Europeana Newspapers Interim Report

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Günter Mühlberger, Innsbruck University

Agenda

- ENP Newspaper Viewing Application
- Best Practise Approach
  - Metadata format
  - Structural metadata
  - Workflow
  - Evaluation
- Outlook

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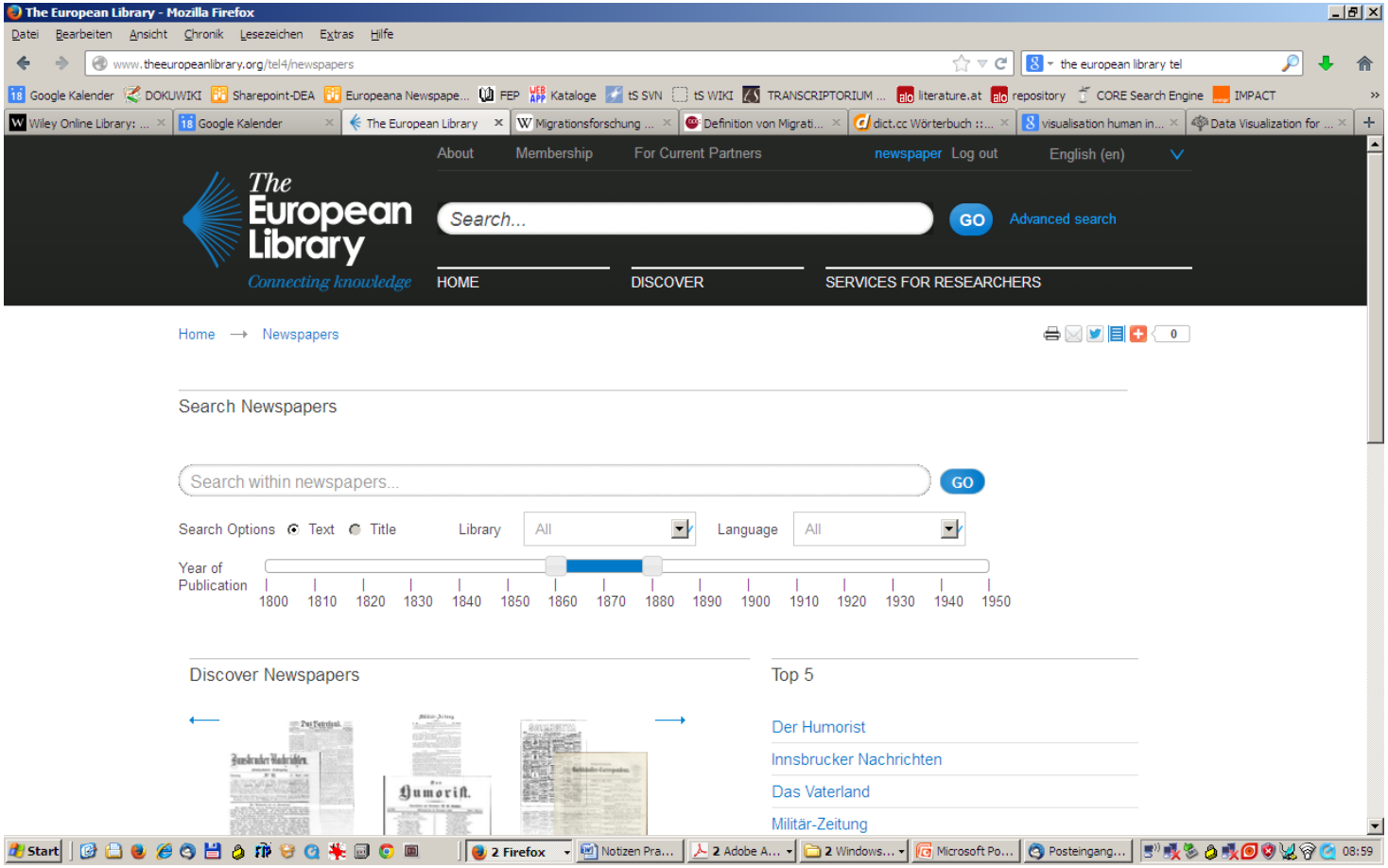
ENP Newspaper Viewer



