Building a Discourse annotated corpus for Dutch

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A Dutch discourse annotation corpus

Project objectives:

- Curate and make available an existing set of Dutch corpus analysis of coherence relations and discourse connectives
- Develop a discourse annotation system applicable for Dutch
- Contribute to the CLARIN effort by developing metadata profiles for this type of data
- Inventory of discourse categories and sync with the ISOcat discourse categories effort
- Discourse community building in NL and B

CLARIN Curation Projects

- Purpose
  - Making (existing) data and tools available in a sustainable way
- Strategic choices
  - Covering of linguistic and SSH disciplines
- CLARIN requirements: organizational & technical
  - Stable center
    - Who to phone when things go wrong
    - Expectation of persistence
  - Resource discovery using CMDI
  - Sustainable access
    - Persistent Identifiers for resources
    - IPR issues solved or at made least explicit
  - Explicit semantics by describing (new) concepts in the ISOcat concept registry.
    - For specific metadata elements
    - … and also annotation labels

The Language Archive

- TLA is a unit of the MPI for Psycholinguistics
  - Funded by MPG, MPI-PL, KNAW, BBAW
  - Home of the institute research corpora: L&C, Acquisition, Sign Language, …
  - Houses one of the largest Endangered Languages documentation archives
  - Archive for several Dutch & German corpora where projects have no proper archive facilities
  - Offer for researchers to deposit “serious” data
- Software development
  - Archiving software
  - Exploitation tools: ELAN, …
  - Research infrastructure projects: CLARIN, DASISH, EUDAT
- CLARIN center status: B center, A center status pending
- TLA ambitions
  - More data: linguistic domain, wider humanities.
  - Build relations with (new) communities & research groups and come to common project proposals
  - Discourse annotation an opportunity to broaden our basis and
  - … gain expertise with Discourse Annotation specific needs (tools)

Available data for curation

- Results from 16 discourse research projects analysing coherence relations and connectives
- Formats:
  - Fragments from newspaper articles, Childes or other corpora (CGN)
  - Excel, MS-Word, plain text, …
- Metadata available in files of varying formats and from publications
  - Corpora: structured metadata
  - Newspapers: none or not structured
- Varying annotation schemes used
- IPR issues:
  - Childes -> enrichments should be offered to community
  - NLTU © corpora (CGN, D-COI) -> enrichments also available via TST-centrale
  - Newspaper sources: many fall within existing agreements for research use other need to be negotiated

Corpora (1)

Author	phenomena	Cases	Source	Remarks
Pander Maat & Sanders (2000)	Causal connectives	150 (dus, daarom, daardoor)	- Newspapers	
Degand (2001)	Causal connectives	150 (want, aangezien, omdat)	- Newspapers	
Pit (2003)	Causal connectives	- 200 (aangezien, omdat, doordat, want) - 100 (omdat, doordat, want) narrative	- Newspapers - Newspapers and fictional books	Split into two distinct subcorpora, different metadata sources

Corpora (2)

Author	phenomena	Cases	Source	Remarks
Stukker (2005)	Causal connectives	- 300 (daardoor, daarom, dus) - 300 (daarom, dus)	- Newspapers - Historical data	Split into three structurally similar but distinct subcorpora: daardoor, daarom, dus (mixed sources)
Sanders & Spooren (2009)	Causal connectives	- 100 - 275 - 80 (want, omdat)	- Newspapers - CGN - Chat	Relatively little metadata available (sources are not publications)
Persoon (2010)	Causal connectives	- 105 (omdat, want)	- CGN	

Planned curation data reduced from 7000 cases to < 2000

The Creation of a Corpus

- Original material was highly diverse
  - Origin: newspapers, annotated speech corpora, ..
  - Formats: SPSS, MS-Word, …
  - Annotations: specificity, references to primary data
- Curation required:
  - Consistency in formats, annotation labels, metadata
  - Metadata format determined by CLARIN requirements -> CMDI
  - Annotation format determined by the exploitation environment
- Limited time and resources forced some choices
  - Difficult to plan, surprises will happen
  - 16 data-sets -> 7 fully curated data-sets -> 9 corpora
  - Depth or breadth? Depth!
- Other corpora can be handled now much more efficiently

