Unifying contrast and denial

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1 Denial vs. contrast

The extensive literatures on contrast and on denial give the impression (despite terminological confusions) that the phenomena are quite far apart. We consider the following to be paradigmatic examples of denial and contrast respectively:

(1) A: Juan's English is OK.
     B: No, his English is not *OK*; he's as fluent as a native speaker!

(2) I was hungry but the restaurants were all closed.

Some apparent differences: (i) Denials are essentially a dialogue phenomenon as is obvious from the fact that (ii) denials taken out of their dialogue context are often plain contradictions (Horn, 1989), and for this reason (iii) their analysis necessarily involves nonmonotonic operations. Contrast on the other hand is (i') a discourse relation frequently occuring in monologue, (ii') never involving overt contradictions (**I am hungry but I am not hungry*)[1] and therefore (iii') often treated as an essentially monotonic phenomenon: what licenses a contrastive conjunction is not overt contradiction, but rather a conflict between what's defeasibly implied by the first and second conjuncts.

However, despite these differences, some examples seem to fit both categories equally well:

(3) A: Juan speaks Spanish.
     B: Well, he IS Argentinian, but he DOESN'T speak Spanish. He grew up in the States.

The second contrastive conjunct of B's first utterance echoes the statement made by A, and it seems to retract the erroneous information as a textbook case of denial, with B's first conjunct constituting a partial concession. However, B's first statement also fits neatly into an analysis as contrast, because indeed the first conjunct weakly or defeasibly implies that the second conjunct is not true (*Argentinian⤳speak Spanish*). This paper shows that the overlap in contrast and denial analyses' of this example is no coincidence and can be generalized to a unified account of both phenomena.

2 Denial

We propose the following general structure of denials in the form of a rhetorical relation, expressing a relation between discourse segments, each defined as expressing only one (easily formalizable) intention.[2]

issue: the common ground is incremented with the first speaker's utterance.

concession: optional concessions of 2nd speaker to part of the information conveyed by the first, are added to the representation as well.

correction: the actual denial, headed by some negative or concessive particle (*no, but*) and/or an echo, initiating a *downdate* with the correcting information, i.e. add new info

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[1] Unless we interpret the 2 occurrences of 'hungry' as referring to different properties.

[2] We formalized this in Layered DRT (Maier&van der Sandt 2003, Geurts&Maier 2004), a semantic framework capable of representing different types of content at different layers, enabling us to treat the (weakly) implied contradictions of contrast and the overt ones of denial in a similar way. See a longer version of this abstract at `www.kun.nl/phil/tfl/~emar`

and revise current common ground revised by throwing out older material until consistency is restored.

In example (1), A's utterance sets up the issue, the concession slot is empty, and B's statement plays the role of a correction. Example (3) has all 3 parts: A's utterance is the issue; B's remark that, well, he is Argentinian constitutes a concession since it corroborates the issue; the second conjunct of that statement (*but he doesn't speak Spanish*) is the correction, conflicting with the issue and triggering a revision operation. Note that the correction here starts with a *but* whereas in concessionless denials the role of 'denial-marker' is often played by a negated echo of the previous speaker's utterance (as in (1)) and/or a negative particle like *No*, *No way!* or *Bullshit*.

The formal semantic treatment suggested by the above schema combines the reverse anaphora approach of Maier and van der Sandt (2003) with a non-monotonic update or revision operation as in (van Leusen, ms; Asher and Lascarides, 2003) based on belief revision (Gärdenfors, 1988). Crucial for this to work is the recognition of echoes and the representation of not only asserted but also implicated and presupposed material, as in (1) where *his English is not OK* is merely an echo and the only contradiction to be resolved involves the scalar implicature of 'OK'.

3 Contrast

Consider again the contrast example (2): it's considered contrastive because the first conjunct (*we were hungry*) defeasibly implies that we went and got something to eat, whereas the second conjunct implies the opposite, cancelling the first defeasible implication. We argue, as do e.g. Winter and Rimon (1994), that one often has to take into account the discourse context in order to find this *tertium comparationis* (Lagerwerf, 1998). Taking the dependence on an issue in the context seriously, we suggest that the first slot in a contrastive discourse relation should contain this issue. A second segment then suggests a partial answer to the issue (parallelling the monotonic information growth with a denial's concession), whereas the final third segment gives a conflicting answer necessitating a revision and correction.

As the example analysis of (2) below shows, this description parallels exactly the 3-part coherence relation of denial above. In line with the above remarks on contrast however, we need to give some context, in this case the example requires that the topic of conversation is the question whether the speaker ate, which constitutes the issue. *I was hungry* is analysed as a concession, together with the inference *speaker has eaten* from that assertion in the context of the issue *Have you eaten?* Assuming that inferences of this type enter the discourse representation, this leads to a cross-layer contradiction with the second conjunct (assuming *restaurants closed* again in this particular context implies *speaker didn't eat*): the correction, headed by a *but* (as was typical for standard denials with concessions too).

4 Rectification vs. contrast

The unified discourse schema analysis proposed above can easily account for some puzzling facts about rectification adversative particles and contrast-denial particles. Some languages such as German, have a dedicated adversative particle (*sondern*) for rectification uses, reserving *aber* for contrast-denial, while other languages have lexicalized both meanings with the same particle (English: *but*).

In (4) we see how *aber* and *sondern* fit into one correction segment.

(4) A: Habt Ihr gegessen?
     B: Wir haben Hunger gehabt, {aber/*sondern} wir haben nicht gegessen, {*aber/sondern} nur Bier getrunken.

On our account we can give a general (descriptive) characterization of this distribution: *aber* is the correction marker and must occur correction-segment initially, while *sondern* occurs within a complex correction. Furthermore, the difference in position inside the correction segment readily accounts for the observation that speaker changes are not possible in clauses joined by rectification particles but are fine with a contrast-denial *but* (von Klopp, 1994) since speaker changes are only natural at discourse segment boundaries.