associate* of the contrastive topic.

Let us consider the contribution of the associate expressions to the truth conditions of the sentence again. I propose that in each case the associate can be seen as an expression introducing a restricted quantifier into the logical representation of the sentence which takes widest scope with respect to the other operators. Using a different terminology, we could say that the associate introduces a *tripartite structure* into the logical representation of the sentence (cf. Heim 1982, Partee 1991, Bach et al. 1995).

For example, in the b) readings of (1) and (2), repeated here as (19), and (20), respectively, the associate expression introduces a (restricted) universal quantifier over individuals, which takes widest scope:

- (19) [_{CT} /Két könyvet] [_{QP} \minden gyerek elolvasott.]
 two book-acc every child VM-read
 a. ‘As for two books, they were read by all children.’
 b. ‘As for (at least) two books, so many were read by all children.’
- (20) [_{CT} /Legalább három gyerek] [_{QP} \minden könyvet elolvasott.]
 at least three child every book-acc VM-read
 a. # ‘As for at least three kids, they read every book.’
 b. ‘As for at least three kids, every book was read by that many.’

In the case of (5), repeated as in (21) below, the accented verb (signalling VP focus) appears to introduce existential quantification over events which happened at a specific time and place:

- (21) [_{CT} /Három vendéggel] [_{VP} \találkoztam tegnap délben.]
 three guest-with met-1sg yesterday noon-in
 a. ‘As for three guests, I did meet them at noon yesterday.’
 b. ‘As for three guests, I did meet that many at noon yesterday.’

In (6), repeated here as (22), the adverbial quantifier sitting in the quantifier position of the sentence introduces quantification over events of the same type happening at different times:

- (22) [_{CT} /Ötnél kevesebb vendéggel] [_{QP} \sokszor [_{VP} (össze)találkoztam.]]
 five-than fewer guest-with many times VM-met-1sg
 a. # ‘As for fewer than five guests, I did meet them many times.’
 b. ‘As for fewer than five guests, I did meet that many many times.’

In the next subsection we consider the issue of how the above intuitions could be represented in a more formal manner.

5.2 Steps towards formalization

Although I am not in a position to offer here a full-fledged formalism for handling the data under consideration, I wish to formulate some proposals which would bring us closer to a formal account of the relevant examples. I offer (23) as a general representation of the order of constituents in Hungarian sentences with a contrastive topic. The compulsory elements of the structure are marked with *foldface*, the others with *italics*:

- (23) [_{Topic}]* [_{CT}]* [_{PrV}]* [_{AS}] [_{PrV}]* [_{PoV/VP}]

(23) says the following. There can be one or possibly more constituents referred to as contrastive topics in a sentence, situated in one of the spec, TopP positions (although sentences with more contrastive topics will be ignored here). Contrastive topics can be preceded by ordinary topics. The presence of a constituent referred to as the associate (marked as AS in (23)) is obligatory in a structure with a contrastive topic. The associate can be identical to a maximal projection in one of the preverbal operator positions shown in (3), except the topic position, as well as to the whole VP or only to the finite verb. (The latter two instances can only be differentiated on semantic or pragmatic grounds, since in both cases it is the first constituent of the flat VP assumed here which bears the eradicating stress. The finite verb alone would play the role of the associate in sentence (5) above, for example, if the sentence was uttered to contrast the event of meeting the guests with, for example, the event of speaking to them.) The contrastive topic does not need to be immediately followed by the associate, although the latest position for the latter is the VP or the verb itself, i.e., the associate cannot be identical to a postverbal phrase. If the associate does not follow the verb immediately, it is possible for them to be separated by constituents in the preverbal operator positions. Also, if the associate is not the last among the preverbal operator positions, it can

possibly be followed by one or more operators. When the associate is other than the VP, then it is, naturally, followed by a VP, and when it is identical to the finite verb, then it can be followed by further post-verbal material. In order to keep the discussion to a manageable size, in the rest of the paper we will ignore the cases when the associate is identical to spec, FP or is in NegP.

