

Discourse Annotation in OTIM

LPL, CNRS & Université de Provence

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Overview

- Pilot study in the perspective of a larger scale corpora annotated at discourse level
 - Units
 - Acts vs. Relations
 - Annotation Schemas
 - Tools

Communicative Act annotation

Speech act: Propositional content + illocutionary force
[Austin, 1962]

- Verbmobil, HCRC MapTask: Acts + **Communicative functions**: Assert, Question, **Answer, Correction**,...
- DAMSL tagset: Free combination of tags from several levels (form / meaning / function):
- SWBD-DAMSL: DAMSL space \rightsquigarrow 42 “useful” tags [Jurafsky et al., 1997, Stolcke et al., 2000]
- DIT++: Functional units (that can be different for each dimension) [Bunt, 2009]

Surveys: [Popescu-Belis, 2004, ISOTC37/4, 2009]

Discourse Relation Annotation

Relations: *Narration, Explanation, Contrast,...*

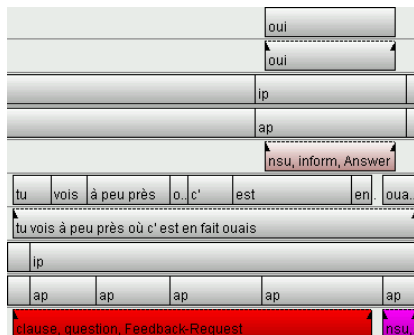
Annotation projects (textual data only):

- [Carlson and Marcu, 2001] (RST-based [Mann and Thompson, 1987])
- GraphBank [Wolf and Gibson, 2005], graphs vs. trees
- Penn Discourse Tree Bank [Prasad et al., 2008] (focus on explicit markers—at first—)
- Discor [Reese et al., 2007] + Annodis [Péry-Woodley et al., 2009], finer-grained wrt. semantics

Generic Annotation Schemas

Units

- syntax/semantics
- prosodic
- discourse/interactional



Dicourse Units

- Base: Units that have a communicative function/goal
- But:
 - within "standard discourse units": Disfluencies, completions,...
 - above "standard discourse units": Sequences, pairs...

[Bunt, 2009]:

- Generalize communicative function to most dimensions:
own-communication management, partner-communication management, time-management, turn-taking, discourse-structuring...
- Each dimension may have its own units (↷ potentially one independent segmentation / dimension)

Discourse Units

DIT++:

- + Sound annotation schema
 - What are Discourse Units? (e.g. are time-management units really discourse units?)

Specific issue: During segmentation disfluencies have a non-systematic effect on discourse units.

Dicourse Units



Dicourse Units

alors .. tu	dans	un patelin	complètement		complète	paumé
dans un patelin complètement complètement paumé						
?	ip			ip		ip
ap	?	ap	ap		ap	ap
Continuation, Contrast						

Disfluency annotation (Berthille Pallaud)

- Lengthening, silent or filled pauses, parenthetic onomatopoeia
- Lexicalized disfluencies (interrupted utterances)
[Shriberg, 1994]
 - Reparandum (truncated word, non-terminated phrase)
 - Editing phase (potential external elements)
 - Reparans (continuation or repetition)

(rich typology for these elements)

- Real time \times 15
- 8 \times 20 minutes annotated

Acts and Relations

1 Relations

- Most of communicative acts are relationnal + more informative

2 Acts

- Targets are sometimes very vague
- Do forward-looking acts have a target?

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- (1) AB: [on y va avec des copains]₁ [on avait pris l(e) ferry en Normandie]₂
[p(ui)sque j'avais un frère qui était en Normandie]₃ [on traverse]₄ [on
a(v)ait passé une nuit épouvantab(le) sur le ferry]₅
AB: [et euh on arrive à Londres]₆ [on voit ma soeur]₇ [e(lle) nous
amène dans le B and B où on devait loger]₈

Actes: *Inform, Inform, Inform,....*

Relations: *Narration(1,2), Explication(2,3), Narration(2,4), Elaboration(4,5)...*

Acts and Relations

1 Relations

- Most of communicative acts are relationnal + more informative

2 Acts

- **Targets are sometimes very vague**
- Do forward-looking acts have a target?

- (1) A₄₆₂ comme ça ... ah ouais non c'(é)tait
Y₄₉₄ ah ouais profitez profitez d(e) vos soirées
A₄₆₅ ouais c'est pour ça
A₄₆₆ oui c'est pour ça pa(r)ce que j'ai dit à xxxx <rs> ah ouais là c'est euh </rs>
Y₄₉₇ ouais
A₄₆₇ <rs> c'est euh </rs>
Y₄₉₈ non mais en même temps bon

Improve discourse annotation

Discourse annotation is hard: satisfying inter-annotator agreements are hard to obtain

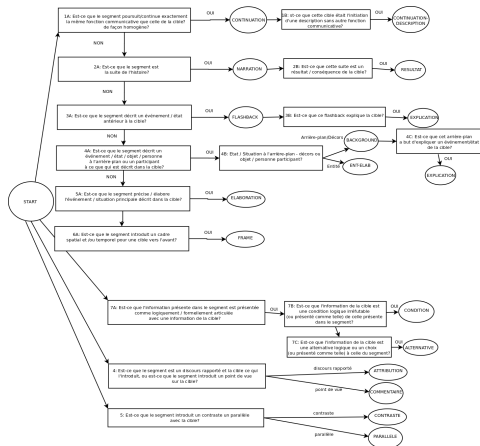
- General idea: annotate both acts and relations without requiring systematically relations [Petukhova et al., 2011]
- Annotation goal:
 - ≠ Discover a discourse relation
 - Annotate the intuition coming from a coherent interpretation
- Annotation performed with all information available (audio/video/text)
- Specific vs. Generic Annotation schemas: (Annodis, Apéro, CID, MapTask)

Branching variations on a set of leaves

- Starting point: Annodis (see Wednesday)
 - Sound Theoretical Ground
 - Precise description of relations semantics
 - Generic schema
 - Difficult annotation task
- Strategy
 - Keep the same relations (+ a few interactional aspects)
 - Guide annotators according to discourse genre (here narratives)
 - More directive annotation style (decision trees)
- Observations:
 - Annotation time: Real time x 30-60.
 - $\kappa_{relation} \approx 0.65$ (on CID narratives, between 2 experts)
 - ≈ 10 minutes cross-annotated

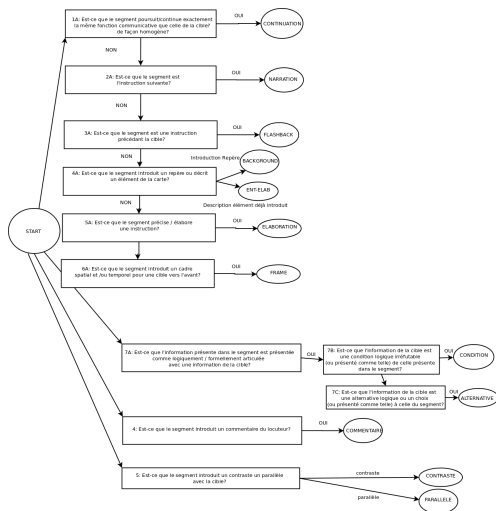
Illustration

CID (Conversational Narratives):



Illustration

Maptask



Pros and Cons

Pros:

- Annotation guide easier to set up and use
- Less categories
- \leadsto Reducing annotation time
- \leadsto Better inter-annotator agreement

Cons?

- Relation comparability?
 - But Relations have the same definition (semantics)

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