

# Connectives Crosslinguistically

Shallow Discourse Parsing

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# Defining Connectives

with slides by Manfred Stede

# Connectives

- Definition (cf. Pasch et al. 2003)
  - closed-class words
  - non-inflectable
  - semantics: two-place relation
  - join two eventualities that could be expressed as full clauses
- Syntactic categories:
  - conjunctions, coordinating and subordinating
  - certain adverbials
  - certain prepositions: *despite, due to, ...*
- NO: phrasemes like *for this reason*
- NO: affixes like *-wise / -halber, -wegen*
  - *Moneywise, the new job made no sense for Tom.*
  - *Ihretwegen kann ich nicht zur Party kommen.*  
*Because of her I cannot come to the party.*

# Connectives (example)

1. The thought of television exclusively made up of private channels scares me.
2. Admittedly trash and turmoil are exactly what the majority of people want to see.
3. But to therefore offer TV according to audience rates only would be dangerous.
4. Only in public TV programmes can viewers get information that is not profit-oriented.
5. And since it is the duty of society to collectively finance certain areas that cannot hold their own in a market economy, everyone should chip in.

(Potsdam Microtext corpus)

# Connectives: Complications

- Segment embedding
  - We will, because time is short, discuss only one project.
- Long-distance antecedents
  - Meine Firma ist verschuldet. Ich fliege nach Rom, weil ich **deswegen** Urlaub habe.  
*My company is in debt. I'm flying to Rome, because **due to that** I'm on holiday.*
- Within-/out scope of focus particle or negation
  - Ich fahre mit dem Auto, **weil** ich auf Reisen gern rauche.  
*I go by car, **because** I like to smoke on my trips.*
  - Ich fahre **nur** mit dem Auto, **weil** ich auf Reisen gern rauche.  
*I **only** go by car, **because** I like to smoke on my trips.*

# Connectives: Complications

- Syntax as replacement: tense, aspect, mood, modality; constructions  
*Had I not forgotten the car keys, we would be in London by now.*
- The slippery slope to assorted open-class lexical items
  - *The car didn't start. Thus we took the train.*
  - *Consequently, we took the train.*
  - *As a consequence, we took the train.*
  - *As a dreadful consequence, we took the train.*
  - *The consequence was that we took the train.*
  - *This prompted us to take the train.*
- Multiple connectives
  - *You knew that she lied, but then you married her anyway.*

# Connectives: Complications

## □ Complex connectives

- Either we take the car, or I won't join you on the trip.
- Ich fahre nur mit dem Auto, weil ich auf Reisen nämlich gern rauche.  
*I only go by car, because I like to smoke on my trips.*  
(note: with *nämlich*, the *nur* is likely to have narrow scope)
- Ich würde ihn nicht heiraten, wenn er auch reich ist.  
*I wouldn't marry him, even though he's rich*
- Er ist dadurch zu seinem Geld gekommen, dass er täglich die Börsenkurse studiert.  
*He made his money for that reason that he monitors the stock exchange on a daily basis.*
- Sie hat ihn deshalb geheiratet, weil er so charmant ist.  
*She therefore married him, because he is so charming..*

# Complex connectives

- 1 word  
*since, although, especially, ...*
- >1 continuous words  
*due to, in particular, for example, ...*
- >1 discontinuous words  
*if .. then, but .. anyway, ...*

# Group W: Components within a clause

## □ W1: circumpositions

- Kannst Du mir *um* unserer Freundschaft *wollen* einen Gefallen tun?  
,Can you do me a favour *for* our friendship's sake?'
- *Auf* ihren Rat *hin* habe ich mir einen Mac gekauft.  
,On her advice I bought a Mac.'

# Group W: Components within a clause

- W2: conjunction + adverbial form a signal non-compositionally
- Ich nehme diesen Mac, *wenn* er *auch* ziemlich teuer ist.  
, I take this Mac *if* it is *also* quite expensive.'  
, I take this Mac, *even though* it's quite expensive.'

# Group W: Components within a clause

- W3: {adverbial | conjunction} + adverbial signal a single relation (+ additional facet)
  - Das Wetter war schlecht, *aber* ich bin *trotzdem* in den See gesprungen.  
, The weather was bad, **but** I jumped into the lake **anyway.**'
  - Ich fliege nach Berlin, *weil* dort *nämlich* ein Bruder von mir wohnt.  
, I'm flying to Berlin **because** a brother of mine is living there.'
  - Ich bin *dann anschließend* noch nach Berlin geflogen.  
, I **then subsequently** flew to Berlin.'

