
Contrast and Contrastive Topic

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ABSTRACT. The starting point of this paper is the observation that in a question-answer dialog the use of *but* instead of *and* is obligatory if the answer is overinformative in that it includes an additional topic. A focus-semantic analysis of *but* is presented showing that (a) *but* is focus-sensitive and (b) *but* requires a denial with respect to the appropriate quaestio. This analysis provides a uniform basis for explaining the different uses, e.g. semantic opposition, denial-of-expectation, and the topic change use of *but*. Beyond that it gives some insight into the interaction between information structure and discourse relations in constructing the discourse.

1 Introduction

Consider the question-answer dialogs in (1)-(3). Due to the contrastive accents in the topic the answers in each of (1)-(3) have to comprise at least two conjuncts, otherwise Adam would be inclined to ask for a continuation: "And / but what ...?" In (1) Adam asks about all of the children, and Ben addresses one part of the children in the first conjunct and the other part in second conjunct. In (2), though Adam asks about the small children only, Ben first refers to the bigger ones, and Adam has to wait for the second conjunct to get the required information. In (3) it is the other way around: Adam's question is already answered by the first conjunct and the second conjunct gives information Adam did not ask for. Anyway, in each of the examples in (1)-(3) Adam's question is completely answered in the end.

- (1) a. Adam:
What did the children do today?
b. Ben:
The **small** children stayed at HOME and/but the **bigger** ones went to the ZOO.¹
- (2) a. Adam:
What did the small children do today?

¹**Boldface** type denotes a contrastive topic accent and CAPS denote a focus accent.

- b. Ben:
The **bigger** children went to the ZOO, but/*and the **small** ones stayed at HOME.
- (3) a. Adam:
What did the small children do today?
- b. Ben:
The **small** children stayed at HOME, but/*and the **bigger** ones went to the ZOO.

It is commonly assumed that in a coherent question-answer dialog the answer has to refer to the subject matter of the question only. In (2) and (3) information about an additional topic is provided without rendering the answers unacceptable. But comparing (1) and (2)/(3) we observe that in the latter case the use of *but* instead of *and* is obligatory. The use of *but* to indicate a topic change has been mentioned in the literature. Yet there is no explanation why a contrast can be used that way: Why does the use of *but* instead of *and* render an over-informative answer acceptable?

To address this question, first, I will briefly consider the notion of contrastive topic. Then I will present the outlines of a focus-semantic analysis of *but* inferring the different uses of *but* from a uniform semantic basis. (For a comprehensive discussion see Umbach in prep.). It will turn out that by using *but* instead of *and* the speaker presents the additional topic as being closely related to the original one, thus minimizing the deviation.

2 Contrastive Topic

Following e.g. Eckard (1996) and Vallduvi/Villkuna (1998), I assume two kinds of foci, sentence focus and contrastive focus. Sentence focus is expressed by a sentence default accent and partitions the sentence into a topic and a comment. Contrastive focus is due to, e.g., focus-sensitive operators and wh-questions. For contrastive focus, I adopt the idea of Alternative Semantics (cf. Rooth 1992):² A contrastive focus triggers the presupposition that there exists at least one proper alternative, i.e. an element differing from the ordinary meaning of the focussed phrase with respect to the accented item. For example, the contrastive focus in *the **small** children* triggers the presupposition that there exist other (groups of the aforementioned) children in addition to the small children. Following the presupposition-as-anaphor theory (van der Sandt 1992) the proper alternative triggered by

²I will not opt for a particular framework here because it's not relevant for the point I want to make in this paper. In fact, the semantics of *but* proposed in the next section will need access to both focus and background of the conjuncts thus requiring a fairly expressive framework, cf. Krifka (1999b).

the contrastive focus is regarded as an anaphor which has to be bound (or be accommodated).