I wish to propose that in cases under consideration, the meaning of the construction consisting of a contrastive topic and its associate is calculated as follows. The associate expression introduces a restricted quantifier over a type of entities determined by its semantic type (e.g., DPs -- individuals, adverbs of quantification -- events, VP/V -- existential quantification over events). The restriction of the quantifier is specified by the rest of the constituent playing the role of the associate. This restricted quantifier necessarily takes highest scope among the scope-bearing elements in the logical representation of the meaning of the sentence. The scope of the restricted quantifier would then be composed of the meaning of the rest of the sentence, including the contrastive topic itself. Schematically, the meaning of a sentence with a contrastive topic would be represented in the format for restricted quantification proposed in Klima (1982) as follows, where **Q** denotes the quantifier introduced by the associate, \square is the variable quantified over by **Q**, **R** stands for the restriction of **Q**, determined on the basis of the associate expression, and **S** stands for the scope of the quantifier, generated from information in the rest of the sentence:

$$(24) \quad (\mathbf{Q}\square. \mathbf{R}(\square)) \mathbf{S}(\square)$$

As an illustration, consider the semantic representation of reading (19b) in an event semantic framework (cf. Krifka 1992, for example) in (25). In this sentence, the role of the associate is played by a DP, the restriction of the universal quantifier introduced by it consists of individuals which satisfy the property specified by the rest of the DP, i.e. the noun *child*, whereas its scope is determined on the basis of the rest of the sentence. The property marked by **two-book** is the property of individuals in the denotation of *book* with at least two atomic parts. Quantifiers with empty restrictions will be substituted by their unrestricted counterparts:

$$(25) \quad (\square x. \mathbf{child}(x)) \square e \mathbf{read}(e) \square \mathbf{AG}(x, e) \square \square y (\mathbf{PAT}(y, e) \square \mathbf{two-book}(y))$$

(25) thus expresses that for all individuals with the property of being a child the property of having read two books holds.

The following formula represents the a) reading of (19). Note that the reason why the contrastive topic meaning does not fall into the scope of the quantifier is that the former is a constant. This formula thus shows that the proposal for associating structures with a contrastive topic with the construction meaning proposed above does not contradict intuitions about the interpretation of the apparent wide-scope readings of sentences:

$$(26) \quad (\square x. \mathbf{child}(x)) \square e \mathbf{read}(e) \square \mathbf{AG}(x, e) \square \mathbf{PAT}(\mathbf{a} \oplus \mathbf{b}, e)$$

Sentences like (21), with focused VPs, introduce existential quantification over the domain of events. The meaning of the above sentence could thus be represented as follows:

$$(27) \quad (\square e. \mathbf{meet}(e) \square \mathbf{AG}(\mathbf{I}, e) \square \mathbf{DAY}(\mathbf{yesterday}, e) \square \mathbf{AT}(\mathbf{noon}, e)) \square x (\mathbf{PAT}(x, e) \square \square \mathbf{three-guest}(x))$$

The above formula expresses that (21) is true if and only if there is an event of me meeting some plural individuals at noon yesterday and these individuals satisfy the property abbreviated as **three-guest** above, i.e., consist of at least three atoms and fall into the extension of the noun *guest*.

In this section we proposed an approach to account for the narrow scope readings of contrastive topics. We have claimed on the basis of empirical evidence that the logical

structure of the construction consisting of a contrastive topic and an associate should always be represented as one in which the associate introduces a restricted quantifier, together with its restriction, and the rest of the sentence contributes to defining its scope. This proposal is based on the assumption that the property of playing the role of the associate in construction with a contrastive topic provides an expression with certain semantic features which it would not otherwise have in another sentence. This assumption seems to be further justified by examples like (28), which contains a contrastive topic followed by a quantificational expression and a focus. Since it is the latter which bears the eradicating stress and thus plays the role of the associate, the sentence cannot have a reading where the universal quantifier takes wide scope over the focus, although this would have to follow from the scope principle.

- (28) [CT /Pontosan két lány] [QP mindig [FP \Jánost üdvözölte.]]
 exactly two girl always John greeted
 a. ‘As for exactly two girls, it is John who was always greeted by that many.’
 b. # ‘As for exactly two girls, it happened always that John was the one greeted by that many.’

The method suggested above can account for the Hungarian data under discussion without the need to introduce illocutionary operators into the logical structure of sentences, as done in Jacobs (1997), which would not be justified in the language.

