Module 7
Using Tesseract: Practice

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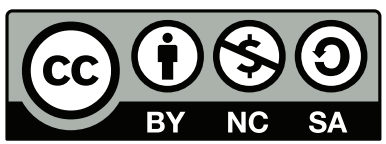

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Practice session: Overview

- download the data for this session
- OCR some pages
- use a GUI for OCR and postcorrection
- compare the effect of different traineddata files

OCR some page images

- the downloaded data contain the following images:
  - goethe.tif (Goethe 1809, Wahlverwandtschaften)
  - grenzboten.tif (Grenzboten 1841)
  - latin.tif (Hobbes 1668, Leviathan)
  - greek.tif (Zonaras 1870, Epitome)
- OCR the pages with the following commands from the data directory:

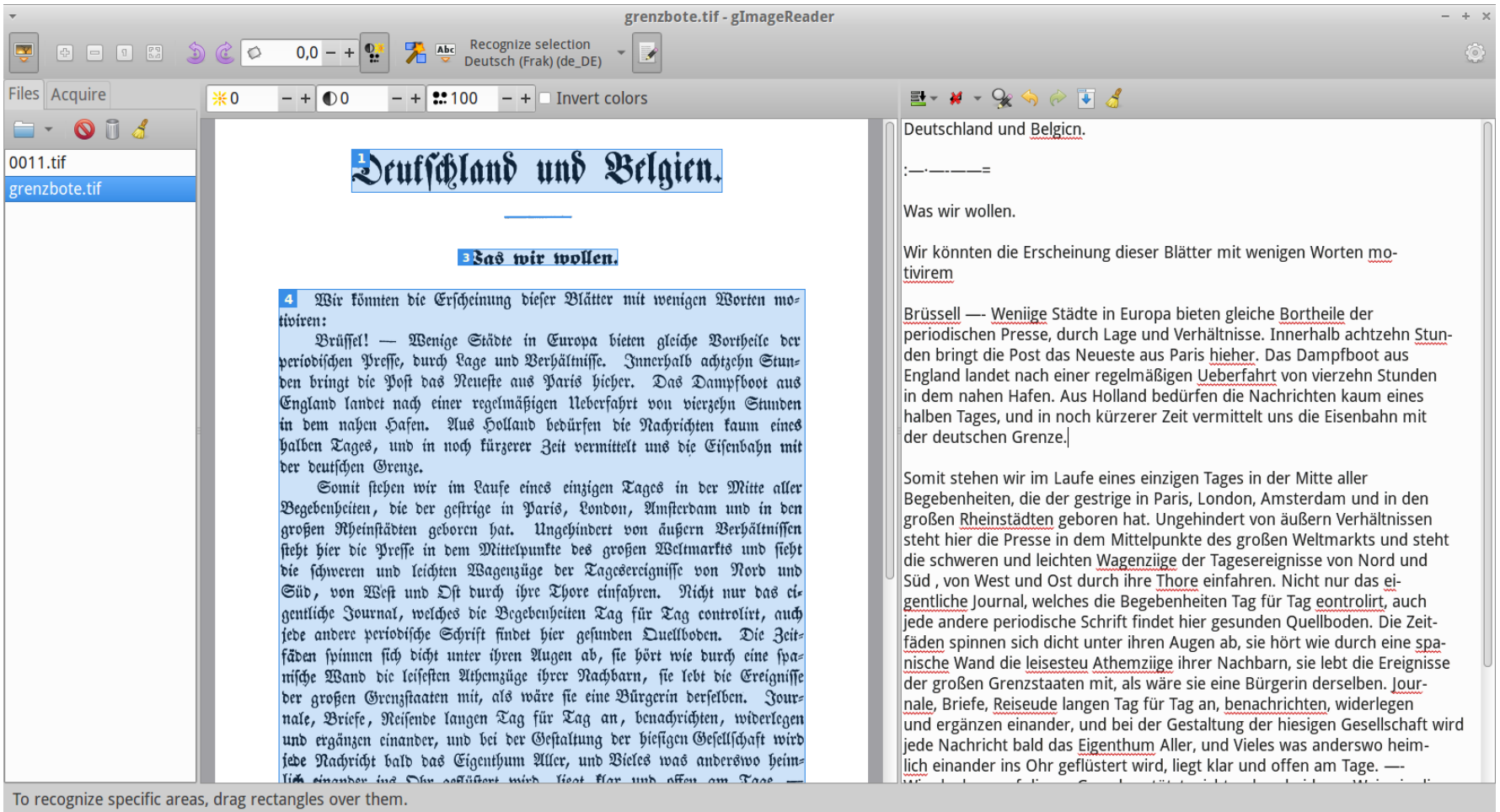
```
tesseract goethe.tif goethe -l deu-frak
tesseract latin.tif latin -l lat
tesseract greek.tif greek -l grc
```

- the Tesseract delivered lat.traineddata file is not as good as the one by Ryan Baumann
- you may just as well use one of the GUI programs mentioned in Module 0: Software
- compare with ground truth, e.g.

```
ocrevalutf8 accuracy somefile.gt.txt somefile.txt | more
```

Using a GUI: gImageReader

- download and install gImageReader (instruction)
- load and recognize an image
- correct text in right pane (spellchecking via installed dictionary)



Training Tesseract

- the good news: Tesseract is fully trainable (typeface training, inclusion of wordlists)
- but the training procedure is quite involved (description)
- there exist a number of training tools, but all of them build synthetic images from text using available computer fonts
  - works well with typefaces for which computer fonts are a good representation
  - does not work very well for early printings
  - OCRopus only succeeds because we train from real images
  - there is no description how to train Tesseract from real images
- EMOP tried a middle path: building an artificial font by cutting out glyphs from page images, then using the synthetic method
  - training files for these historical fonts are on github
  - they only contain English glyphs (no umlauts) and English wordlists

Compare different traineddata files

- OCR the latin images with default settings, with EMOP Antiqua fonts, with Baumann's latin training:

```
tesseract latin.tif latin.baseline
tesseract latin.tif latin.emop --tessdata-dir . -l RI5Combo-R8-D2b
tesseract latin.tif latin.baum --tessdata-dir . -l lat
```

- compare the results: the first two use English language data, the middle one artificial historical fonts, the last one computer fonts but a Latin dictonary.
- lat.traineddata does recognize `ſ,æ,œ`, but renders them as `s,ae,oe`. Evaluate again against lat.gtnorm.txt.