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## Discourse Contrast: Types and Tokens\*

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There is no quality in this world that is not what it is merely by contrast.  
Nothing exists in itself.  
H. Melville

Many traditional and recent accounts of discourse contrast have exploited the semantics and contextual uses of the conjunction *but*. Accordingly, a distinction among different types of contrasting in discourse has been established on the basis of the distribution and discourse functions of this expression. The fundamental classification includes *Contrast* or *Semantic Opposition*, *Concession* and *Denial of Expectation*. My purpose in this paper is to defend a minimalist view of linguistic contrast or opposition. In order to do so, I'll review this concept as it is used as integral part of discourse theories. First I will take a descriptive approach, examining different variants of contrasting in natural language and some of the frameworks that have been built around these concepts. Obviously, not all approaches agree on what "contrast" or "opposition" is, and since some theories simply use it as a conceptual part of their terminology, the concept is even left undiscussed. Then I'll make a *reduction hypothesis* at the end of the paper to illustrate how different contrasting statements could be represented without appealing to the speaker's intentions, beliefs, goals or expectations. Finally, I'll make the hypothesis that all types of contrast might be reduced to the single notion of opposition.

I would like to introduce first some methodological assumptions that govern discourse approaches. These assumptions are in fact well known

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claims, and they are largely assumed in by discourse analysis with respect to discourse relations and discourse markers.

*Assumption 1:* The presence of a discourse marker (DM)<sup>1</sup> is an index or a clue for interpreting discourse structure. Explicit structural DMS (coordinating or subordinating) are analyzed as signaling for a particular relation holding between discourse segments (sentences, utterances, speech acts or interactional moves). That is, the role of a DM is to identify the *type* of relation that holds between two discourse units, or even between assumptions which underlie the utterances.

*Assumption 2:* Some DMS might be *used* in several ways, giving different interpretations according to the context of use. On the basis of linguistic tests, researchers agree on the fact that there's no isomorphism between DMS and discourse relations. This multi-functional property of DMS raises the issue of their meaning.<sup>2</sup>

*Assumption 3:* If the semantic contribution of a DM is different in several contexts, then the *type* of discourse relation it denotes is too. According to this assumption, some DMS might be used in different contexts by carrying different semantic effects. Following assumption 2, if the semantic contribution of a DM changes according to the context, a set of unified contextual uses gives rise to a new relation *type*.

### ***Three types of contrasting statements***

There are several ways of how speakers express contrast or opposition<sup>3</sup> between utterances or propositions in a discourse. Some DMS such as *but*, *nevertheless*, *although*, among others, constitute some of the explicit linguistic expressions used to convey contrast. Let's start by classifying different types of discourse relations intimately related to the concept of opposition expressed by the following uses of *but*:

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<sup>1</sup>I will use 'discourse marker' in the broad sense, which includes the set of lexical expressions that relate discourse segments. These have been studied under different labels, as discourse or pragmatic connectives, sentence connectives, cue phrases, etc.

<sup>2</sup>Three classical views have been argued for: (i) DMS have separate meanings, (ii) all DMS have a single 'core meaning' but different pragmatic uses, interpreted according to the context of utterance, (iii) there are two or more related meanings associated to a single DM.

<sup>3</sup>In what follows, I will use both notions, *contrast* and *opposition*, as being conceptually analogous.

- (1)      a.    John is quick but Bill is slow [cf. Lang [1984]]  
           b.    John is a good student, but he’s sloppy [cf. Hobbs [1985]]  
           c.    He does not have a car, but he has a bike [cf. Gröte et al. [1995]]

In (1a) the relationship between the two clauses is called *Semantic opposition* (SO).<sup>4</sup> Discourse contrast stands out clearly between two opposing states of affairs (both sentences share a similar syntactic structure, which establishes a contrast between ‘John’ and ‘Bill’ on the one hand, and ‘quick’ and ‘slow’ on the other). (1b) illustrates a kind of *indirect* contrast relationship.<sup>5</sup> The second sentence refutes an expectation emerging or inferred from the first aforementioned sentence. We call this a *Denial of expectation* (hereafter DofE), which appears to go back to Frege [1918-19].<sup>6</sup> Finally, we can qualify the use of ‘but’ in (1c) as argumentative, turning to Anscombe and Ducrot [1977]. In this interpretation, the first sentence counts as a possible argument in favour of a conclusion, whereas the second sentence counts against that conclusion. There are still other forms of contrasting sentences, such as *Antithesis* or *Otherwise*.<sup>7</sup> *Contrast* occurs in dialogue also, as in the case of *Corrections*, *Rejections*, or *Disagreements*. Here I will focus on the analysis of the three main types of contrasting statements (cf. examples in (1)), leaving aside all other forms of opposition related to dialogue.<sup>8</sup> Let’s start by presenting some approaches and the concepts underlying them.