A contrastive focus may occur in any position in a sentence. If, however, it occurs in the topic part, it represents a contrastive topic and will typically be marked with a rising accent.³ Being in the topic position, a contrastive topic refers to an entity the speaker wants to talk about. Moreover, due to its contrastiveness, it indicates that there exist alternatives the speaker wants to talk about, too. This intuition is, e.g., captured by the partial-answer account suggested in Krifka (1999): Assuming that a sentence is an answer to some question, the role of a contrastive topic consists in indicating that the answer is a partial one. (Roughly, a sentence is a partial congruent answer to a question if it is entailed by some proposition *p* in the question meaning *Q*, but it is not a (complete) congruent answer entailing some *p* in *Q*.) In (1b), for example, the answer given in the first conjunct is partial with respect to the question in (1a) since it is entailed by the entire answer.

There are two notorious problems with contrastive topics: First, in a sequence of answers the last answer completes the requested information, so, intuitively, it is not partial any longer. Second, in the additional-topic answers in (2b) and (3b) one of the conjuncts is a complete answer and the other one is not even congruent with respect to the question. In Krifka (1999), the first problem is handled by requiring each answer in a sequence to be partial in isolation. The second problem, however, is not discussed.⁴

I will suggest a solution for the additional-topic problem distinguishing between the overt question posed in a dialog and the implicit "quaestio" addressed in the answer. The quaestio of an utterance is supposed to be a question which is a posteriori reconstructed from the utterance. In the unmarked case in (1), for example, the quaestio reconstructed from Ben's answer is equal to Adam's question. But in (2) and (3) the quaestio of the answer is slightly different from the overt question. Ignoring the connective for the moment the quaestio related to (2b) could be "*What did the small children do, and what did the bigger ones do?*". Being a posteriori reconstructed the quaestio shows which question is actually answered by an utterance, even if there is a deviation from the question that has been posed.⁵ Depending on the specific interest the quaestio may be reconstructed either as

³In terms of Steedman (2000) a contrastive topic is called theme-focus, and a contrastive focus in the comment part is called rheme-focus. Steedman's notion of focus matches with the notion of contrastive focus employed here.

⁴The open-question/strategy account of Büring (1998) handles both problems. However, it fails to cover "crossed" contrastive topics, as e.g. in (12a).

⁵It has been suggested to view the quaestio as the "question under discussion" QUD (cf. Ginzburg 1996). But then we would need a more liberal protocol for querying. According to Ginzburg, when Adam poses a question, Ben can either accept it as the top most QUD or reject it. In (2) and (3), however, Ben just slightly deviates from Adam's question neither rejecting it nor (fully) accepting it.

a constituent question or as a polarity question.

Adopting the notion of the quaestio, the role of the contrastive topic can be defined as indicating that the answer is partial with respect to the quaestio reconstructed from the entire conjunction. Congruence then has to refer the quaestio, too: An answer is congruent if the respective quaestio entails the question. This accounts for the acceptability of the dialogs in (2) and (3). But we have to be careful not to throw the baby out with the bath water: Bringing in an additional topic obviously requires some extra effort, for example, using *but* instead of *and*. So the question is why the use of *but* facilitates a topic change.

3 Standard accounts of *but*

The semantics and pragmatics of *but* has been the topic of a lively discussion starting with Lakoff's seminal paper in 1971. Lakoff distinguished between two uses of *but*, semantic opposition (*John is tall, but Bill is short*) and denial-of-expectation (*John is tall, but he's no good at basketball*). Since then there has been a host of investigations pointing out further uses of *but*, e.g. for topic-change, and generalizing the analysis to other contrastive connectives. Few approaches, however, have tried to examine the underlying notion of contrast and trace the various uses of *but* to a uniform semantic meaning.

Recent accounts of the meaning *but* mainly draw on default knowledge. Asher (1993), for example, assumes *but* to be licenced by different polarities in the conjuncts where the polarities are due to linguistic and common world knowledge. Winter and Rimon (1994) use a default implication interpreted in possible world semantics to capture the notion of contrast. Gaerdenfors (1994) presents a semantics of *but* within his general framework of reasoning with expectations. Common to these analyses is the idea that the use of *but* indicates a denial-of-expectation, the expectation being due to default world knowledge.

