Tool Criticism

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Information Access
First mention of …

… in the OCRed newspaper archive of the KB?
Digital Humanities

- digital archives / large data collections
- collection bias / digitization policy
- digital representation ≠ physical object
- tools are imperfect
- source cannot be considered independent from tools
- need methods to detect tool-induced bias
Source criticism

- well established method in the humanities to detect bias in a source
- Who is the author?
- Is the information current?
- Is the information objective and credible?...

- need a similar approach for tool-induced bias:
  tool criticism
Methodology

- interviews with humanities scholars
- classification of common research tasks
- lack of trust blocks progress
- use case: digital newspaper archive of KB
- no formal OCR evaluation
- useful for scholars?
- mismatch between two perspectives
Two different perspectives of quality evaluation

We care about **average** performance on **representative** subsets for **generic** cases.

I care about **actual** performance on my **non-representative** subset for my **specific** query.
No silver bullet

- we propose novel strategies that solve part of the problem:
  - critical attitude (awareness and better support)
  - transparency (provenance, open source, documentation, …)
  - alternative quality metrics (taking research context into account)

M. Traub, J. van Ossenbruggen, L. Hardman,
Impact Analysis of the OCR Quality Problem in Digital Archives, TPDL2015 (under review)
Context-aware quality indicators

query

“Amsterdam”

task

data
Future work

- What strategies should a tool support to help scholars discover and dealing with bias?
- What is a good way of estimating uncertainty for a specific task?
- Can we crowdsourse (part of the data for) better estimates?
- What is a good way of conveying the estimated impact to scholars?