Markers of Literary Language—
A Computational-Linguistic Odyssey

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Background

Definition

Literature is the body of work with the most artistic or imaginative fine writing (Britannica, 1911).

Other definitions . . .

Formalist definition: literary language distinguishes itself from standard language through foregrounding, defamiliarization.

Social definition: critics and publishers determine status of novels

Computational Humanities? investigate true nature of literary conventions using computational tools.

Background

Heumakers (2015): *De esthetische revolutie*

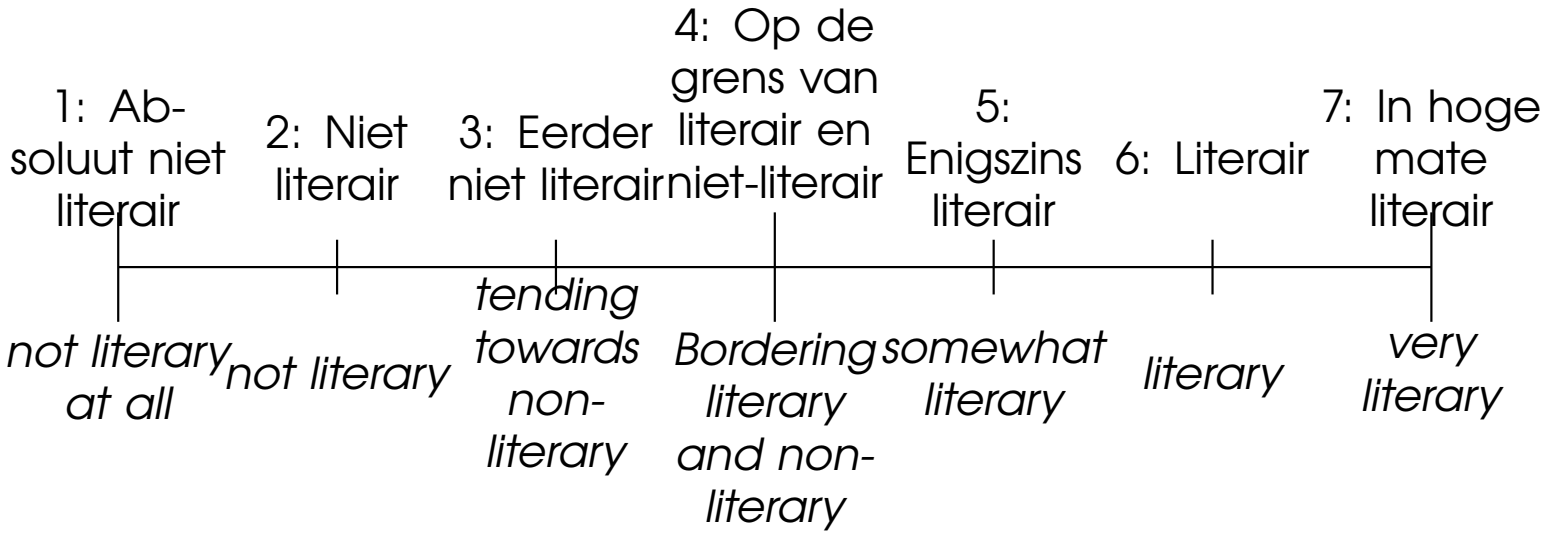
Modern, Western notion of literature:

- Late 18th century invention, within Romanticism
- Important features:
  - autonomous
  - originality
  - not just entertainment
  - not limited by genre
  - social criticism

The Riddle of Literary Quality

Corpus:

- 401 recent Dutch novels
- Published 2007–2012
- Selected by popularity



Survey:

- For books read:
  Likert scales (1–7) how literary, good?
- about 14,000 readers completed the survey

Simple Stylistic Measures

- Words per Sentence (WPS)
- Modifier Constituents (MOD)
- Direct Speech (DS)
- Common Vocabulary (CV)

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	Literariness	Quality
WPS	0.39*	0.24*
MOD	0.27*	0.02
DS	-0.39*	-0.04
CV	-0.31*	-0.15