On the other hand, it is easy to show that common world knowledge cannot be decisive for the use of *but*. Suppose, for example, you are not versed in botany and you don't know what loosestrife is. Nevertheless, you will interpret (4) as denying the expectation that loosestrife is found in July. This expectation, however, cannot belong to your common world knowledge, simply because you cannot have any knowledge about an entity or kind you aren't acquainted with.⁶

(4) It was July but we couldn't find any loosestrife

⁶More than you ever wanted to know about loosestrife, thanks to Kathryn Bock: loosestrife = *Lysimachia*; invasive perennial, can in some varieties displace native plants.

The example in (5) refers to the film "The English Patient".⁷ The situation is this: Lord Almasy has an affair with Katherine. Katherine's husband Jeffrey has to pick up Lord Almasy by plane from somewhere in the desert. Katherine will be on the plane, too. Jeffrey, knowing about the affair, decides to crash the plane on the ground and kill them all. (5a)-(5d) tell the outcome of his plan, describing exactly the same situation. Nevertheless, in responding to different questions, the sentences differ with respect to the contrast they involve.

- (5) a. (What happened?)
Jeffrey is dead, Katherine is seriously injured, and Almasy is unhurt.
- b. (Did Jeffrey succeed in killing them all?)
Jeffrey is dead, but Almasy is unhurt and Katherine is alive, too.
- c. (Have all of the participants been affected by the accident?)
Jeffrey is dead and Katherine is seriously injured, but Almasy is unhurt.
- d. (Do all of the participants need a doctor?)
Jeffrey is dead and Almasy is unhurt, but Katherine is seriously injured.

The "loosestrife" example demonstrates that the expectation denied by the use of *but* need not be given by common world knowledge and is therefore not a prerequisite for the interpretation of the sentence. Instead, it is triggered by the interpretation of *but*, comparable to a presupposition or (conversational) implicature. Taking the expectation as a presupposition would allow for accommodation, which would work fine for the "loosestrife" example: Accommodate that, normally, loosestrife is found in July. But what to accommodate in the "English Patient" examples? Since the situation is the same in each of (5b)-(5d), world knowledge cannot trigger different expectations. The expectations seem to be evoked, instead, by the questions. But do we really want to accommodate, e.g. in the case of (5c), that normally, if Jeffrey/someone succeeds in killing himself, then he succeeds in killing the others, too? This is clearly absurd. The expectations induced by the questions in (5b)-(5d) are by far too ad hoc to be captured by way of accommodation.

Both examples make it plain that a contrastive relation is neither given by the meaning of the conjuncts nor induced by common world knowledge. The expectation denied by the use of *but* is obviously due to a question explicitly or implicitly posed by the preceding discourse. So the use of *but* primarily has to comply with a question posed by the preceding discourse. Instead of readily accommodating ad hoc expectations we will

⁷adopted from Brauße (1999).

investigate the role of these questions and try to find out how they relate to the *but*-sentences and why they reflect an expectation.

4 Two novel observations

The analysis of *but* proposed in this paper takes its starting point from two characteristics which have up to now been neglected in considering the meaning of *but*: First, *but* is focus-sensitive. This is evident when you compare (6a) and (6b). In (6a) the verb phrase is focussed whereas in (6b) the subject is focussed. Due to the focus we expect different contrasts: In (6a) washing the dishes has to be contrasted with some other activity. In (6b) Bill has to be contrasted with a different person. This suggests that we should examine the alternatives induced by the focussed expressions and take the respective sets of alternatives into account.

- (6) a. ... but Bill has washed the DISHES.
- b. ... but BILL has washed the dishes.

The second observation relates to the questions answered by a *but*-conjunction. If the question in (7) is answered by confirming both conjuncts, the use of *but* instead of *and* is unacceptable, cf. (8a), (8b). If the answer denies both conjuncts *but* is equally unacceptable, cf. (8c). If, however, one part of the question is confirmed and the other part denied, the use of *but* is perfect (and the use of *and* is at least marked), cf. (8d)-(8f). Denial, by the way, does not hinge on the presence of an explicit negation, cf. (8e). So, obviously, if a *but*-sentence is an appropriate answer to a question comprising two conjuncts, one of them will be confirmed and the other one will be denied.