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Summary

- e2014 more than 10 mill. of digitized pages shall be available via this newspaper browser
  - 2 Mill. pages will come with structural markup on article level
- Site shall be integrated into the current TEL application
- Also newspapers with restricted access (copyright) shall be linked in the application (e.g. Turkish newspapers)
- Sustainability
  - TEL (membership model) will sustain it
  - Further integration of newspapers has to be clarified

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Pros & Cons

- Pros
  - Ambition was “one place for all digitized European newspapers”
  - Newspapers are distributed over many countries
  - Browsing e.g. via calendar would allow to compare newspapers from one day or several countries
  - Centralized searching
- Cons
  - Setting up a central server for all newspapers requires more IT capability than originally planned
  - Distributed solutions require a lot of work (adapting the viewer to several local solutions)
  - Dependency on local solutions
  - Copyright restrictions lead to the situation that the user will get “more” at local sites than in the central place

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ENP as best practise project

- ENMAP (Europeana Newspaper METS ALTO Profile)
  - Has been developed in order to be able to manage delivery/distribution of 10 mill. newspaper pages from more than 10 countries, etc.
  - Issue level
  - MODS for descriptive metadata
- ENMAP structural map
  - Higher ambition
  - Idea is to provide a data dictionary to support common understanding of newspapers

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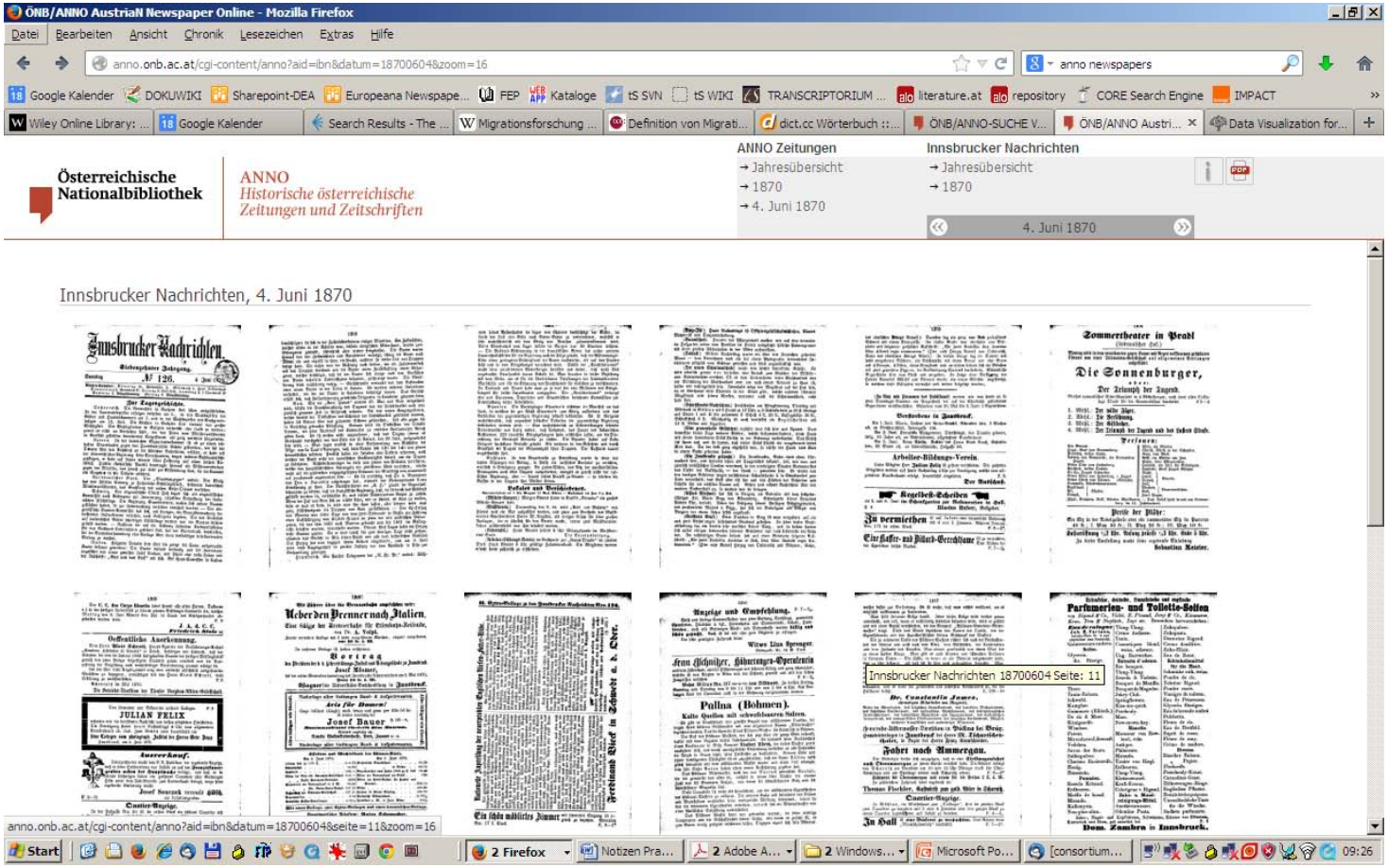
Example