6 Sentences without interpretation

Sentences like (4) above, repeated here as (29), will be regarded, following Büring (1997), not as grammatically ill-formed, but will be assumed to be lacking an interpretation. The reason for this choice of terminology is due to the fact they do not seem to contradict any rule of syntax (cf. (22), with the same expression in contrastive topic position which is perfectly well-formed in the language). In section 4 above, we have already managed to account for the lack of reading (4a). We now take a look at the problem of why the sentence and its counterpart with a non-monotonic determiner in (30) cannot have the b) readings, either.

- (29) # [CT /Ötnél kevesebb vendéggel] [VP \találkoztam tegnap délben.]
 five-than fewer guest-with met-1sg yesterday noon-at
 a. # ‘As for fewer than five guests, I did meet them at noon yesterday.’
 b. # ‘As for fewer than five guests, I did meet that many at noon yesterday.’
- (30) # [CT /Pontosan öt vendéggel] [VP \találkoztam tegnap délben.]
 exactly five guest-with met-1sg yesterday noon-at
 a. # ‘As for exactly five guests, I did meet them at noon yesterday.’
 b. # ‘As for exactly five guests, I did meet that many at noon yesterday.’

I claim that the truth-conditional interpretation associated with (29b) and (30b) is that I met fewer than five and exactly five guests at noon yesterday.⁴ The same truth conditions are expressed by the following sentences:

- (31) [FP Ötnél kevesebb vendéggel] [VP találkoztam tegnap délben.]
 five-than fewer guest-with met-1sg yesterday noon-at
 ‘I met fewer than five guests at noon yesterday.’
- (32) [FP Pontosan öt vendéggel] [VP találkoztam tegnap délben.]
 exactly five guest-with met-1sg yesterday noon-at
 ‘I met exactly five guests at noon yesterday.’

⁴ Since the formalization of these truth conditions in the framework shown in the previous chapter would involve some complications regarding the meaning of monotone decreasing and non-monotonic determiners, discussed in É. Kiss and Gyuris (2003), it will not be illustrated here.

The problem with (29)-(30), I believe, is not that they were unable to convey the truth-conditions associated with readings (29b) and (30b) but that they do not give rise to the implicatures associated with contrastive topics.⁵ Consider the list of some of the questions which would be contained in the topic value of (29) in Büring's (1997) framework:

- (33) {*Did you meet fewer than five guests at noon yesterday?, Did you meet more than five guests at noon yesterday?, Did you meet exactly five guests at noon yesterday?, ...*}

We could prove that the reading in (29b) is not available if we could show that the answer to all alternative questions in the topic value associated with it in fact would follow from the truth of the proposition expressed, and thus the required implicature would not be fulfilled. This can be shown in the following manner.

I believe that the verb *meet* denotes a type of event which distributes down to the subparts of its patient. In other words, if I met n people on one occasion, then it follows that I also met $n-k$ people on the same occasion, where $n-k \geq 1$. DPs with monotone decreasing and non-monotonic determiners in Hungarian are associated with a kind of maximality property, in other words, when I say that I met fewer than five guests, as in (31), it entails that I did not meet five or more guests on the same occasion. In other words, the expression of the above proposition equals to a claim about the truth or falsity of propositions of the structure 'I met k guests' for any number k where k refers to a quantity not fewer than five (i.e., where k is an alternative of *fewer than five*), or, using Büring's terminology, the utterance of the above proposition would answer any alternative questions of the form *Did you meet k guests?* In the topic value, thus would leave none debatable. In such a case, however, the implicatures associated with the contrastive topic would not be fulfilled. This is the reason for the lack of the reading under discussion.

As opposed to the above case, the sentence in (22), repeated here as (34), does have an interpretation, since the alternative questions in its topic value would not be yes-no questions like in the above case but questions of the type *Did you meet k guests n times?*, where n times would be an alternative to *many times*. The events asked about in these questions are independent of each other, the occurrence of an event of meeting fewer than five guests on one particular day cannot influence the occurrence of events of meeting a different number of guests on different days.

- (34) [CT /Ötnél kevesebb vendéggel] [QP\sokszor [VP (össze)találkoztam.]]
 five-than fewer guest-with many times VM-met-1sg
 a. # 'As for fewer than five guests, I did meet them many times.'
 b. 'As for fewer than five guests, I did meet that many many times.'

Thus, as the preceding discussion has shown, an explanation for the lack of b) readings for (29)-(30) can be formulated in Büring's (1997) framework, provided that the alternative propositions or questions in their topic values refer to events happening at the same time and place and that the contributions of monotone decreasing and non-monotonic determiners to the meaning of propositions are identified correctly.