- (7) Adam: Did John clear up his room and wash the dishes?
- (8) Ben:
 - a. [yes]John cleared up his room and [yes] he washed the dishes.
 - b. # [yes] John cleared up his room, but [yes] he washed the dishes.
 - c. # [no] John didn't clear up his room, but [no] he didn't wash the dishes.
 - d. [yes] John cleared up his room, but [no] he didn't wash the dishes.
 - e. [yes] John cleared up his room, but [no] he skipped the washing-up.
 - f. [no] John didn't clear up his room, but [yes] he did the washing-up.

For the quaestio of a *but*-sentence to reflect the confirm+deny characteristics it has to comprise polarity question conjuncts instead of constituent

questions. The polarity question conjuncts will relate to the alternatives contrasted by *but* asking whether both alternatives apply simultaneously. Hence, in accordance with the confirm+deny characteristics one of the conjuncts of the quaestio will be confirmed by the corresponding *but*-sentence and the other one will be denied.

5 The focus-semantic analysis of *but*

The focus-semantic analysis of *but* makes use both of its focus-sensitivity and its confirm+deny characteristics. The basic idea is as follows: In a *but*-conjunction there are two corresponding foci (in the first and in the second conjunct, respectively) which establish alternatives with respect to each other.⁸ The semantics of *but*, beyond being a mere conjunction, requires that one of the alternatives renders a true proposition and the other one is denied with respect to the first alternative's background. In short: *but* excludes an alternative. This, by the way, doesn't mean that *but* introduces a negation (*but* is not a "nand"!). Instead, *but* requires a negation, in the same way a verb selects an argument of a certain type. If there is no overt negation in one of the conjuncts, then the hearer is requested to reconstruct it. The fact that the quaestio has to be answered by "Yes,... *but*, no, ..." reflects the required negation.

To show that this idea applies to *but*-conjunctions in general we have to distinguish four cases:⁹ Either the subject of the conjuncts is the same and the predicates differ from each other (A), or the predicates are the same and the subjects differ from each other (B), or both subjects and predicates are different yet comparable (C), or subjects and predicates are not comparable to each other, i.e. we have to compare the entire propositions (D). To simplify matters let us assume that if there is an overt negation it occurs in the second conjunct (i.e. take only yes-no sequences into account) and consider briefly the four cases.

The A-case is illustrated in (9a) and (9b). Normally, the predicates will be focussed.¹⁰ In (9a) the negation is overt inducing the quaestio in (9c). In (9b) there is no overt negation. The question in (9d), however, would not be the appropriate quaestio because (9b) cannot be an answer to (9d). Instead, the quaestio has to be the same as in the negated example indicating that there is an implicit negation to be reconstructed from the complement of the predicate (i.e. *skip the washing up* is supposed to be the set complement

⁸Thus they are contrastive foci.

⁹I assume that commas may be substituted by full stops. Due to limitations of space correction cases are left out.

¹⁰There may be an additional focus on the negation, then the predicate in second conjunct has to be regarded as a contrastive topic. In German, in this case, the word order will be reversed: *John hat AUFGERÄUMT, aber abgewaschen hat er NICHT.*

of *wash the dishes*). So the relevant alternatives in (9a) and (9b) are the same: *clear up the room* as against *wash the dishes*.

- (9) a. [yes] John cleared up his ROOM, but [no] he didn't wash the DISHES.
- b. [yes] John cleared up his ROOM, but [no] he skipped the WASHING-UP.
- c. Did John both clear up his room and wash the dishes?
- d. Did John both clear up his room and skip the washing-up?

The B-case is given in (10a): The subjects are focussed and establish alternatives with respect to each other. The quaestio is given in (10b). Contrary to the A-case examples explicit negation is obligatory, cf. (10c). The reason for this is easy to see: Individuals, as opposed to predicates, don't have complements (there is no "non-John"). However, B-case examples will be acceptable without explicit negation if the particle *too* is added, cf. (11a). Note that, when adding *too*, the quaestio will be a different one, cf. (11b). Similarly, B-case examples with a negation in both conjuncts will be acceptable if the particle *either* is added (cf. (11c) and the quaestio in (11d).