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Current proposal

- Newspaper content items (~ articles)
  - Are defined as containing the “content” of a newspaper
  - Since newspapers consist of a lot of different content “article” is a too narrow notion
  - Are clearly separated from each other both by content and by layout features (e.g. separators)
  - May be part of a section
- Structural elements
  - Content items consist of structural elements
  - Structural elements are e.g. headlines, sub-headlines, by-lines, paragraphs, author names, etc.

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Classification of NCI

- Five main classes
  - Information
  - Opinion
  - Advertisement
  - Entertainment
  - Metadata
- These classes contain “typical content items”
  - Information: news, breaking news, background news, etc.
  - Opinion: Columns (by well-known persons), commentaries, letters-to-the-editor, book reviews, etc.
  - Advertisement (including also classified advertisement)
  - Entertainment: Serial novels, poems, jokes,...
  - Metadata: Title section, imprint

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Rationale for data dictionary

- Rationale for data dictionary
  - Desiderata of metadata schemas
  - Communication among libraries and with technical providers
  - Crowd sourcing
  - Automated processing (Natural Language Processing, Data Analytics, Information Extraction, etc.)
- Technical realisation
  - Paper describing main Newspaper Content Items and Structural Elements
  - METS Structural Map

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Best practise project: Workflow

- Several simple tools to support workflow for newspapers
  - File Analyzer Tool (FAT)
  - Binarization and Conversion Tool (BCT)
  - DateApplierTool (DAT)
  - Structify (Structural Metadata Tool)
- Named Entities Recognition (NER)
  - German, Dutch, French language
- OCR workbench in Innsbruck
  - 32 parallel FineReader SDK processes
  - Between 10.000 and 100.000 newspaper pages per day
  - Sustained after the end of the project

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Finally: Evaluation of OCR results

- What can be done with erroneous OCR results?
  - Evaluation of 50 pages per library
  - Manual ground truth
  - Sophisticated evaluation methods by University of Salford
- Other approaches
  - Evaluating Models of Latent Document Semantics in the Presence of OCR Errors (WALKER, 2010)
    - Topic modeling suffers from OCR errors but still useful results are possible even with high Word Error Rates
  - Mapping Texts: Combining text-mining and geo-visualization to unlock the research potential of historical newspapers (TORGET, et.al, 2010)
    - Simple evaluation method: “good” words (=those found in a dictionary) vs. “bad” words
    - Need for transparency