### ***Semantic opposition* (SO)**

Lakoff [1971] characterizes SO with the notion of antonymy between predicates which are comparable in some sense. However, as Lakoff remarks, antonymy is not enough where applied to SO use of ‘but’. [Spooren, 1989, page 31] gives the following description of SO:

A relation between two conjuncts each having different subjects, to which properties are attributed that are mutually exclusive in the given context.

[Oversteegen, 1997, page 61] proposes to amend this view, avoiding identity of subjects, by claiming that:

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<sup>4</sup>Lakoff [1971].

<sup>5</sup>The distinction *direct/indirect* is found in Winter and Rimon [1994].

<sup>6</sup>“The word ‘but’ differs from ‘and’ in that with it one intimates that what follows it is in contrast with what would be expected from what preceded it.” (Frege 1918-19: 295).

<sup>7</sup>Mann and Thompson [1988].

<sup>8</sup>For an analysis of contrasting in dialogue see Thomas [2005] and references therein.

There need not be two entities (corresponding to two different subjects). There may also be only one entity to which different properties are ascribed, either at different times or places or in different possible worlds.<sup>9</sup>

Accordingly, Hobbs [1985] and Kehler [2002] propose two different mechanisms for inferring contrast in discourse.<sup>10</sup> With this brief description in mind, we can summarize SO as a contrast (dissimilarity) between the elements compared (i.e. states, events or individuals<sup>11</sup>), without contradiction between them.<sup>12</sup> Moreover, according to traditional approaches, SO is characterized by appealing to the semantic content and structure between contrasting segments.<sup>13</sup> Consequently, some researchers claim that while SO does not require any kind of world knowledge or contextual factors, DofE and *Concession* do.

### ***Denial of expectation (DofE)***

The difference between the content of (1a) and (1b) is that the propositions in (1b) do not stand in *direct* contrast, but rather in *indirect* contrast. That is, the second proposition refutes an expectation that may be inferred from the first. In such a case, according to our world knowledge, the hearer can infer that good students are normally not sloppy, which is opposed to the content of the second proposition. Thus, expectations function as hidden assumptions.<sup>14</sup> That's why Hobbs [1985] defines DofE as a extreme case of *Contrast*, since it requires that the hearer infers  $P$  from  $S_0$  and  $\neg P$  from  $S_1$  in order to be recognized. This means that the hearer must process  $S_1$  first, go back to  $S_0$  and make the inference that there is a contrast between them (i.e. a contrast between  $P$  and an implied proposition  $\neg P$ ).<sup>15</sup> Kehler [2002]

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<sup>9</sup>In possible worlds semantics, a proposition is the set of those worlds in which the proposition holds true.

<sup>10</sup>(a) Infer  $p(a)$  from the assertion of  $S_0$  and  $\neg p(b)$  from the assertion of  $S_1$ , where  $a$  and  $b$  are similar. In these case, there are similar entities but contrasting predications. (b) Infer  $p(a)$  from the assertion of  $S_0$  and  $\neg p(b)$  from the assertion of  $S_1$ , where there is some property  $q$  such that  $q(a)$  and  $\neg q(b)$ . That is, the same predication is made about two contrasting entities.

<sup>11</sup>Peterson [1986].

<sup>12</sup>Lagerwerf [1988].

<sup>13</sup>For instance, Lagerwerf [1988] assumes a *parallel intonation pattern*, and Asher [1993] and Asher and Lascarides [2003] a *parallel structure*.

<sup>14</sup>Gärdenfors [1993].

<sup>15</sup>The inferences work as follows:

- a.  $S_0$ : good student > {methodical, clear, thorough...} ( $P$ )
- b.  $S_1$ : sloppy > {unmethodical, confused...} ( $\neg P$ )

argues that DofE is a *Cause-effect* type relation<sup>16</sup> which requires world-knowledge in order to get a *Coherent Situation*. Causality is implicit in the semantics of DofE:

**Kehler’s violated expectation:**

Infer  $P$  from the assertion of  $S_0$  and  $Q$  from the assertion of  $S_1$ , where normally  $P \rightarrow \neg Q$

Moreover, Kehler introduces a new relation called *Denial of preventer* (2b) which is the reverse relation of DofE (2a). Kehler motivates this new relation from empirical observation that the order of the arguments determine the role of a DM, as illustrated below:

- (2) a. Bill is a politician, {but, \*even though} he’s honest
- b. Bill is honest, {even though, \*but} he’s a politician

Kehler assumes Hobbs’ logical abduction, first proving the logical form of an utterance and then scaling up to multi-utterance level, where world and domain knowledge is used to infer what is the most plausible relation holding between the segments of a text. For the example in (2a), for instance, we can first assume that in a knowledge base, there is a formula conveying the belief that being a politician implies being dishonest.<sup>17</sup> As has been put forward<sup>18</sup>, taking the propositional content of sentences, and the expectations semantically inferred from them, confronts us with a semantic contradiction. If Kehler’s rule (and other assumptions or expectations closely related to our knowledge about the world) are right, then a contradiction emerges at the semantic entailment level.<sup>19</sup> That’s the reason why once a defeasible knowledge is accepted, a presupposed causality is abduced.<sup>20</sup> Roughly speaking, identifying *Resemblance* relations (as for SO cases) can be seen as reasoning by *analogy* (computation of common entities and properties). The inference process underlying the recognition of *Cause-Effect* relations (*Violated expectation* or *Denial of preventer*) is a *Coherent Situation*. In order to reach this situation, Kehler appeals to the notions of cause and effect by means