- (10) a. [yes]JOHN cleared up his room, but [no] BILL didn't.
- b. Did both John and Bill clear up their rooms?
- c. *John cleared up his room, but Bill did.
- (11) a. John cleared up his room, but Bill did, too.
- b. Did John clear up his room, and was he the only one who did?
- c. John didn't cleared up his room, but Bill didn't, either.
- d. Did John leave his room in a mess, and was he the only one who did?

The C-case is more complex because we have to consider two foci in each of the conjuncts, one of them being a contrastive topic. The contrastive topics may be "parallel" comprising either the subjects or the predicates, or they are "crossed" comprising the subject of the first conjunct and the predicate of the second conjunct, or vice versa. (12a) presents one of the crossed variants. The it-cleft paraphrase in (12b) makes it clear that the focus (in the comment part of the sentence) is on *Bill*, and *doing the dishes* represents a contrastive topic.¹¹ For this reason in German the word order is reversed, cf. (12c). In (12a), as in all of the C-case examples, there is no explicit negation in either of the conjuncts. Nevertheless, there is a denial, because (12a) clearly entails that John did not wash the dishes. Taking the entailment into account, the quaestio in (12d) is again partly confirmed and

¹¹In English the it-cleft variant is clearly preferred over (12a). In German the reversed word order variant in (12c) will be the preferred one.

partly denied, as demonstrated in (12e). Note, that the quaestio is exactly the same as the one in (9c). In fact, (12a) and (9a) are very much alike both conveying the information that John cleared up his room and did not do the dishes. But in (12a) we additionally learn who finally did the washing up.

- (12) a. **John** cleared up his ROOM, but BILL did the **dishes**.
 b. **John** cleared up his ROOM, but it was BILL who did the **dishes**.
 c. **John** hat AUFGERÄUMT, aber **abgewaschen** hat BILL.
 d. Did John both clear up his room and wash the dishes?
 e. [yes] John cleared up his room, but [no, John did not do the dishes] the dishes were washed by Bill.

Let us skip over the second crossed variant and look at one of the parallel variants. In (13a) the contrastive topics are parallel being the subjects in both of the conjuncts. The quaestio is given in (13b). The denial of part of the quaestio is entailed by telling what Bill did instead of clearing up the room, cf. (13c).

- (13) a. **John** cleared up his ROOM, but **Bill** did the DISHES.
 b. Did both John and Bill clear up their room?
 c. [yes] John cleared up his room, but [no, Bill did not clear up his room] Bill did the dishes.

The last of the four cases concerns *but*-sentences with wide foci in the conjuncts, cf.(14a). In these cases the entire propositions have to be regarded as being alternatives with respect to each other. If there is no explicit negation in one of the conjuncts, e.g. (14b), it has to be reconstructed. Note that the appropriate quaestio for (14b) has to be (14c) instead of (14d).

- (14) a. [It is raining]_F, but [we are not going to stay at home]_F.
 b. [It is raining]_F, but [we are going to go for a walk]_F.
 c. Is it raining, and are we going to stay at home?
 d. Is it raining, and are we going to go for a walk?

To sum up these findings:¹² First, in the second conjunct of a *but*-sentence there is a **focus associated with *but*** (F_{but}). It is either a contrastive topic, if there is one, or a regular focus. The focus associated with *but* represents the **expected alternative** (EA), that is, the alternative denied with respect to the quaestio.¹³ Second, in the first conjunct there has to be a **corresponding focus** (F_{corr}) that contains the expected alternative in its set of alternatives.

¹²As said in the beginning, the presentation in this paper is restricted to confirm+deny sequences. To include deny+confirm sequences the definitions have to be extended.

¹³In cases like (9b) and (14b) where the negation has to be reconstructed by means of the complement of the focussed expression, the expected alternative is given by the complement.