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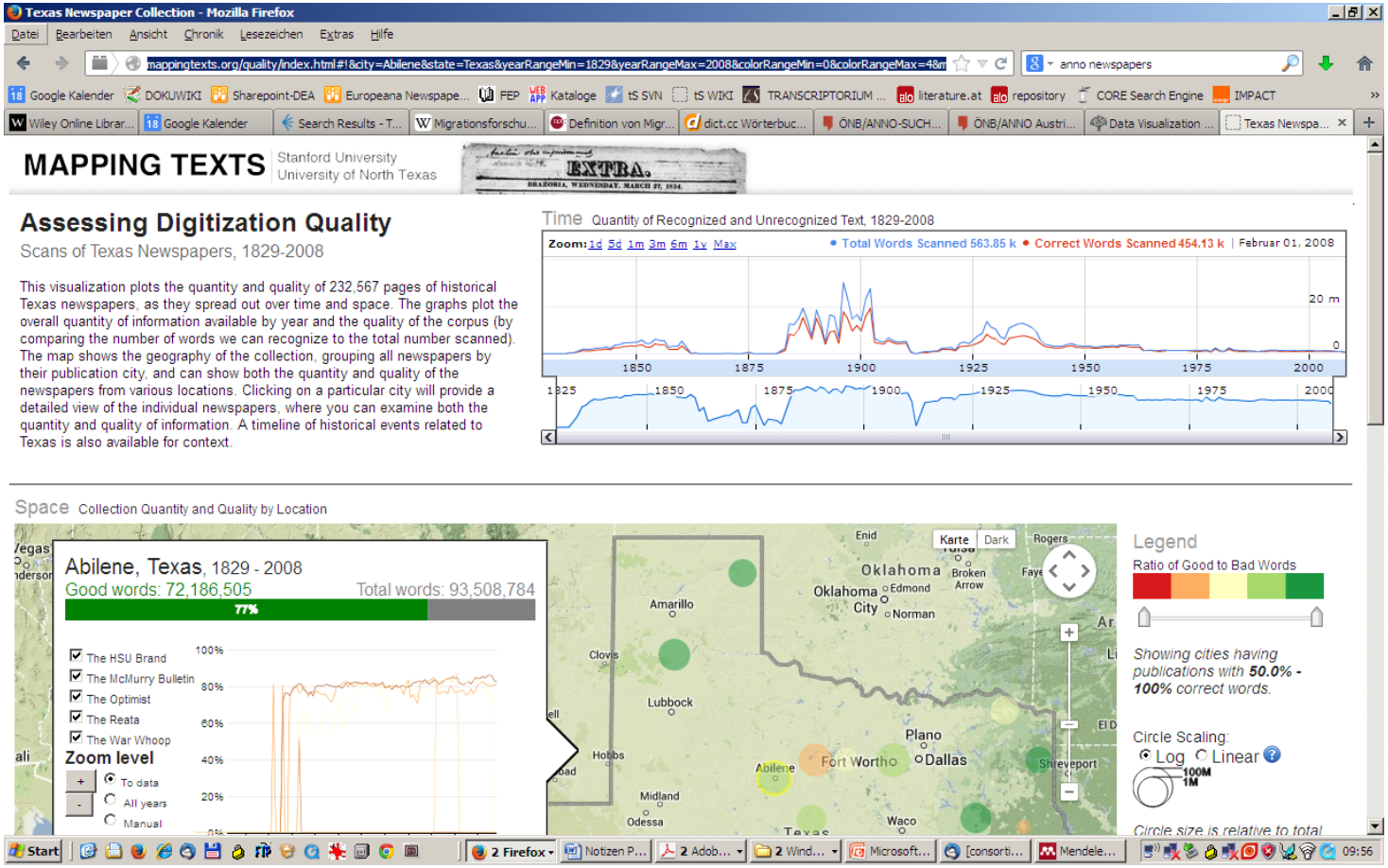
mappingtexts.org



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Outlook

- Project runs until January 2015
  - Still 3 mill. pages to process
  - Additional OCR processing in the last six months of the project
  - Release of the ENMAP format and structural metadata dictionary
  - Attempts with automatically detecting structural metadata
  - Release of the TEL Newspaper Site
- A lot to do ☺

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Thank you for your attention!

Günter Mühlberger
<guenter.muehlberger@uibk.ac.at>