# Group W: Components within a clause

- W3: {adverbial | conjunction} + adverbial signal a single relation (+ additional facet)
  - (a) Meine Firma ist verschuldet. (b) Ich fliege nach Rom, **weil** (c) ich **nämlich** Urlaub habe.  
, (a) My company is in debt. (b) I'm flying to Rome, (c) **because**  
I'm on holiday.'
  - (a) Meine Firma ist verschuldet. (b) Ich fliege nach Rom, (c) **weil** ich **deswegen** Urlaub habe.  
, (a) My company is in debt. (b) I'm flying to Rome, (c) **because due to that** I'm on holiday.'

# Group A: Components across clauses

- A1: ‚split‘ connectives
  - entweder .. oder („either .. or“)  
wenn .. dann („if .. then“)  
einerseits .. andererseits („on the one hand ..“)

## Complications:

- One part can be optional, and the other a ‚simple‘ connective in its own right
- Some of these connectives offer variants:  
*wenn .. dann* = *wenn .. so*
- $\neg$  .. sondern („ $\neg$  .. but“) /  $\neg$  .. noch („ $\neg$  .. nor“)
  - *Er hat den Aufsatz nicht selbst erdacht, sondern geklaut.*  
„He did **not** invent the essay himself **but** stole it.“

# Group A: Components across clauses

- A2: adverbial + minor clause
- *Dadurch, dass mein Auto kaputt ist, kann ich heute nicht zum Treffen kommen.*  
, Due to my car being broken I can't come to the meeting today.'
- *Er ist insofern kein Experte, als er das Fach nie studiert hat.*  
, He is no expert **insofar as** he never studied the subject.'
- Sie hatte **so lange** gewartet, **dass** ihr die Füße weh taten.  
, She had waited **so long that** her feet hurt.'

# Group A: Components across clauses

- A2: adverbial + minor clause
- *Wir haben uns auf einer Party getroffen. Ich habe ihn dadurch kennengelernt.*  
, We ran into each other at a party. I got to know him through that.'
- *Wir haben uns auf einer Party getroffen. Ich habe ihn dadurch kennengelernt, dass wir auf der Tanzfläche übereinander gestolpert sind.*  
, We ran into each other at a party. I got to know him through the fact that we stumbled over each other on the dancefloor.'

# Group A: Components across clauses

- A3: „redundant“ cataphoric adv + conjunction
- Ich bin **deswegen** nach Hause gefahren, **weil** es geregnet hat.  
, I went home **for the reason that** it rained‘
- (a) Es wurde sehr kalt. (b) Ich bin **deswegen** schnell nach Hause gefahren, (c) **weil** ich ja auch keinen Pullover hatte.  
, (a) It got very cold. (b) I **thus** drove home quickly, also **because** I didn't have a sweater.‘

# DiMLex – Discourse Marker Lexicon

# DiMLex

## Discourse Marker Lexicon

- Original version: 135 frequent German connectives  
(Stede/Umbach 98; Stede 03)
- Current public version: 275 connectives (Scheffler/Stede 2016)
- Some disagreements with Pasch et al. (2003) Handbook
  - various particles  
*We thought Janet was a teacher. She is actually a lawyer.*
  - temporal/local anaphors
- Basic technical approach:  
„Theory-neutral“ rich source lexicon in XML mapped via XSLT to specific application resources

# DiMLex entries

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- Syntax
- Semantics/Pragmatics

# DiMLex entries

- Orthography
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## *aufgrund (due to)*

```
<orth type="cont" canonical="1" onr="k19o1">
<part type="single">aufgrund</part> </orth>

<orth type="cont" canonical="0" onr="k19o2">
<part type="phrasal">auf Grund</part> </orth>

<orth type="cont" canonical="0" onr="k19o3">
<part type="single">Aufgrund</part> </orth>

<orth type="cont" canonical="0" onr="k19o4">
<part type="phrasal">Auf Grund</part>
```

# DiMLex entries

- ❑ Orthography
- ❑ Disambiguation info
- ❑ Focus particles
- ❑ Correlates
- ❑ Syntax
- ❑ Semantics/Pragmatics

**aber (but)**

<disambi>

<conn\_d>1</conn\_d>

<sem\_d>1</sem\_d>

</disambi>

<non\_conn\_reading>

<example type=„ADV“>

Das ist **aber** schade! ?**But** that's too bad!