Third, there is a **denial condition**, stating that the proposition resulting from substituting the expected alternative for the corresponding focus is false, i.e. $\neg[\dots F_{corr}/EA\dots]_{C1}$.¹⁴ Suppose the meaning of the first conjunct is given by $[\dots F_{corr} \dots]_{C1}$, and the meaning of the second conjunct is given by $[\dots F_{but} \dots]_{C2}$. Then the meaning of a *but*-conjunction "C1 *but* C2" is given by:

$$[\dots F_{corr}\dots]_{C1} \wedge [\dots F_{but}\dots]_{C2} \wedge \neg[\dots F_{corr}/EA\dots]_{C1}$$

The crucial point in the semantics of *but*, which distinguishes *but* from a mere conjunction, is the denial condition. In the A-case, with an overt negation in the second conjunct, the denial condition is trivially satisfied, because it is given by the second conjunct. For example, in (9a), repeated in (15), the focus associated with *but* is *wash the dishes*, and this is also the expected alternative. The corresponding focus is *clear up the room*. So the denial condition is "It's not the case that John washed the dishes", which is equivalent to the second conjunct.

- (15) (= 9a) John [cleared up the ROOM]_{F_{corr}}, but he didn't [wash the DISHES]_{F_{but}}.

If an A-case example occurs without overt negation the negation has to be reconstructed using the predicate's complement, cf. (9b). This time, the expected alternative is given by the predicate's complement instead of being directly given by F_{but} . The denial condition will then be entailed by the meaning of the second conjunct.

With B-case examples and D-case examples satisfaction of the denial condition is similarly trivial. In the C-case examples, however, the denial condition is not given by one of the conjuncts. For example, in (12b), repeated in (16), the focus associated with *but* is a contrastive topic, i.e. *wash the dishes*, which is also the expected alternative. The corresponding focus is *clear up the room* matching with the type of the expected alternative. Hence the denial condition is the same as above: "It's not the case that John washed the dishes". But this time, the denial condition is an entailment resulting from the additional information concerning who/what instead of the expected alternative satisfies the proposition.

- (16) (= 12b) **John** [cleared up his ROOM]_{F_{corr}}, but it was BILL who [washed the **dishes**]_{F_{but}}.

Since it is the denial condition which distinguishes *but* from a mere conjunction, expectations denied by a *but*-sentence are obviously induced by the denial condition. This is in accordance with a well-known property

¹⁴Dots indicate the part of the conjunct which is not subsumed by F_{corr} or F_{but} , i.e. either the background or another focus. F_{corr}/EA means the substitution of EA for F_{corr} .

of negated sentences in general: Negated sentences commonly trigger the implicature that the speaker expects (or assumes the hearer to expect) that the affirmative proposition holds (cf. Givon 1978). This is the reason why we reconstruct the quaestio asking whether both of the alternatives hold simultaneously, e.g., whether John did both, clear up his room and also wash the dishes. Note that, due to this quaestio there is an expectation that both of the alternatives do hold simultaneously: If John cleared up his room, he will have washed the dishes, too. So, finally, the focus-semantic analysis confirms the idea that there is an expectation denied by the use of *but*. However, contrary to what is said in the literature, the expectation is not given by common world knowledge. Instead, it is triggered by the denial condition inducing the special form of the quaestio. The quaestio, of course, has to be in line with the previous context. But that is a general problem of discourse construction, not restricted to the use of *but*.

6 "concessive *but*"?

In some contexts a concessive marker apparently can be added or even be substituted for *but* without affecting the meaning of the sentence. From that it has been concluded that there is a concessive use of *but* (e.g. Grote et al. 1997). However, regarding *but* as being interchangeable with a concession in these contexts presupposes that a concession is interpreted as indicating a denial of expectation. As opposed to that, König (1991) convincingly argues that a concession expresses "incausality", thus accounting for the close relationship between causal and concessive statements. Following König's incausality analysis it is easy to show that a concession is not a special case of a contrast: First, according to the incausality interpretation (17a) has to be paraphrased as (17b). Second, it is well-known that *and*-conjunctions may be interpreted in many different ways, e.g. as temporal or as causal relations, cf. (18a), (18b). But this is an overinterpretation by the hearer, not included in the meaning of *and* (cf. Posner 1980). Third, due to the focus-semantic analysis interpreting (19a) requires to reconstruct a negation (analogous to (14b)). Now, (19b) may be overinterpreted in a causal way, too, cf. (20). Due to the negation causal overinterpretation results in incausality, compare (17b) and (20).