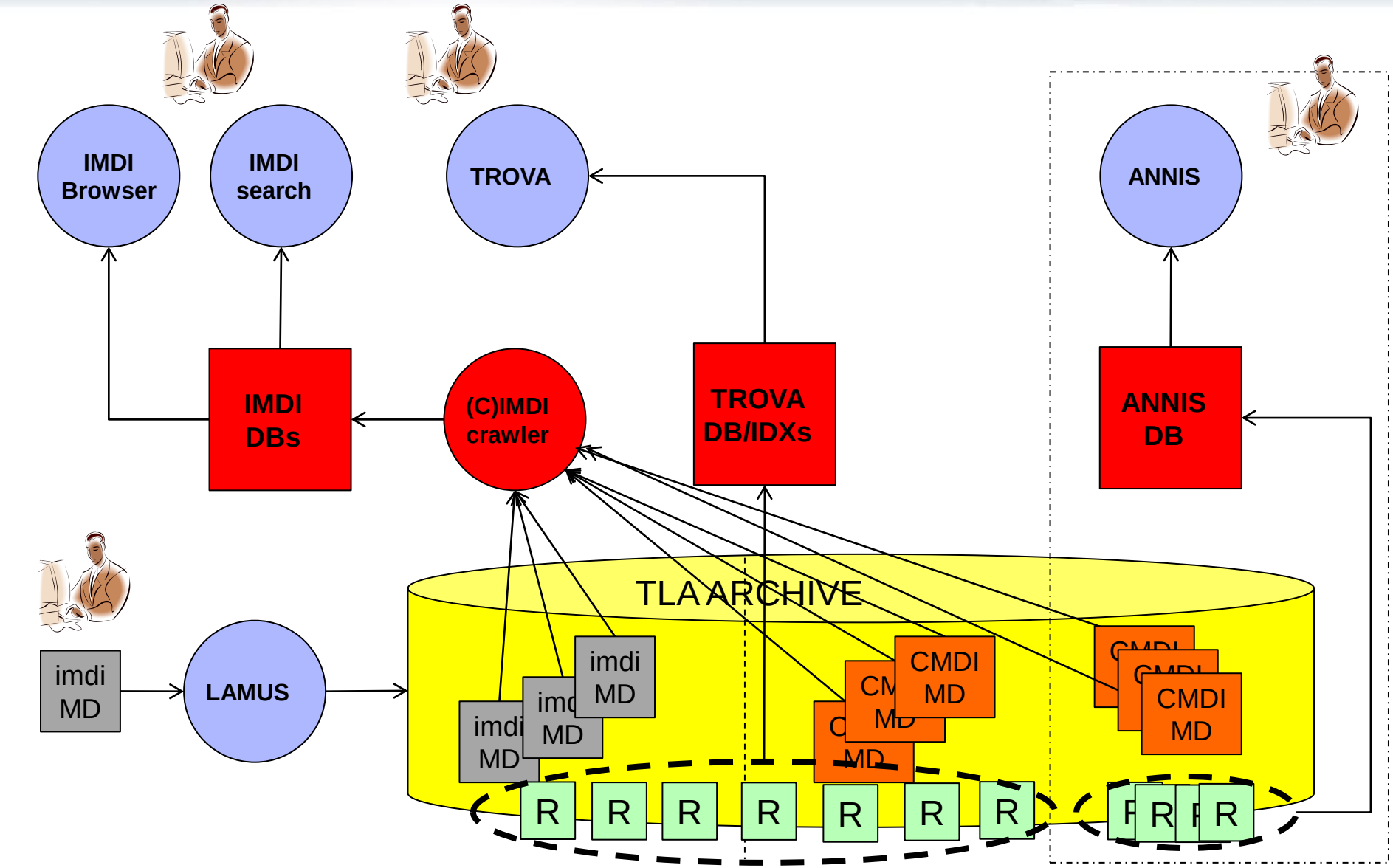
Exploitation Environment

- Archiving alone is not sufficient
- Exploitation environment is required
- Existing TLA/MPI tools are not sufficient
  - Metadata search & (limited) content search
  - Not directed to discourse annotations
- Need appropriate domain specific search & visualization

Tools considered

- Penn Discourse Treebank
  - Format considered problematic
  - Not a web application
- ANNIS
  - Sustainability: fast support, docs, Java, RDB,
  - Scalability? For the moment not needed
  - Search GUI is ok, regexp support, SQL only
  - Visualization is ok.
  - Possibility for close collaboration
- Build/Extend own software
  - Not if something suitable is available
  - Not in this project with limited resources

