

Report of TextLink WG2/3 Meeting in Fribourg

For our first meeting, our goal was to address how a small set of frequent relations are conceptualized across different frameworks. This is part of the larger goals of WG2 and WG3 to chart the commonalities and differences across the interconnected resources that we use, with the goal of enabling more productive work across multiple resources.

Tuesday April 21

The morning session was dedicated to two presentations:

- Vera Demberg: "Let's not lose any information: mapping discourse relations."
- Ted Sanders: "Let's try to make annotation systems communicate - towards a systematic approach of coherence relations."

The slides of these presentations are on Dropbox.

Both presentations emphasized the necessity to decompose relations into a set of dimensions in order to provide an interlingua, enabling the comparison of their commonalities and differences across frameworks and languages.

The afternoon sessions were dedicated to group work, focusing on two groups of discourse relations: causal/claim and concession/contrast. Each group discussed problematic issues related to the annotation of these relations across frameworks and languages.

What became apparent was that frameworks differ in the features they make explicit via their categories and that annotating data in new languages can reveal additional features that may be necessary to capture distinctions between relations. In the morning talks as well as in the working groups, it was observed that certain distinctions appear to operate independently from each other (e.g., whether a relation encodes causality and/or contrast) whereas some are only relevant to particular classes of relations (e.g., only causal relations can be specified for a status of purpose).

Discussion on cause/claim relations

The group recognized the need to maintain a subjective/objective (claim/cause) distinction for causal relations. However, this distinction appears to be very problematic to apply in a binary manner. For an interlingua to be useful, we will need to establish clear heuristics to make principled decisions and adopt clearly documented biases. Some useful tools could be the use of paraphrases, the detection of implicit or explicit mental process (e.g. 'it's outrageous' vs. 'I think it's outrageous').

For causal relations, the distinction between linear order, iconic order, syntactic order (antecedent/consequent) is important to categorize relations, but can lead to confusion because various annotation schemes use these terms in different ways.

The following additional dimensions might be needed to characterize causal relations:

- Hypothetical vs. Factual
- Status of segments (cf. satellite/nucleus)
- Weak/strong causality (cf. « double coding »)

Additional criteria might also be needed to distinguish several types of causal relations.

- Volitionality
- Purpose

Double coding (double tags) should be allowed in cases of :

- Causal/specification
- Causal/reformulation
- Causal/temporal

The identification of segments plays a crucial role in decisions about the types of relation, arguments therefore need to be explicitly tagged.

Discussion on concession/contrast relations

The group discussed the possibility of decomposing concession / contrast relation following Ted Sanders' primitives. In Sanders' model, contrast is rendered by the feature 'Negative' (which some find confusing, as it suggests polarity, i.e. presence of negation, instead of semantic contrast).

NEGATIVE can co-occur with CAUSAL, referring to violated expectations, as in both

- (1) She worked hard, but she didn't pass
 (1') Although she worked hard, she didn't pass

and NEGATIVE can co-occur with ADDITIVE, splitting into OBJECTIVE (opposition), as in

- (2) Jan is Dutch, but Marie is French

SUBJECTIVE (indirect contrast), as in

- (3) The house has great views, but it's too expensive.

However, the proposal does not account for CORRECTION (replacement) cases such as (4), which in many languages have a dedicated marker (e.g. German *sondern*, Sp. *sino*, Cat. *sinó*):

- (4) The Conference was not in Utrecht, but in Fribourg
 (4') She didn't come to the meeting, but/instead she went swimming.

Another problem is the separation of examples (1) and the concessive version of (3) ((1) *Although she worked hard, she didn't pass* and (3') *Although it has great views, the house it's too expensive*). In (1) the relationship is direct whereas in (3) it is mediated by inferences. Yet, the difference between violated expectations and indirect contrast is not straightforward.

The group concludes that contrast is a basic relation. So it would be better described at the same level as Addition and Temporal. Moreover, concession and adversativity can be considered two sides of the same coin, as it is the case with cause and consequence(i.e. cause-result). However, the group agreed with Sanders' proposal that concession is a causal relationship whereas adversativity is not.

Contrast implies a YES-NO relationship between two segments. There are (at least) three kinds of contrast, which can be defined considering the features [causal] and [exclusive]:

Concession (e.g. Although)	Causal+ Exclusive-
Opposition (e.g. But, By Contrast)	Causal- Exclusive-
Correction (e.g. Instead)	Causal- Exclusive+

The feature [exclusive] is also needed to account for different kinds of disjunction, a relationship that, btw, is not included in the general proposal.

Wednesday April 22

Discussion about the portal

The group agreed that the TextLink portal should not be targeting only people with knowledge about theories of discourse, but also provide information to language users about cross-linguistic equivalences of DRDs. Users should be able to search for both connectives and relations. In the case of non-specialist users looking up connectives, the portal should retrieve a list of examples of possible uses of this connective in order to allow the user to intuitively choose their intended relation and find appropriate cross-linguistic equivalences.

One of the main concerns is that similar labels are used in a variety of different ways, thus a mapping of labels does not correspond to real conceptual equivalences across corpora. For example, the boundary between objective and subjective causal relations (e.g. cause/consequence vs. claim/argument) differs across frameworks, thus labels cannot be directly compared. The group decided that we must accept that the portal will be in some respect imperfect, as existing data are not going to be re-annotated with new definitions. Nevertheless, TextLink members should try to reach an agreement about the definition of such labels in order to converge in future work. In addition, the instructions that were given to annotators should be made explicit in the metadata of each corpus. For the portal users, each occurrence retrieved should clearly mention the corpus from which it comes, thus enabling the user to check how the relation was annotated in a particular corpus.

Group Work: applying dimensions to discourse relations from different frameworks

The groups used a set of dimensions (the superset of features discussed in the working groups on Day 1) and tried to apply the dimensions to characterize discourse relations in several frameworks: variants of the English PDTB, French SDRT, RST, CCR (Sanders), Hobbs & Kehler.

- polarity
- additive
- causal
- temporal
- event order
- pragmatic order
- text order
- hypothetical
- volitional
- exclusionary
- strength

The group concluded that decomposing relations into dimensions was a very promising approach to compare frameworks. The results of the exercise are here:

RST

<https://docs.google.com/document/d/1nW4B65jmrEt3KbTidOwrNHoN779fNkY7UF3763ALppg/edit#heading=h.nr3zo4kzgyal>

SDRT

<https://docs.google.com/document/d/13EahtsRg819VJQ9CkI2XtKBW3yNijzOABjrVa3y0cAE/edit?usp=sharing>

PDTB

<https://docs.google.com/document/d/1d4ZHznLTvAd22enuxnvGCjOVagYwDaIAesuyyRNGdU/edit#>

Hobbs/Kehler

https://docs.google.com/document/d/16t3dHnfrv0umBKIs_v5UxeiVh7atr3YLQlxk984gs1c/edit#

These features represent a partial, implicit statement of inter-operability between these frameworks. The next step is to make explicit the claims of inter-operability, assess them, and then attempt to complete the feature specifications.

However, applying these dimensions raised the following problems:

- a difference must be made between distinctions between labels that are not applicable in a dimension and those that are not distinguished by a framework
- each dimension must receive a clear definition with examples

It was decided that before the next meeting, the WG leaders should produce a set of dimensions with clear definitions so that the group can discuss them and start to map relations between frameworks.

Next meetings

The group decided that a plenary meeting of WG2/3 for the 2nd grant period was needed. One possibility is to have one additional day at the plenary conference for this meeting.

In addition, a meeting of a special interest group on spoken data will take place. Members are encouraged to propose other special interest groups.