</example>

</non\_conn\_reading>

# DiMLex entries

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- Syntax
- Semantics/Pragmatics

***weil (because)***

*nur weil es schneit, bin ich hier*  
*only because it's snowing, I am here*

<focuspart>1</focuspart>

***da (because)***

*??nur da es schneit, bin ich hier*  
*??only because it's snowing, I am here*

<focuspart>0</focuspart>

# DiMLex entries

- Orthography
- Disambiguation info
- Focus particles
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- Syntax
- Semantics/Pragmatics

## ***weil (because)***

*Weil* es regnet, *deshalb* nehme ich den Zug.  
*Because* it's raining, *that's why* I take the train.

```
<correlate>
  <is_correlate>0</is_correlate>
  <has_correlate>1</has_correlate>

  <correlatee>
    <corr>da</corr>
    <corr>daher</corr>
    <corr>darum</corr>
    <corr>deshalb</corr>
    <corr>deswegen</corr>
  </correlatee>
</correlate>
```

# DiMLex entries

## For syntactic ambiguity

## <entry>

- ❑ Orthography ...
  - ❑ Disambiguation info <syn> ...
  - ❑ Focus particles <sem> ...
  - ❑ Correlates </syn>
  - ❑ Syntax <syn> ...
  - ❑ Semantics/Pragmatics <sem> </syn> </entry>

# DiMLex entries

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- **Syntax**
- Semantics/Pragmatics

## ***aber (but)***

```
<cat>konnadv</cat>
<ordering>
  <ante>0</ante>
  <post>1</post>
  <insert>0</insert>
</ordering>
```

## ***obwohl (although)***

```
<cat>subj</cat>
<ordering>
  <ante>1</ante>
  <post>1</post>
  <insert>1</insert>
  <desintegr>1</desintegr>
</ordering>
```

# DiMLex entries

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- **Syntax**
- Semantics/Pragmatics

*trotz (despite)*

```
<cat>praep</cat>
<ordering>
  <ante>1</ante>
  <circum>0<circum>
  <case>1</case>
</ordering>
```

# DiMLex entries

- Orthography
  - Disambiguation info
  - Focus particles
  - Correlates
  - Syntax
  - Semantics/Pragmatics
- PDTB-3 sense relation(s)
  - examples for each sense
  - statistics: sense distribution across  $\geq 25$  randomly chosen samples from dwds.de corpus

# Additional, occasional information

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- Syntax
- Semantics/Pragmatics

***daher (therefore)***

<pro value="90" ref="k5v2">  
\$. \$\$/PROAV

<pro value="90" ref="k5v1">  
VVFIN \$\$/PROAV

<con value="99" ref="k5v1 k5v2">  
\$\$/PROAV \$, {'dass'}/KOUS

<con value="95" ref="k5v2">  
\$. \$\$/PROAV .\* {"kommen' 'ruehren'} .+ \$,  
{'dass'}/KOUS

<con value="99" ref="k5v1">  
\$\$/PROAV \$.

# Additional, occasional information

## Position in clause (from HdK)

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- **Syntax**
- Semantics/Pragmatics

***dadurch (due to that)***

padv  
vorfeld:1  
mittelfeld:1  
nacherst:0  
nachfeld:1  
nullstelle:0  
nachnachfeld:0  
satzklammer:0

*Dadurch ist es geschehen.*  
*Es ist dadurch geschehen.*  
*Es ist geschehen dadurch.*

# Additional, occasional information

- Orthography
  - Disambiguation info
  - Focus particles
  - Correlates
  - Syntax
  - Semantics/Pragmatics
- Role linking**
- schließlich (after all)***
- Pragmatic-Claim  
external=effect  
internal=cause

# Additional, occasional information

- Orthography
  - Disambiguation info
  - Focus particles
  - Correlates
  - Syntax
  - Semantics/Pragmatics
- Dialect/idolect**
- obwohl / obzwar / obschon*

# Additional, occasional information

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- Syntax
- Semantics/Pragmatics

Dialect/idiialect

*obwohl / obzwar / obschon*

Das ist *wohl/zwar/schon* richtig, aber...  
Granted, that's correct, but ...

# Additional, occasional information

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- Syntax
- Semantics/Pragmatics

## Presupposition

**da** (cf. **since**) = prop. content is given  
**weil** (cf. **because**) = no preference

# Additional, occasional information

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- Syntax
- Semantics/Pragmatics

**Style / formality**

**dessenungeachtet** = formal  
**trotzdem** = no preference

**notwithstanding** = formal  
**despite** = no preference

# Additional, occasional information

- Orthography
- Disambiguation info
- Focus particles
- Correlates
- Syntax
- Semantics/Pragmatics

## Subjectivity

**denn** = prop. content is „subjective“

**weil** = prop. content is „objective“

cf. Dutch want/omdat (Sanders et al.)

# Connective-lex