The task of cleaning and enriching large collections

what aspects can we share?

Contributing to this work

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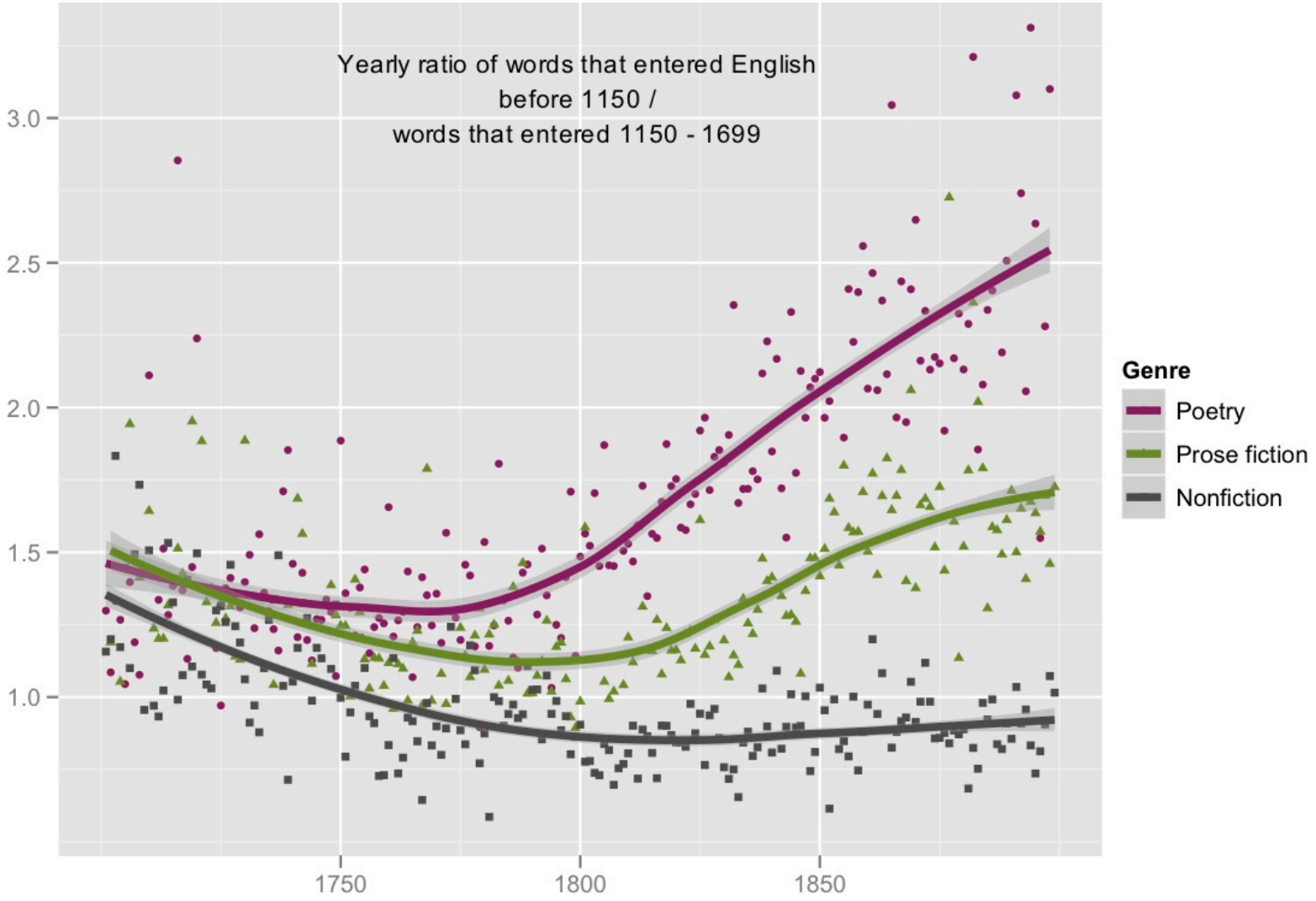
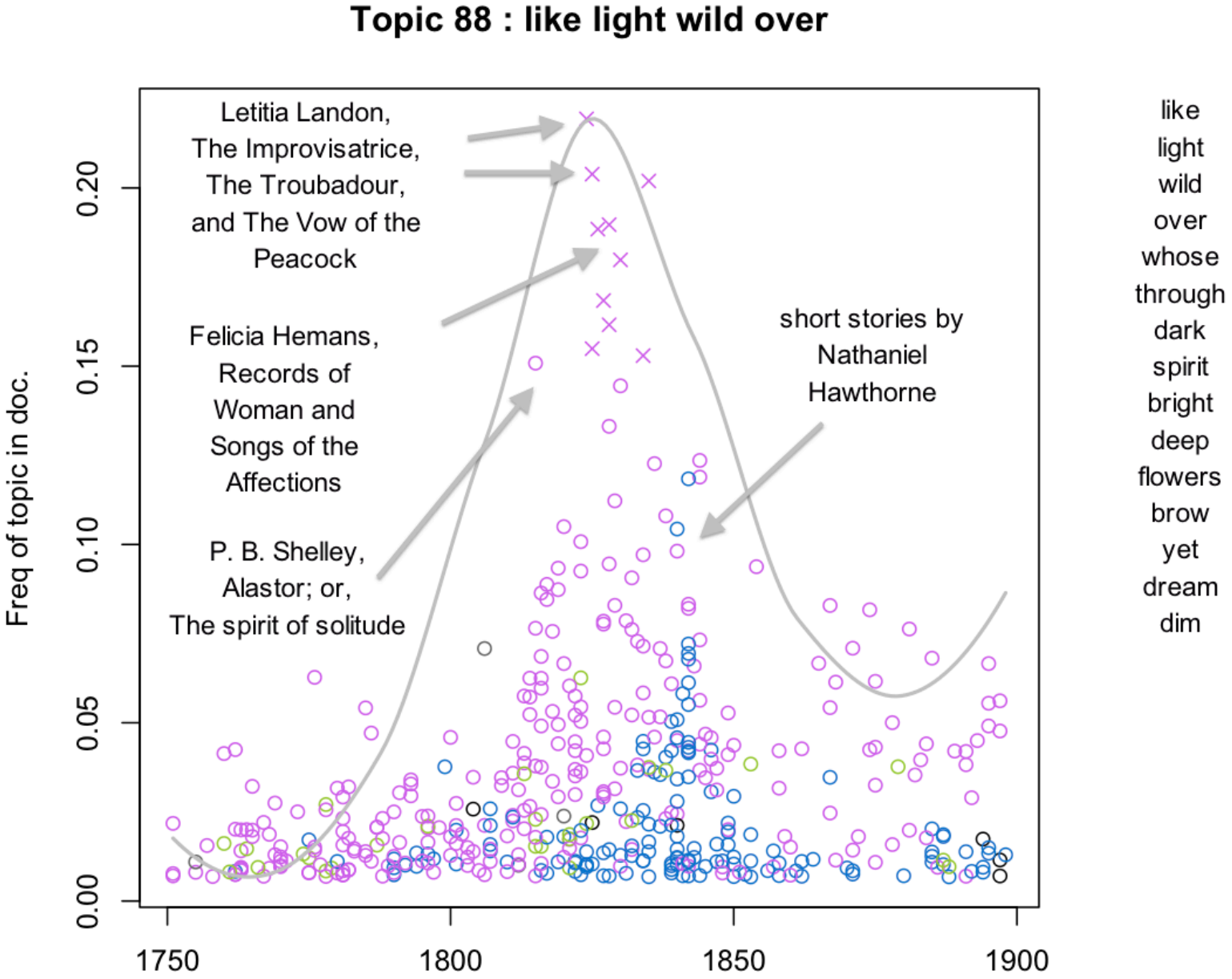
Andrew W. Mellon Foundation