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<sup>16</sup>Kehler’s taxonomy of types goes back to Hume’s association of ideas in which three types are recognized: *Resemblance* (Parallel, Generalization, Exemplification and Elaboration); *Cause-effect* (Contrast, Violated Expectation, Denial of Preventer and Result); and *Contiguity* (Narration, Explanation).

<sup>17</sup>A formula such as:  $(\forall x, p_1) \text{Politician}(p_1, x) \supset (\exists h_1) \neg \text{Honest}(h_1, x) \wedge \text{cause}(p_1, \neg h_1)$ .

<sup>18</sup>Asher [1993], Winter and Rimon [1994].

<sup>19</sup>Lexicalizing the content of the implied proposition we’ll get a contradiction of the form ‘Bill is dishonest, but he is honest’.

<sup>20</sup>That is:  $(\forall e_1, e_2) \text{Cause}(e_1, \neg e_2) \supset \text{Violated Expectation}(e_1, e_2)$ .

of world knowledge and logical abduction. Hence, in Kehler’s approach so and *DofE/Denial of preventer* might be conceptually expressed as follows:

- a. [Cause-effect + Contrast] = *DofE/Denial of preventer*
- b. [Resemblance + Contrast] = *Contrast*

It is natural at this stage to think that what is shared by these relations is the *Contrast* feature, otherwise there would be no semantic distinction between *DofE* and *Result* for Cause-Effect relations, or between *Parallel* and *Contrast* for Resemblance relations.

### ***Concession***

A third traditional variant of contrastive interpretation is *Concession*. Generally speaking, this relation is characterized by some failure related to expectations. For instance, in Hallyday [1985], *Concession* is a subtype of *Condition* since its meaning may be expressed by “if *P* then contrary to expectation *Q*”. On this view *Concession* is based on an unexpected causal relationship which is not hold; Martin [1992] analyzes it as a combination of several *Cause* relations, and Dahlgren [1988] as *Qualification*. Since there is a variety of approaches and definitions for this relation, I will summarize some of them in what follows.

In a concession context, the conjunction ‘but’ is used as *argumentative*.<sup>21</sup> The relation between two thoughts related by ‘but’ is based on an evidence or an argument. That is, a proposition *p* is used as evidence or argument with respect to some (unexpressed) salient conclusion or hypothesis *r*, whereas *q* is assumed to be presented as a counter-argument with respect to *r* (i.e.  $\neg r$ ). A classical example of this use is illustrated below (cf. Winter and Rimon [1994]):

- (3)
- a. [We were hungry]<sub>*p*</sub> *but* [the restaurants were closed]<sub>*q*</sub>
  - b. *p* (= ‘we wanted to eat’)  $\Rightarrow$  we ate (= *r*)
  - c. *q* (= ‘the restaurants were closed’)  $\Rightarrow$  we didn’t eat (=  $\neg r$ )

As it has been observed,<sup>22</sup> the concession pattern can be characterized by a context in which the speaker asserts the propositional content expressed by two related utterances against the background assumption. That is to say, the two types of situations or states of affairs are generally incompatible.

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<sup>21</sup>This notion goes back to Anscombe and Ducrot [1977]. In this interpretation, ‘but’ (fr. *mais*) expresses a non-truth conditional relation between two propositions.

<sup>22</sup>König and Siemund [2000].

The background assumption is actually a third issue implicitly implicated by both propositions.<sup>23</sup> Thus, it has to be salient in the utterance situation. Lagerwerf [1988] calls it *Tercium Comparationis* (TC) and, analogously to DofE, is given contextually. However, in DofE the first proposition gives rise to a TC which is denied, whereas in *Concession* it is argued against. Extending Lagerwerf’s approach, Gröte et al. [1995] account on *Concession* is based on the following general principle:

On the one hand, *A* holds, implying the expectation of *C*. On the other hand, *B* holds, which implies Not-*C*, contrary to the expectation induced by *A*.

which is represented as in the so-called ABC-scheme:

- (4)      **ABC-scheme:**
- i.     $A > C$
  - ii.    $B > \text{Not-}C$

This is a defeasible rule encoding general world knowledge. Basically, it states that the content asserted in *A* carries a defeasible expectation *C* via defeasible implication ( $>$ ). This expectation is denied ( $\neg C$ ) by interpreting the assertion in *B* in the same way.<sup>24</sup> Depending on the context, the rule might be interpreted as cause-effect<sup>25</sup> or as expectation. The context will determine which one (DofE or *Concession*) is at issue. According to the presence or absence of the arguments ABC, Gröte et al. [1995] differentiate DofE and *Concession* as follows:

1. DofE (*A* and  $\neg C$  are present)
2. *Concession* (*A* and *B* are present, and perhaps *C*, either explicitly or implicitly).