The availability of the b) reading for (21), repeated here as (35), also follows from the same principles:

⁵ The representation of the truth conditions of readings (29b) and (30b) would involve some complications about the meaning of monotone decreasing and non-monotone determiners, discussed in É. Kiss and Gyuris (2003), which cannot be elaborated on here.

- (35) [CT /Három vendéggel] [VP \találkoztam tegnap délben.]
 three guest-with met-1sg yesterday noon-in
 a. ‘As for three guests, I did meet them at noon yesterday.’
 b. ‘As for three guests, I did meet that many at noon yesterday.’

The difference between (29)-(30) versus (35) is that the latter allows there to be events of me meeting a different group of guests than at least three at the same time and place, provided they stand in a subevent relation to the former. Thus, from the utterance of (35) with the b) interpretation, the answer to all questions of the form *Did you meet k guests at noon yesterday?* (those contained in the topic value) does not follow, and the implicatures associated with contrastive topics are fulfilled. In the next section we extend our proposals to the analysis of collective/distributive readings.

7 Collective versus distributive readings

Consider again the data in (7) and (8) above, repeated here as (36) and (37):

- (36) [CT /Öt gyerek] [VP \felemelte az asztalt tegnap ötkor.]
 five kid VM-lifted the table yesterday five-at
 a. ‘As for five kids, they did lift the table collectively/individually at five yesterday.’
 b. ‘As for (at least) five children, that many did lift the table #collectively/individually at five yesterday.’
- (37) [CT /Öt gyerek] [QP \sok asztalt felemelt tegnap ötkor.]
 five kid many table-acc VM-lifted yesterday five-at
 a. ‘As for five kids, they did lift many tables collectively/individually at five yesterday.’
 b. ‘As for five kids, many tables were lifted collectively/individually by that many at five yesterday.’

I propose that the lack of a collective reading in (36b) can be handled on the basis of the same assumptions as used in section 6, with one addition. Whenever a sentence predicates the occurrence of a collective event, the alternative questions in its topic value also have to refer to collective events of the same type. In other words, the following questions would be found in the topic value of the collective reading of (36b):

- (38) {*Did five kids lift the table collectively at five yesterday?, Did four kids lift the table collectively at five yesterday?, Did six kids lift the table collectively at five yesterday?...*}

Since two collective but otherwise atomic events cannot stand in a subevent relation to each other (the collective event of lifting the table by five kids has no collective events of, say, three kids lifting the table as subevents), the utterance of (36b) on its collective reading automatically answers all other questions in (38) in the negative, if they are assumed to ask about events taking place at the same time and place, unless the criterion that the events should occupy the same temporal and physical place is lifted, i.e., when it is allowed that more events of the same type take place simultaneously.

In this and the preceding section we have thus seen that the application of Büring’s (1997) theory to the Hungarian case can help to account for the lack of narrow scope readings of particular contrastive topics, as well as to explain the lack of collective readings of plural contrastive topic NPs, when special attention is paid on the structure of events whose occurrence is predicated about in these sentences. The next section summarizes the conclusions of the paper.

8 Conclusion

The paper looked at four phenomena involving the interpretation of Hungarian sentences with contrastive topics: the availability of what appear to be wide scope readings for quantificational expressions in this position, the availability of narrow scope readings for the same expressions, the issue of why otherwise grammatically well-formed structures with contrastive topics including monotone decreasing and non-monotonic determiners do not seem to have an interpretation, and the question of the availability of collective versus distributive readings for plural contrastive topic NPs.

It was argued that what appear to be wide scope readings are in fact cases where the contrastive topic receives a referential interpretation, and that the narrow scope readings can be accounted for by proposing that structures with contrastive topics are associated with a specific construction meaning, in which the expression playing the role of the associate introduces a restricted quantifier taking widest scope into the logical representation of the sentence. As regards the lack of interpretations for sentences with CTs involving monotone decreasing and non-monotonic determiners, and the availability of collective versus distributive readings, they can be accounted for by means of method proposed by Büring (1997) to filter out readings of sentences with contrastive topics which do not give rise to the required implicatures, provided that in sentences expressing existential quantification over events the alternative questions are also assumed to refer to events happening at the same time and place.

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