“Enrich” as well as “clean.”

Yearly values of a ratio between two wordlists in three different genres. 4,275 volumes. 1700-1899.

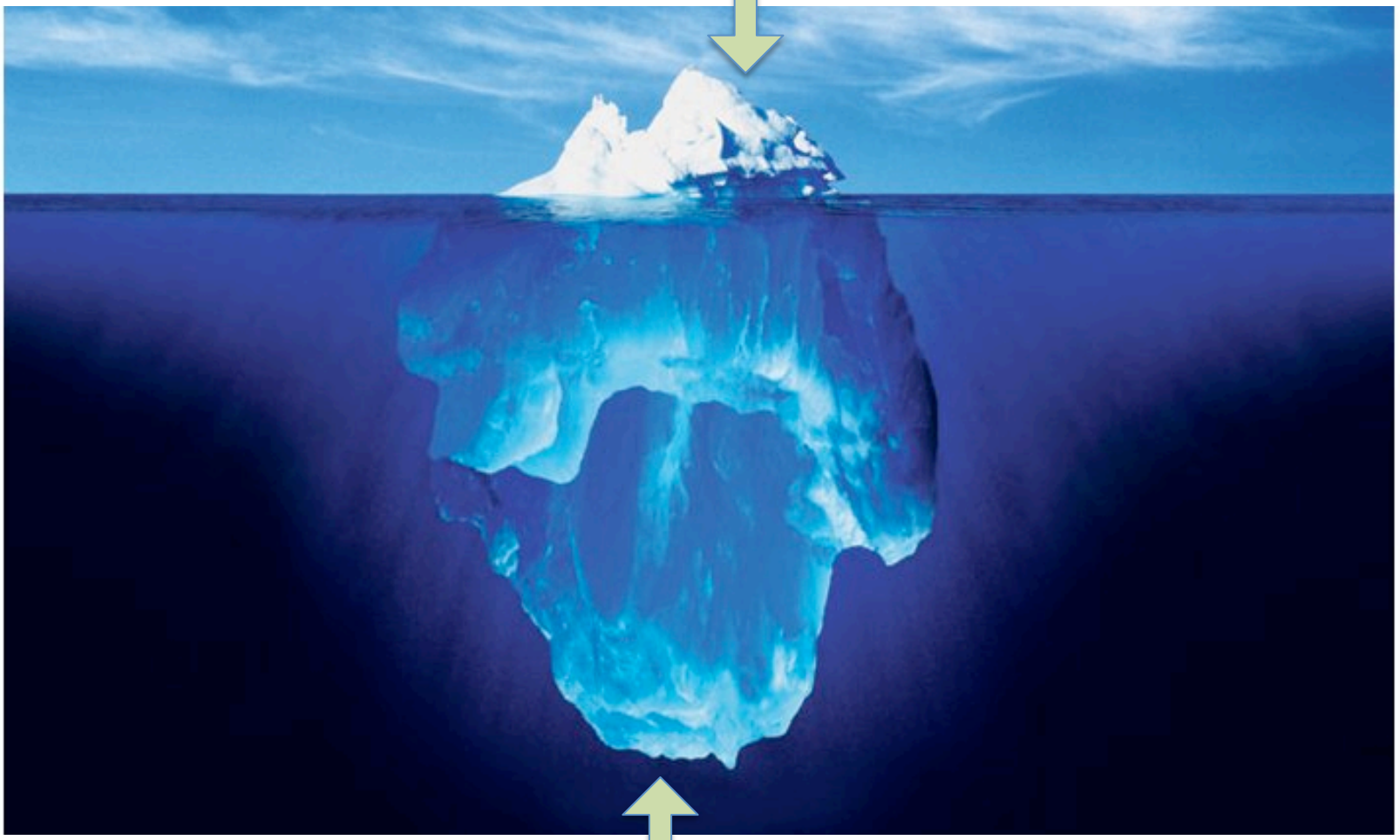




Blue/fic, purple/poe, green/drama, black/bio, brown/nonfic, triangle/letters or orations.

“representative?”