For DofE cases, the opposition appears because an expectation emerging from a sentence is reversed in the other.<sup>26</sup> In *Concession* there’s an opposition between the conclusions one would draw from the main clause and the

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<sup>23</sup>The background assumption is taken as *presupposed* and it is dependent of the utterance situation.

<sup>24</sup>Kruijff-Korbayová and Webber [2001] analyse the role of Information Structure in order to distinguish what they call *Concessive opposition* and DofE. I will not address this issue here.

<sup>25</sup>That is, ‘although *A* defeasibly implicates *C*, we can conclude that Not-*C because B*’.

<sup>26</sup>In Knott’s approach (Knott [2000]) there is no expectation that is denied but a *plan* that becomes impracticable.

subordinate clause with respect to a contextually pertinent open issue (i.e. the TC).

(5) He doesn't have a car, but he has a bike

Kruijff-Korbayová and Webber [2001] formulate the following defeasible rules for (5) whose conclusions appear to be in opposition:

- TC: the mobility of the person under discussion:
- Normally, if a person does not have a car then he is not mobile  $A > C$
- Normally, if a person has a bike then he is mobile  $B > \neg C$

Crevels [2000] argues for four different levels of concessive meanings, depending on the nature of the contents of the concessive clauses. At the level of *content* (involving physical domain); at the *epistemic* level (a relation between a speaker's assumption and its failure); at the *speech act* level (the state of affairs asserted in one proposition makes it difficult to perform some speech act); and finally at the *textual* level (incompatibility between what has already written in the text and what could be written). From the aforementioned accounts on *Concession*, we may draw the following general view. Unexpectedness and causality are conceptually associated to *Concession* constructions. In both cases, an alternative set must be constructed for the discourse context as part of the presuppositions attributed to the hearer.

### ***The reduction hypothesis***

Let the notation  $DM_c$  stand for the set of contrastive DMs. As it has been illustrated above, discourse constructions of the form  $P DM_c Q$  can be given a range of different interpretations. A basic and more traditional characterization, among the different variants of contrasting, comes from the division of labor between semantics and pragmatics. *Contrast* or *Semantic Opposition* belongs to semantic or ideational level.<sup>27</sup> The discourse function of *Contrast* (or alternatively a DM denoting it) seems to be used just to draw a comparison based on similarity and difference.<sup>28</sup> On this view of things, the concept of contrast is associated to a symmetric opposition between two propositional contents conventionally communicated. On the other hand, *Concession/DofE* expresses contents whose nature is essentially pragmatic

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<sup>27</sup>This can be seen in Mann and Thompson [1988] or Knott [2000].

<sup>28</sup>De Hoop and de Swart [2004].

or presentational. In these cases, an utterance leads the hearer to expect some implicit proposition which is then denied by the information implied by the other utterance. According to this view, propositional content plays a subsidiary role in determining the meaning of a discourse. Further justification for this distinction comes from the need of recognizing the speaker’s intention to communicate specific assumptions. In order to do so, there is a variety of linguistic devices which not only does encode conceptual content, but also “contextual conditions” (Recanati [1993]).<sup>29</sup> Accordingly, DMS like *but*, *although*, *too*, among others, generate conventional implicatures, or more precisely, they are second-order speech act indicators.<sup>30</sup>

The main differences found in the literature between *Contrast* or SO, on the one hand, and *Concession* and DofE on the other, might be summarized as follows:

<i>Contrast/Semantic Opposition</i>	<i>Concession/DofE</i>
No need to be signaled with DMS	Mostly signaled with DMS
Doesn’t imply Concession/DofE	Imply opposition indirectly
Propositions are equally evaluated	One of the propositions is prominent
No inferred expectations	Inferred expectations
Additive	Causal

Lakoff<sup>31</sup> includes argumentative cases of ‘but’ as SO and Dascal and Karttunen [1977] maintain that *Concession* and DofE are both a subcase related to each other. There is good reason for assuming that *Concession* and DofE are both structurally similar, and share a set of common features. The most salient may be easily stated as follows. The interpretation of both types is based on expectations calculated from the interpretation of an assertion in the context of utterance. At the same time, it has been argued that *Contrast* and *Concession* are known to be close and that they interact in many ways.<sup>32</sup> That’s why some researchers expand the semantics of *Contrast* to include pragmatic features which contribute to discourse interpretation. Along this line, in some recent approaches, a unified account of the three contrasting variants has been proposed (using possible-world seman-

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<sup>29</sup>In Relevance Theory terms, this corresponds to “procedural” meaning (Blakemore [2000]). That is, some connectives encode conditions constraining implicatures, for instance, indicating what kind of contextual assumptions the hearer should derive to make the right inferences.