- (17) (incausality analysis of concessives)
 - a. Although it is raining Mary is happy.
 - b. It is raining, and it is not the case that Mary is not happy because of that.
- (18) (causal overinterpretation of *and*)
 - a. It is raining, and Mary is happy
 - b. It is raining, and Mary is happy because of that.

- (19) (reconstruction of the negation)
- a. It is raining, but Mary is happy.
 - b. It is raining, and it is not the case that Mary is not happy.
- (20) (causal overinterpretation of *but*)
 It is raining and it is not the case that Mary is not happy because of that.

Hence, there is no "concessive *but*", just as there is no "causal *and*"—interpreting *but* as a concession is due to overinterpretation. At the same time, a contrast is perfectly compatible with a concession, just as a causal relation is perfectly compatible with a conjunction. This suggests that contrast and conjunction, on the one hand, and concession and causality, on the other hand, are different types of discourse relations exploiting different features of the discourse. Concession and causality represent relations between propositions, or states of affairs, i.e. semantic/external relations (cf. Mann, Thompson 1988). Thus they may be realized by an adverbial containing a propositional anaphor (*because of that, in spite of that* etc.) and establish an anaphoric link (cf. Webber et al. 1999).

A contrast, on the other hand, is based on the information structure of the sentence combining subsequent foci. Making use of the information structure, a contrast is a genuine structural relation, i.e. no semantic/external relation. Yet it should not be subsumed under the notion of pragmatic/internal relations because the latter are usually tied to the illocutionary aspects of their arguments (Sanders et al. 1992). The relation of contrast given by *but* seems to resist the standard classification, which may help to clarify the ongoing discussion about the types of discourse relations (cf. e.g. Moore and Pollack 1992, Bateman and Rondhuis 1997)

7 Topic change

Let us finally come back to the dialogs in (1)-(3), repeated in (21)-(23). The starting point of this paper was the question why in (22b) and (23b) the use of *but* instead of *and* is obligatory. Consider the quaestiones given below.¹⁵ In the unmarked case in (21b) both *and* and *but* are acceptable because Ben may intend his answer as either referring to the question (21c) or to the one in (21d). Note, however, that there is a crucial difference: The *but*-quaestio but not the *and*-quaestio triggers the expectation that the bigger children did the same thing as the small ones did. By using *but* in (22b) and (23b) Ben deliberately conveys this expectation. In this way, although

¹⁵For ease of comparison the quaestio is given here consisting of a polarity and a constituent question conjunct, assuming that answering a constituent question simultaneously confirms the respective polarity question, so this form of quaestio is also answered by a confirm+deny sequence.

actually deviating from the original topic of Adam's question, Ben presents the additional topic as being closely related to the original one. Thus, by using *but* Ben suggests that the additional topic is relevant, too, and the deviation is reasonable.

- (21) a. Adam:
What did the children do today?
- b. Ben:
The **small** children stayed at HOME and/*but* the **bigger** ones went to the ZOO.
- c. Ben's quaestio when using *and*:
What did the small children do and what did the bigger ones do?
- d. Ben's quaestio when using *but*:
What did the small children do, and did the bigger ones do the same?
- (22) a. Adam:
What did the small children do today?
- b. Ben:
The **bigger** children went to the ZOO, *but* the **small** ones stayed at HOME.
- c. Ben's quaestio:
What did the bigger children do, and did the small ones do the same?
- (23) a. Adam:
What did the small children do today?
- b. Ben:
The **small** children stayed at HOME, *but* the **bigger** ones went to the ZOO.
- c. Ben's quaestio:
What did the small children do, and did the bigger ones do the same?

To conclude, the dialogs in (22) and (23) clearly demonstrate that an answer need not refer to only the topic of the question. This suggests that a natural language dialog should not be conceived as a server-client relation where B has to answer all and only A's questions. Partners in a dialog seem to be "peer-to-peer": They are entitled to introduce an additional topic, but they are bound to relate the additional topic to the original one, thus minimizing the deviation. One way to do this is by using the conjunction *but*.

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