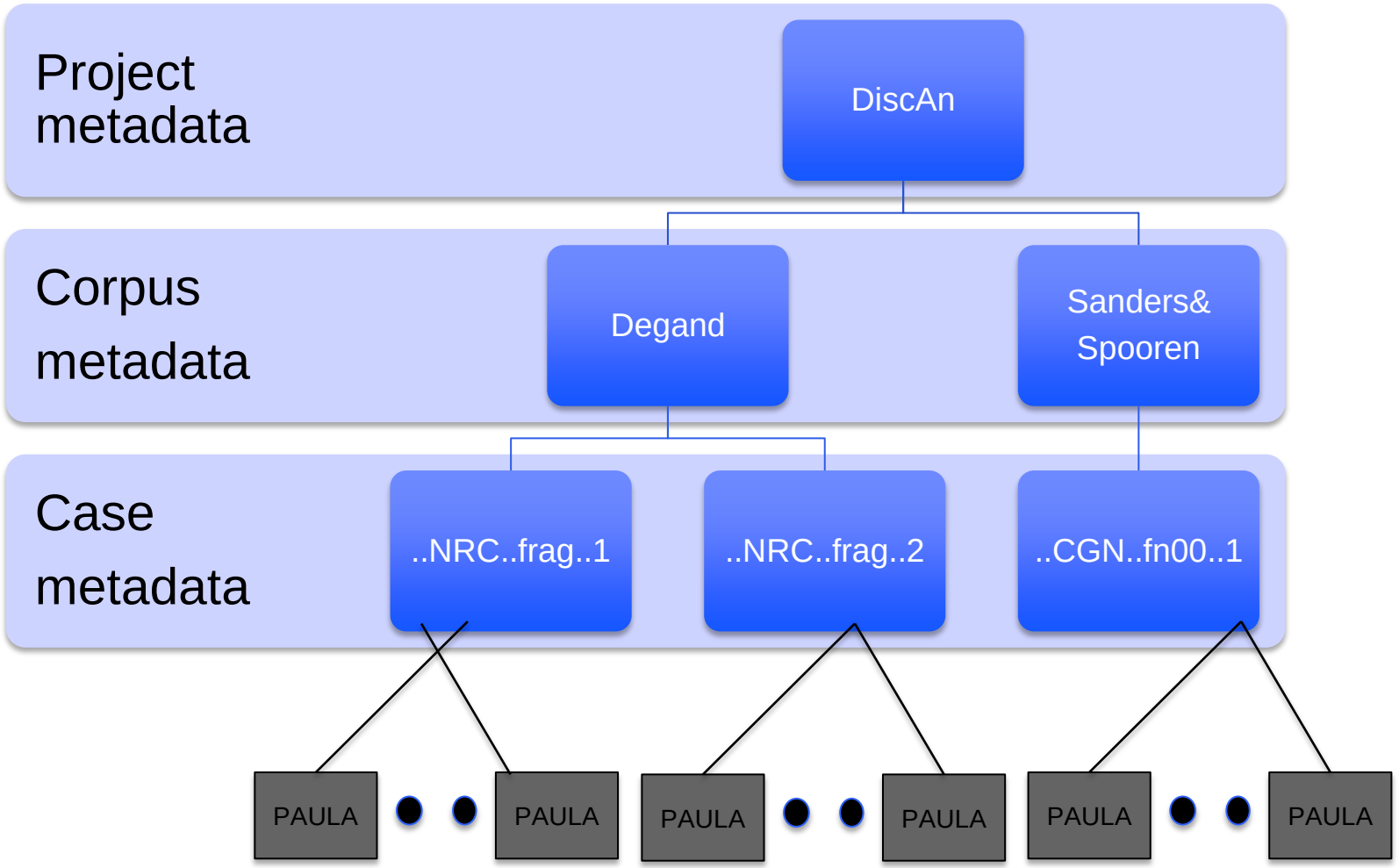
TLA Archive: LAT & ANNIS



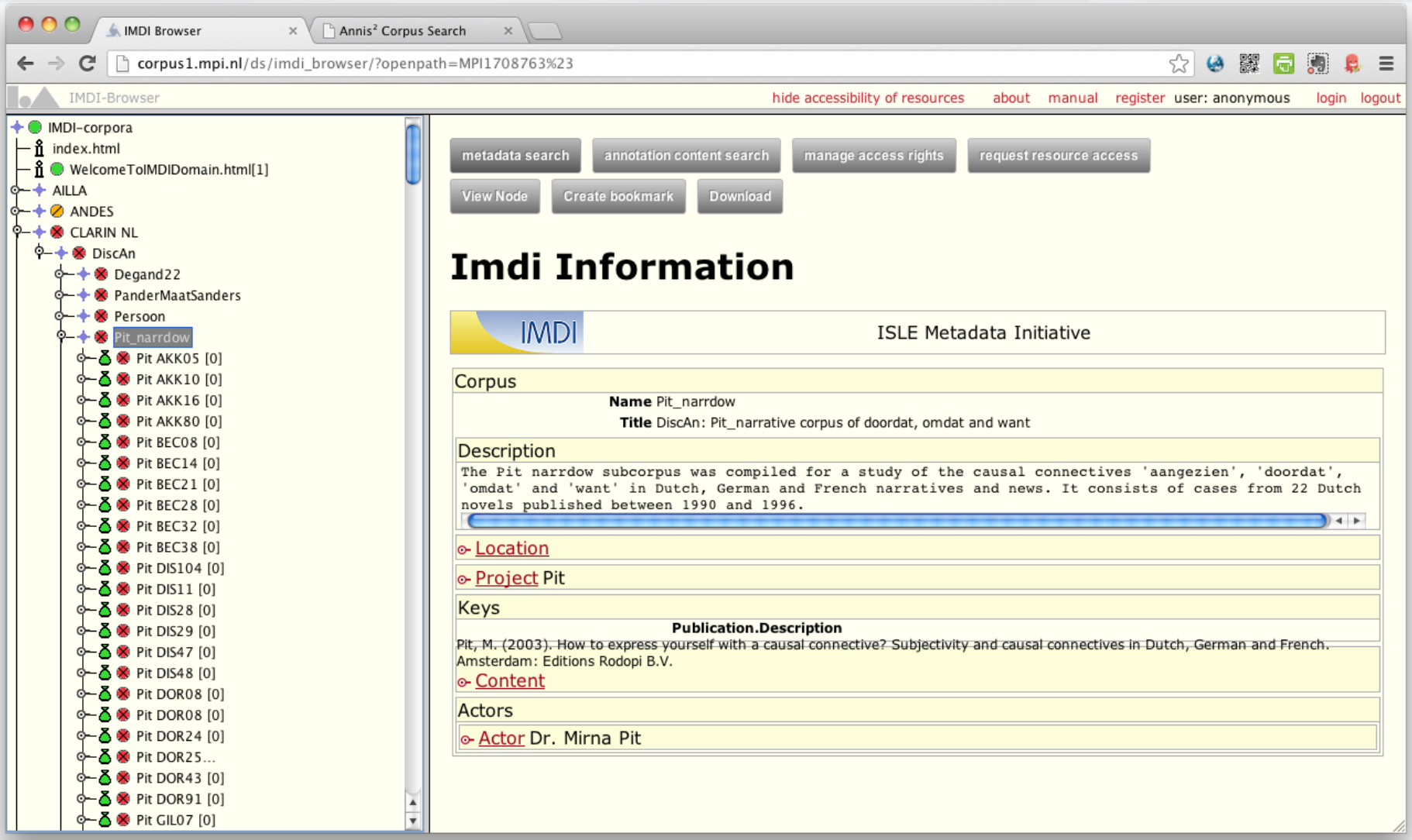
Metadata creation

- Different types of metadata sources, all corpus specific, sometimes sub corpus specific
  - Extraction from PAULA files, (sub) corpus specific mappings
  - Extraction from existing (hand crafted) tables
- Curation of metadata records using a specialized CMDI metadata editor (ARBIL)
  - Allows table manipulation
  - Search over metadata file sets