* means significant correlation with $p < 0.001$

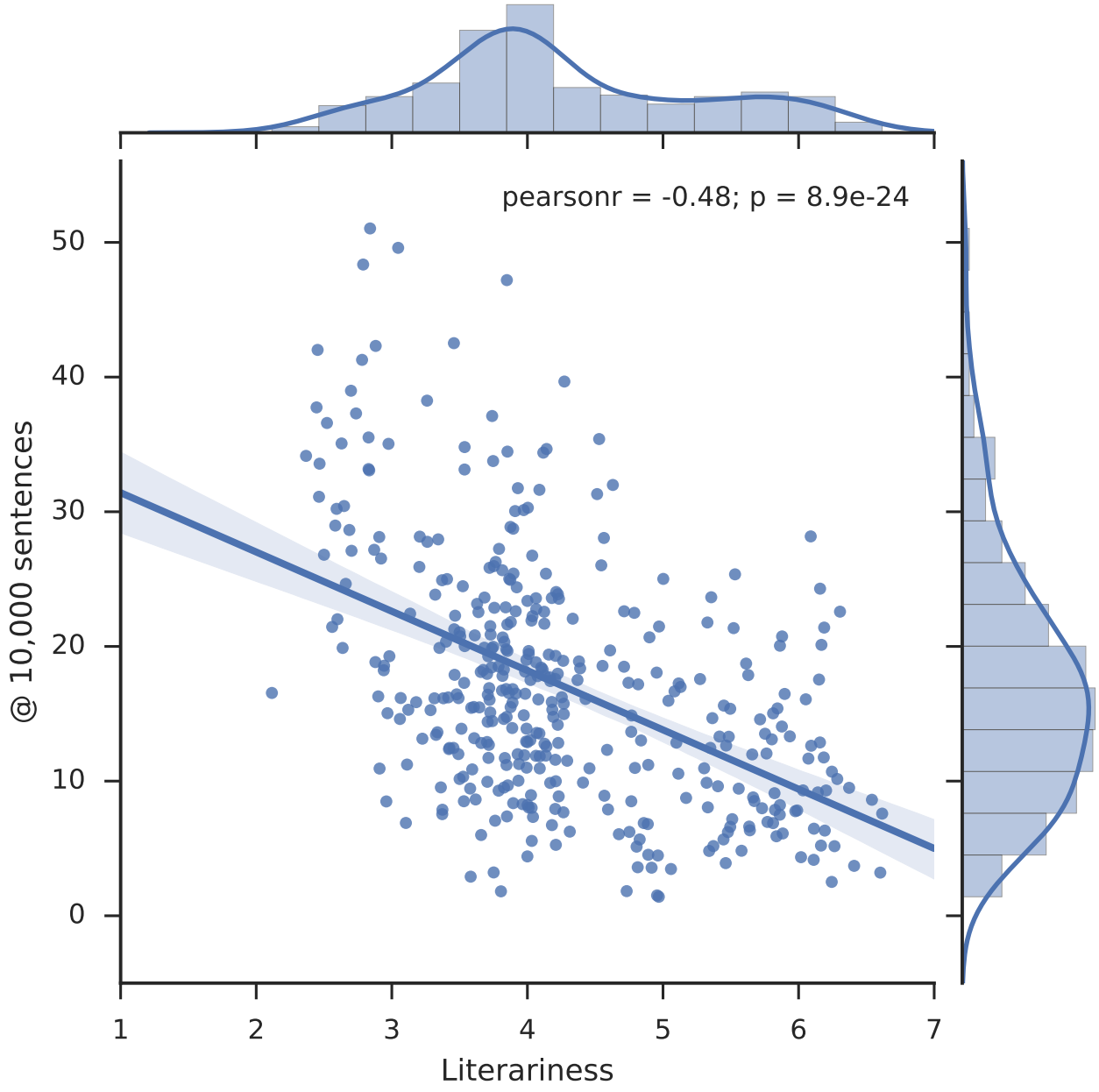
Clichés

Definition

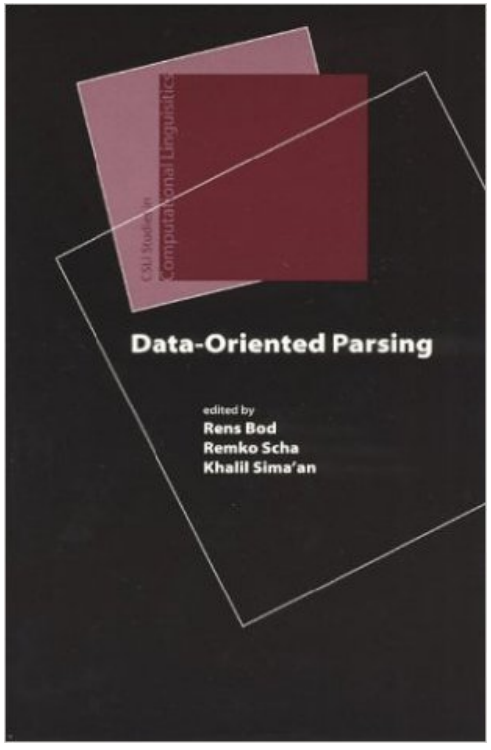
A cliché expression is a fixed, conventionalized yet compositional multi-word expression which has become overused to the point of losing its original meaning or effect.

- (Kijk,) dat bedoel ik nou.
  (Look,) that's what I mean.
- Geen (bier) meer voor jou!
  No more (beer) for you!
- Y, zoals X dan zou zeggen.
  Y, as X would say.
- Daar zit een boek/artikel in!
  That's material for a book/paper!