<sup>30</sup>Bach [1977].

<sup>31</sup>Lakoff [1971].

<sup>32</sup>König and Siemund [2000].

tics and implication<sup>33</sup>; how presupposition is instantiated<sup>34</sup>; contrast having the same semantics as denial<sup>35</sup>; contrast as denial property with respect to an explicit or implicit question<sup>36</sup>, to name just a few). In all approaches, an important enrichment of context is needed to yield a (complete) description of the inferred contents to make expectations or implicit issues accessible.

Let me first elaborate slightly the issue of background knowledge which stands as a fundamental concept in interpreting *Concession*/DofE constructions. For illustrative purposes, I'll take the ABC-scheme in (4) as general pattern. Intuitively speaking, when a speaker  $S$  asserts a proposition  $p$ , then  $S$  believes that  $p$  is true.<sup>37</sup> We might articulate this assumption as follows:

$$(6) \quad S[p] \rightarrow B_S[p]$$

When this principle is applied to *Concession* and DofE constructions, obviously not with the logical implication, but using defeasible knowledge instead, the implicit proposition  $C$  (i.e. the TC relevant to the context of utterance), it appears that the contents of  $C$  and  $\neg C$  are naturally assumed as part of what the common ground speakers believe and accept as true.<sup>38</sup> Otherwise, approaches to *Concession* and DofE wouldn't be able to explain the mechanisms underlying these discourse relations. Thus, if knowledge is closed under entailment, expectations seem to be closed under defeasible implication:

$$(7) \quad \begin{array}{l} \text{a. } A > C: B_S[A] \ \& \ B_S[A > C] > B_S[C] \\ \text{b. } B > \neg C: B_S[B] \ \& \ B_S[B > \neg C] > B_S[\neg C] \\ \text{c. } B_S[C] \ \& \ B_S[\neg C] \end{array}$$

In (7c) we are confronted with two judgements expressing two beliefs which are contraries.<sup>39</sup> Are they incompatible? If we systematically incorporate pragmatic inferences into semantic contents of what is said for *Concession* or DofE constructions, we should admit that there's no logical

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<sup>33</sup>Winter and Rimón [1994].

<sup>34</sup>Sæbø [2002].

<sup>35</sup>Maier and Spenader [2004].

<sup>36</sup>Umbach [2001].

<sup>37</sup>This corresponds to Grice's *Maxim of Quality*: "do not say what you believe to be false" [Grice, 1989, page 27].

<sup>38</sup>Like pragmatic presuppositions along the line of Stalnaker [1999].

<sup>39</sup>Notice that there's not a contradiction, since it should be  $B_S[p] \ \& \ \neg B_S[p]$ , which implies a contradiction between beliefs, and thus that both cannot be true. In contrast, in (7c) both judgements cannot be true at the same time, but they could be false.

incompatibility. One argument might be that the contents of  $C$  and  $\neg C$  do not express respectively the assertion and the negation, but rather  $\neg C$  must be interpreted as a partial negative assumption (i.e. the expected alternative does not hold true), or a partial negative reply to a contextual question<sup>40</sup>, or even a partial goal and action.<sup>41</sup> [Sæbø, 2002, page 4] illustrates this point by claiming that:

The first sentence contradicts the result of replacing something in the second sentence by something in the first sentence.

Recently, Maier and Spenader [2004] propose a dynamic approach whose purpose is to model contrast statements and denial uniformly. In their view, *Contrast* is defined as “retracting potential implications that the context might suggest but which are not intended by the speaker.” In a contrastive statement of the form  $P \text{ DM}_c Q$ ,  $P$  determines the TC (i.e. implication that contradicts the content of  $Q$ ), and  $Q$  removes a part of the TC implicated in the background. That is to say, the content of  $\neg C$  corresponds to the part of the common ground which has to be removed to ensure consistent interpretation.<sup>42</sup> Others approaches subsume this assumption under the concept of “restriction” (i.e. restricting the scope of the domain defeasibly established by  $C$ ). While I see the force of such an argument, I disagree. Some objections can be made that I’m going to expose. I’ll begin with the fact that the content of the defeasible information carried by one utterance constitutes the TC or background assumption<sup>43</sup>, as mentioned earlier. What makes the content of the proposition  $C$  “at issue” in a given context? A possible answer might be a set of shared beliefs about the world and expectations. Does this mean that what a speaker wants to be expected is identical to

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<sup>40</sup>Umbach [2001], Umbach [2004].

<sup>41</sup>Knott [2000].