Corpus structure

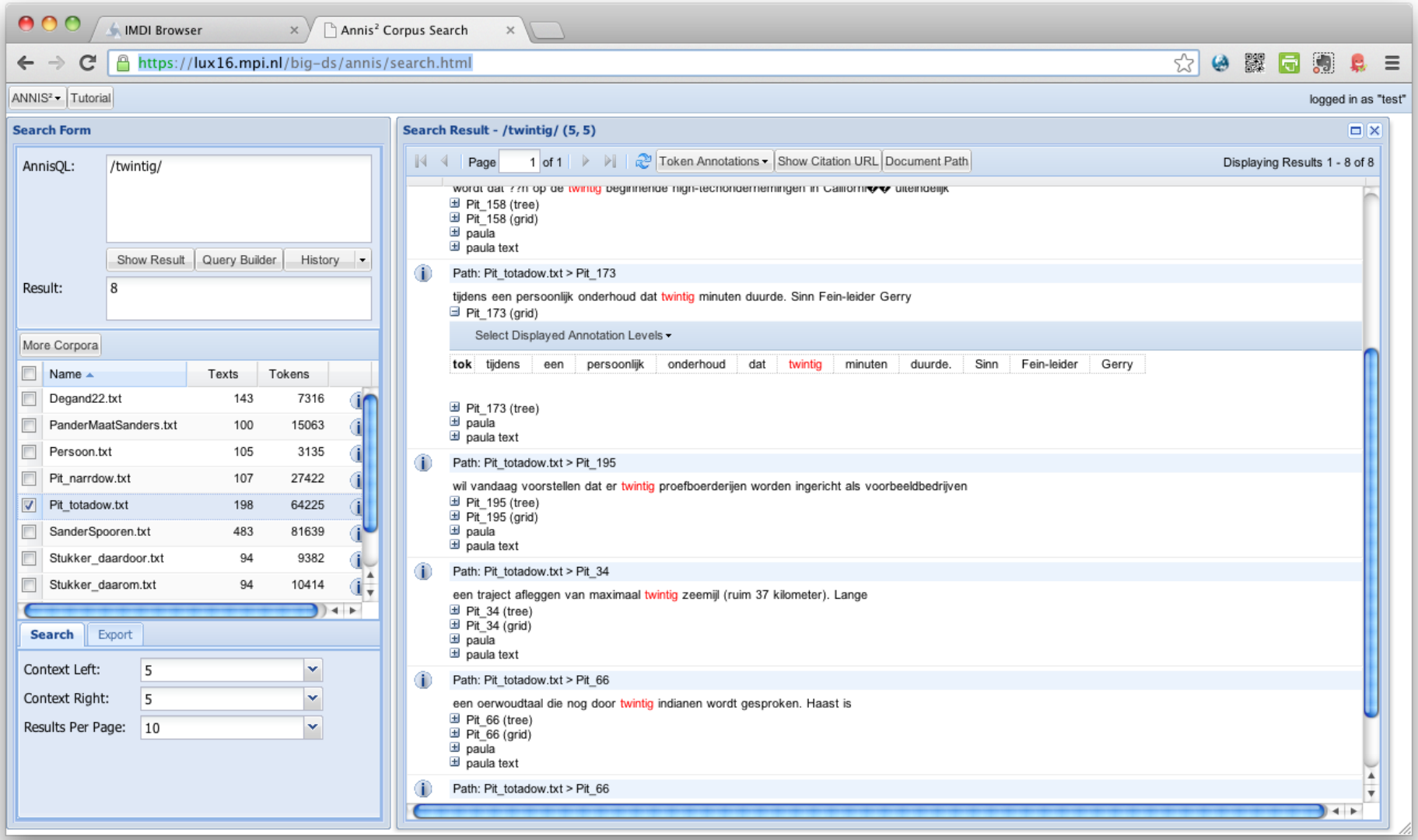


(C)IMDI view



http://corpus1.mpi.nl/ds/imdi_browser?openpath=MPI1705091

ANNIS view



https://lux17.mpi.nl/annis/search/search.html

Some problems encountered

- Organizational ones: two teams with different experience and perspective
  - UU team: curating the annotation data creating the metadata
  - TLA team: archiving and infrastructure part + mentoring UU-team wrt. requirements
  - UU-team with limited resources achieved good results
  - However misconceptions forced some redistribution of tasks
  - Documentation and time-period needs for transfer of knowledge and feedback were underestimated
- Technical problems
  - Encoding problems introduced by Python scripts
  - Soft-hyphens (MSWord) not well taken care of

Future steps

- Specific for this project/corpus
  - Allow easy download whole corpus data-sets. Some may have a local ANNIS installation
  - Proper license for access to the data, if not free!!!
  - Start ANNIS from the general TLA catalog application
  - Index PAULA files also with the TLA indexer
- General
  - Tighter integration ANNIS with TLA software

Thank You for Your Attention

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Archive Access