Results with Cliches

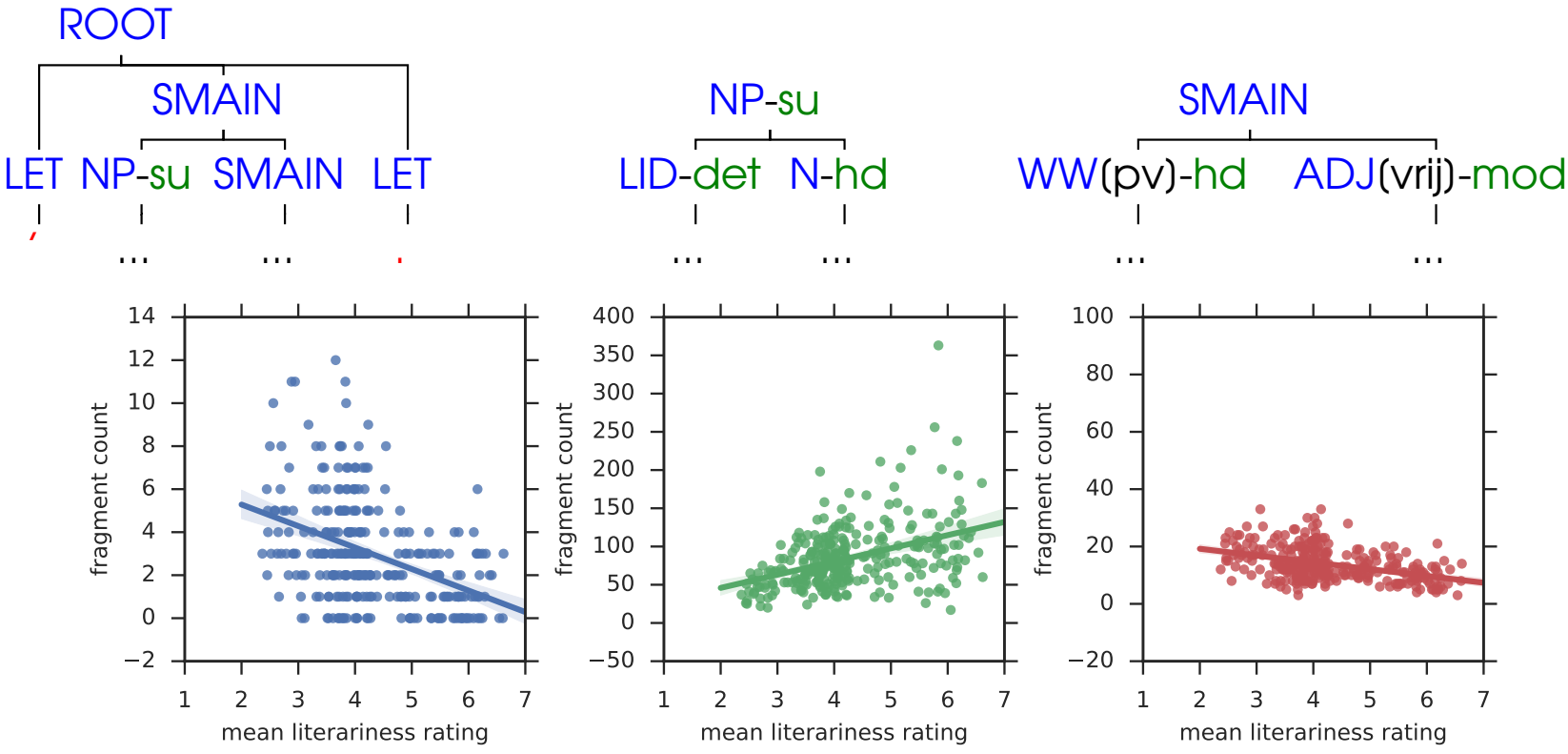


Fragments

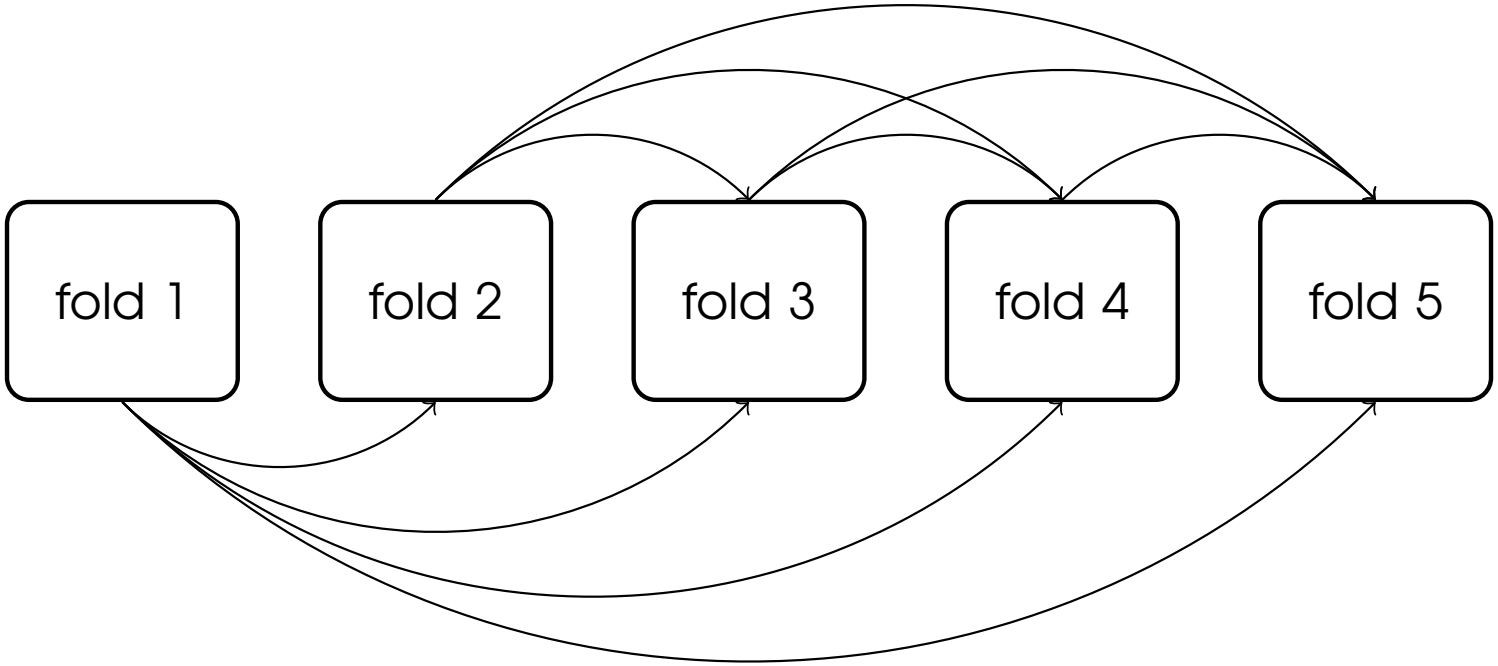


- Data-Oriented Parsing
  (Scha 1990, Bod 1992)
- Language use is memory-based, depending on arbitrary fragments of language experience
- Syntactic tree fragments of arbitrary size
  (connected subsets of tree productions)
- Extract automatically from corpus