<sup>42</sup>To illustrate their proposal, I’ll give below a simplified scheme [cf. Maier and Spenader [2004]]:

- (8)
- a. I was hungry, but the restaurants were all closed
  - b. **Implicit issue** (TC): Did you eat?
  - c. **Correction**: [hungry(x), ate(x)], [restaurant(X), closed(X),  $\neg$  ate(x)]
  - d. **Downdate**: [hungry(x), ~~ate(x)~~], [restaurant(X), closed(X),  $\neg$  ate(x)]

<sup>43</sup>Appealing to background assumptions become problematic for quantified constructions like (9):

- (9)           Some like it hot, but not all of them

I’m grateful to Christian Bassac for suggesting this example to me.

what his listeners recognize in interpreting it? This would entail that all competent language speakers are sharing the same amount of knowledge, which is manifestly false. However, this kind of interpretation process relies on information outside the linguistic content of the discourse, since implied propositions are part of the beliefs a particular interpreter has about the world. Anyone who endorses expectations to deal with contrasting statements is taking for granted that (i) what is said by the speaker determines a set of expectations, (ii) the hearer must figure out what is expected from what is said and (iii) background assumptions are presupposed by both the speaker and the hearer. Thus, a hearer *H* should expect a proposition *p* in a context *C* because *p* is defeasibly implied by the speaker in *C*. An interpreter might associate discourse segments without being able to determine the intentions, beliefs, pragmatic inferences and the like attributed to the speaker. This point has been succinctly restated in [Asher and Lascarides, 2003, page 77] as follows:

[. . .] constructing the logical form of a discourse is the key to semantic competence –to working out ‘what was said’. Interpreters recover such logical forms reliably and in a robust manner: i.e., when they have a reliable and accurate record of the actual utterances, they all by and large agree on what was said (although perhaps not on *why it was said* or on *its consequences*). [emphasis is mine]

Discourse coherence is not directly dependent on the possible intentions of speakers, but rather on the way words and utterances are connected following a set of minimal discourse rules. Recall that I’m not denying the relevant role of implicit assumptions in default reasoning. Implicit information is obviously present in our ordinary life and sometimes needed to understand specific contexts. The idea that I’m suggesting is a simple one. Approaches to *Concession* and DofE assume that speakers have more knowledge than what they really have. Nevertheless, competent speakers have enough linguistic knowledge to make judgements about whether a discourse is coherent or not. At the level of discourse structure, this asymmetry can be seen as a conceptual confusion between *linguistic knowledge* and *domain knowledge*. The argument I am alluding to may be elaborated in the following way: It has been observed, for instance, that *Concession* is an *epistemic* relation<sup>44</sup> (i.e. evidence in favour or against a TC). This reveals the intentional or performative nature of the relation, since it demands a set of common beliefs or sharing background information). It is also *asymmetric*<sup>45</sup> (i.e. a

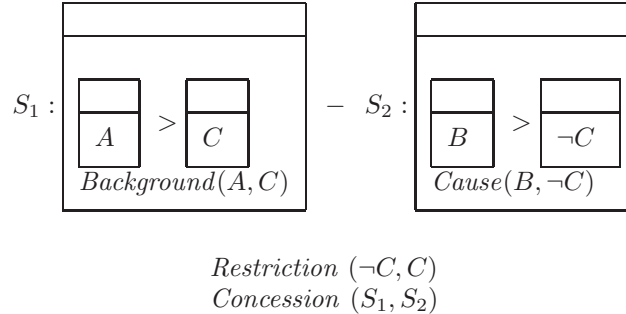
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<sup>44</sup>Lagerwerf [1988].

<sup>45</sup>Hobbs [1985], Spooren [1989].

proposition is prominent with respect to the other). Moreover, it has been defined as *argumentative*.<sup>46</sup> In fact, there is both a connection and a conflict between new information and old expectations. Finally, the notions of *causality*<sup>47</sup> (i.e. a cause that has an unexpected result) and *restriction*<sup>48</sup> become conceptually relevant in *Concession* contexts. Going back to ABC-scheme in (4), we might represent two discourse segments,  $S_1$  and  $S_2$ , related by *Concession* as follows:

(10)



Let's assume, as a working hypothesis, that the interpreter doesn't know the discourse domain. The two discourse variants below refer to a specific domain, one for which a particular knowledge is needed:

- (11) a. [**Although** the lipid-protein interface (the annular sites) of SERCA pumps does not select for the lipid composition that provides optimum activity] $_{S_1}$  [there are a number of SERCA isoforms and spliced variants that display differential targeting] $_{S_2}$ <sup>49</sup>
- b. [The lipid-protein interface (the annular sites) of SERCA pumps does not select for the lipid composition that provides optimum activity] $_{S_1}$  **but** [there are a number of SERCA isoforms and spliced variants that display differential targeting] $_{S_2}$

What is the discourse relation between  $S_1$  and  $S_2$ ? We would claim that the presence of *although* in (11a) constitutes an explicit clue for signaling a *Concession* relation between  $S_1$  and  $S_2$ . What about (11b)? The intuitive answer would be: it must be the same. That is to say, we should be able to

<sup>46</sup> Anscombe and Ducrot [1977], Merin [1999].