analyzing the data



cleaning the data

“clean” is relative

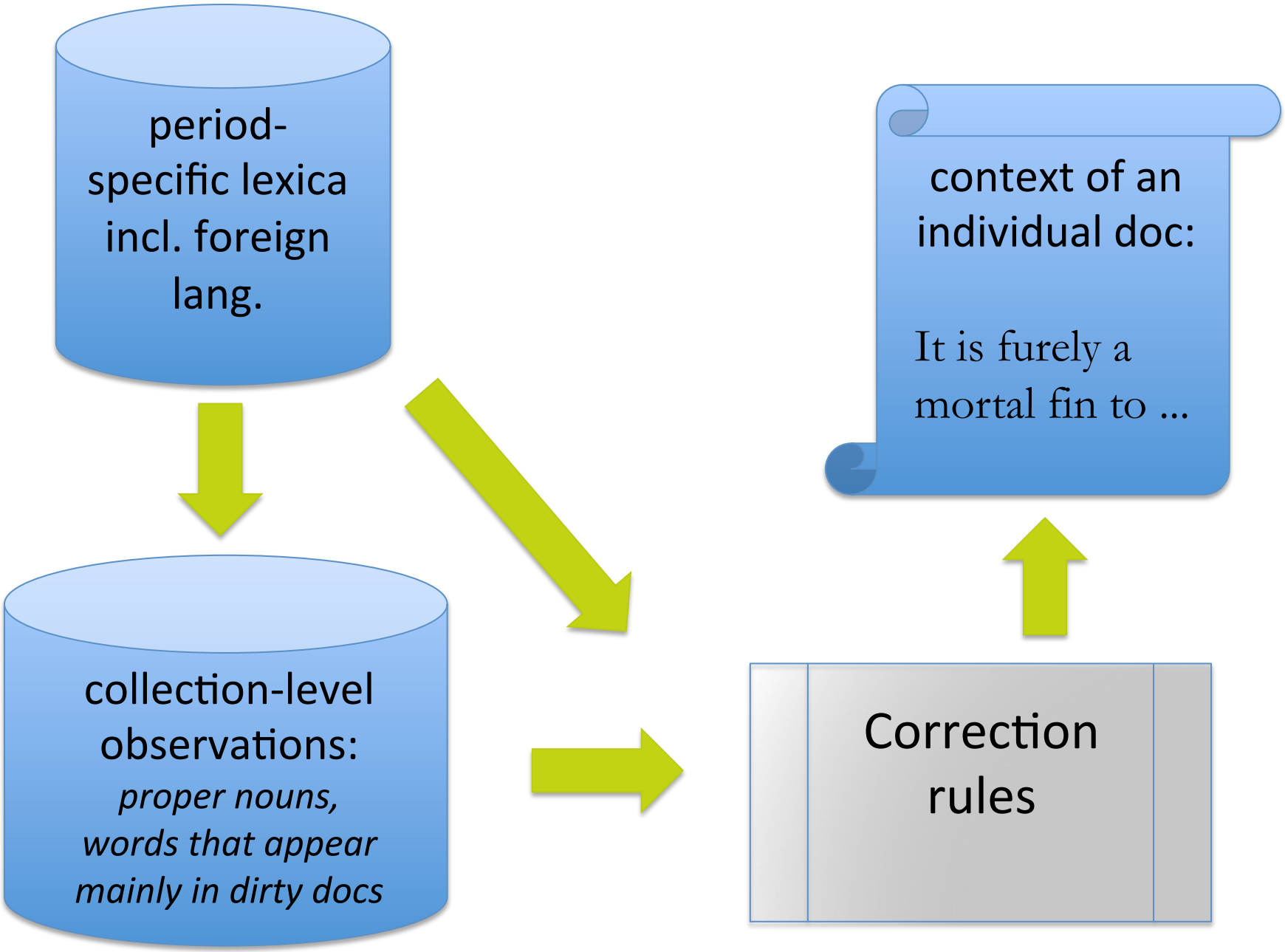
different projects will strike a different balance between precision and recall

makes it tricky to share resources

Cleaning the data

1. Clean up the OCR / assess error.
2. Identify parts of a volume (e.g., articles in a serial, poetry/prose).
3. Remove library bookplates and running headers — after using them for (3).

duelling, I remember calling at the office of a great Parisian newspaper with a friend who wished to have rectified a statement published in it concerning him. When our business was made known we were ushered into a handsomely furnished room on the first floor. Seated at desks, without a trace of pens, ink, or paper, or of anything in a literary way except some new novels, together with a few packages of cigarettes, were two gentlemen, whose appearance made a considerable impression on me. They were faultlessly dressed in deep black (the duellist's de Dion, the greatest living authority in France on duelling, who has been "out" scores of times, both as principal and second, and whose undisputed loyalty and firmness have made it possible for him to prevent many duels that seemed inevitable. The marquis killed Captain Mayer in a duel with swords at the Ile de la Grande Jatte a few years ago, and in a pistol duel with a deputy, M. Dreyfus, wounded him in the arm. When on his American ranche two cowboys tried to "jump" some of his cattle, he and one of his herdsmen fought them off with "Win-


period-specific lexica incl. foreign lang.
collection-level observations:
proper nouns, words that appear mainly in dirty docs
context of an individual doc:
It is furely a mortal fin to ...
Correction rules

Cleaning/enriching the metadata

1. “18??”
2. Discard duplicate volumes / select early editions?
3. Add metadata that you need for interpretive purposes, like
   — gender (see Ben Schmidt’s technique),
   — genre.

first stab at genre – naive Bayes

	really drama	really fiction	really nonfiction	really poetry
as "drama"	85.4%	0%	0%	6.1%
as "fiction"	0%	95.1%	6.0%	0.8%
as "nonfiction"	0%	2.8%	94.0%	3.0%
as "poetry"	14.6%	2.1%	0%	90.1%
	100%	100%	100%	100%

Things we could share

- period lexicons / variant spellings
- gazetteers of proper nouns
- OCR correction rules for a period
- document segmentation and/or cleaned and segmented text
- ferberization
- cleaned / enriched metadata
- code to do all of the above

get clues from metadata

break vols into parts

ensemble / boosting

active learning

active learning: documents classified as “fiction,” plotted by confidence in classification (y axis). Red points are misclassified.