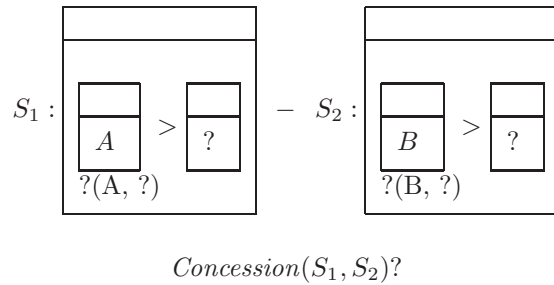
<sup>47</sup> Kehler [2002], König and Siemund [2000].

<sup>48</sup> Gröte et al. [1995], Kim [2002] Umbach [2004].

<sup>49</sup> cf. British Society for Cell Biology (BSCB) Newsletter, Winter 1999.

make the same inferences for (11a,b). Now, if this is correct, we should also be able to reconstruct a discourse representation closed to (10). However, it is clear enough that not all competent English speakers could make the right inferences in order to assign a content to the TC or implicit issue for (11a,b). I couldn't. If defeasible information is not available, how could an interpreter infer the *Concession* discourse relation? Does this mean that whoever speaks English cannot make a judgement about the coherence of (11a,b)? We are facing a situation in which a hearer doesn't know what makes  $S_1$  and  $S_2$  a coherent discourse, asserting that's a *Concession* relation between  $S_1$  and  $S_2$ . That is, we get a representation as the following:

(12)



Proceeding on these assumptions, should we conclude that a speaker knows that there's a *Concession*, but he doesn't know why? Since the semantics of *Concession*/DofE has been elaborated from particular uses of the conjunction *but*, when the background assumptions raised by this expression are unclear, the *Concession* relation itself becomes inconsistent. Nevertheless it should be clear that whoever understands English might make judgements about the coherence of this text establishing the right discourse connections between their contents. All I can say about it is that there's "some" kind of opposition between  $S_1$  and  $S_2$ . To this, one might reply that in *Concession* contexts there's a DM denoting the relation. Thus, if it's really a *Concession*, then we'll have a concessive DM. I think that this argument does not work, as illustrated in discourses (11a,b). Moreover, this move does not sit at all well with the assumptions 2 and 3 mentioned at the beginning of the paper. In fact, DMs might help to recognize the discourse relation that exists between two discourse segments, but the discourse relation itself cannot select in a set of DMs one of which is the right one in a given context. This is related to the semantics of the DM, not to the conceptual nature of the relation. Consider the following examples in English and French respectively.

- (13) a. We started late. {*Nevertheless*/\**In contrast*}, we arrived on time [cf. Fraser [1999]]
- b. Il fait froid, {*mais*/?/?*pourtant*}, j'ai un gros manteau [Jayeze [2003]]  
*It is cold, but*/?/?*although I have a big coat (on)*

In (13a,b) it is not the *Contrast* relation that is violated, but rather the appropriateness of some contrastive DMs. Once again, here we're building up a complex semantics for *Concession*, based on default reasoning, for different discourse contrasting statements appealing to some particular uses of certain DMs, the prototypical one being the expression 'but'.<sup>50</sup> However, what is provided here is a mere scheme for a DM, not for the relation itself. More specifically, the unacceptability of the examples in (13) is due to some violation of the conditions of use of the concerned DMs. These conditions have nothing to do with *Contrast* as a rhetorical relation. The situation becomes worse in (12b). Implicit knowledge is required by the hypothesis that *but*-conjunction introduces an unexpected conclusion. What could be the semantic contribution of *but* in (12b) and what should be the conclusion? This leads us to a second conceptual confusion between (1) the *type* of discourse attachment (how discourse segments are related by a rhetorical relation) and (2) the *nature* of this attachment (what reasons the speaker have in order to make such attachment). When confronted to this distinction, researchers work on (2) but sometimes forget and almost always neglect (1). The important point is that whatever the type of contrasting between sentences, there is an opposition underlying them. My only objection is that there are good reasons for thinking that *Contrast* or *Opposition*, either direct or indirect, is an irreducible concept or epistemological primitive. The other types of contrasting are in fact derived from it. Moreover, if we establish a difference between SO and DofE based on the explicit/implicit distinction<sup>51</sup>, then both types are conceptually unclearly distinguished. After all, explicitness, as coherence, is a scalar notion.<sup>52</sup> In the same way, as argued in Gärdenfors [1993], expectations are all defeasible, but they exhibit varying *degrees of defeasibility*.<sup>53</sup>

### ***A minimalist view***

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<sup>50</sup>Either 'but' is lexically ambiguous or it has the same interpretation in all situations. The later option is found, for instance, in Lang [1984] or Winter and Rimon [1994].

<sup>51</sup>Salkie and Oates [1999].

<sup>52</sup>Bublitz [1999].

<sup>53</sup>Gärdenfors defines an expectation ordering in which the notion of expectation is associated to *beliefs* about the world.

In order to illustrate what I call a *Reduction hypothesis* with a very simple representation, I'll assume SDRT (Asher [1993], Asher and Lascarides [2003]) approach to discourse semantics in what follows. This framework has the advantage of providing a fairly clear and intelligible way to represent discourse structure. Moreover, unlike other discourse frameworks, in SDRT there's no constraint on the number of discourse relations that could be used to connect two discourse segments. There are discourse units that express more than one single coherence relation. Furthermore, I'll take from [Asher and Lascarides, 2003, page 21] an infeasible principle called *Maximize Discourse Coherence*, given below:

**Maximize Discourse Coherence (MDC):**

The logical form for a discourse is always a logical form that's maximal in the partial order of the possible interpretations.<sup>54</sup>

This principle expresses the common assumption according to which, as interpreters, we look for a maximally coherent interpretation. The set of possible interpretations form a partial order whose function is to tell which interpretations are more coherent than others. This principle fits well with the different degrees of contrast or opposition in discourse.

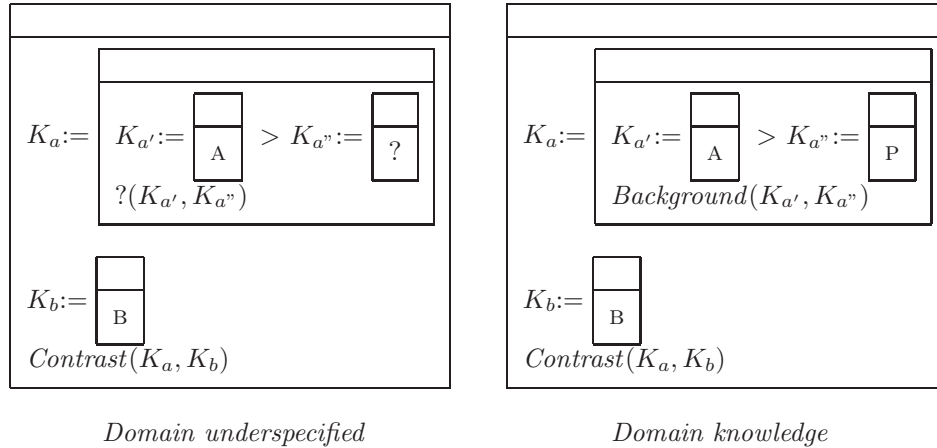
To make things easier I shall be assuming that the interpreter has a minimal linguistic competence, that he knows the rules for discourse attachment and consequently that he can recognize whether a discourse is coherent or not. In such a case, the question is how could an interpreter establish a discourse relation and discourse coherence when there is no knowledge about the discourse domain? Ontologically speaking, there is only one type of contrast relation (i.e. *Contrast* or *Opposition*) that corresponds to the *type of attachment*. In such a case, we might think that something essential is missing. On the one hand, pragmatic inferences associated to world knowledge or common sense implied by content utterances disappear; on the other hand, contrastive markers won't be distinguished in their contextual uses, since a set of contrasting markers will be associated to one conventional meaning.

Essentially, there are two principal discourse strategies. The first one, which I shall refer to as 'Indirect *Contrast*', involves positing knowledge about the discourse domain. The second way, referred to as 'Direct *Contrast*', operates in those cases where the interpreter has no knowledge about the domain, but he is able to recognize that some kind of opposition is at

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<sup>54</sup>Formally:  $\text{Best-update}_{SDRT}(\sigma, \mathcal{K}_\beta) = \tau \in \text{update}_{SDRT}(\sigma, \mathcal{K}_\beta) : \tau \text{ is } \leq_{\sigma, \beta} \text{-maximal}$  (i.e. when a new discourse segment  $\beta$  has to be attached to a context  $\sigma$ , the hearer will try to maximize the coherence relation that connects  $\beta$  to  $\sigma$ ).

issue. According to this model, interpretation is a two-step process whereby a hearer identifies a contrast between two discourse segments. In the first step, the hearer uses his syntactic and semantic knowledge, together with whatever clues he can obtain from the discourse context. In the second step, if the hearer has particular knowledge about the domain, then he will be able to give more fine-grained distinctions among various degrees of *Contrast*. Recall that the degrees of opposition reveals MDC principle, and hence differentiate semantic contents in a given context. Both situations would be illustrated as follows:



I'll close this section with two brief remarks regarding how discourse segments are related. On the one hand, the interpreter holds what's actually said from the semantically expressed propositions and retains a *Contrast* relation between the contents of A and B. On the other hand, in light of the specific knowledge about the discourse domain, the interpreter could reconstruct the potential implications that the context might suggest by means of a revision of contents. In such a case, common ground information is related via *Background* discourse relation<sup>55</sup>, as a reflection of the multidimensional nature of some discourse representations.

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<sup>55</sup>It is worth noting that *Background* as a rhetorical relation belongs to the SDRT's typology of primitive coherence relations, and needed to handle other kind of discourse structures.

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