Fragments

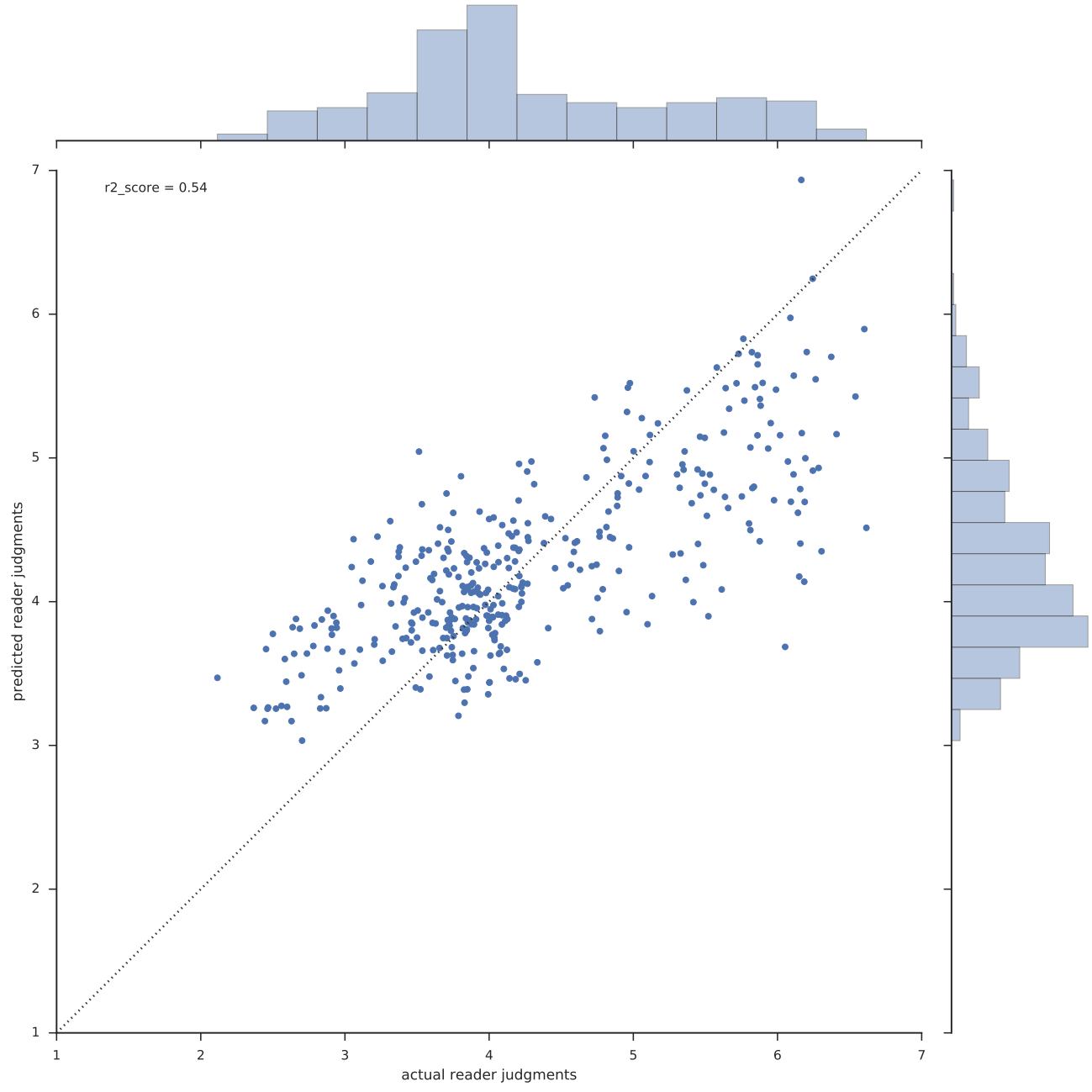

ROOT
SMAIN
LET NP-su SMAIN LET
NP-su
LID-det N-hd
SMAIN
WW(pv)-hd ADJ(vrij)-mod
fragment count
mean literariness rating
fragment count
mean literariness rating
fragment count
mean literariness rating

Fragments



1. Extract common fragments
2. Apply frequency thresholds:
   $\geq$ 50 occurrences in $\geq$ 5% of texts
3. Apply correlation threshold:
   correlated s.t. $p < 0.05$
4. Remove redundant fragments:
   discard fragments correlated with $|r| > 0.5$

Fragments


r2_score = 0.54
predicted reader judgments
actual reader judgments
1
2
3
4
5
6
7

Fragments

	RMS error	R^2
Fragments	0.68	54.2
Bigrams	0.66	56.7
Combined	0.66	56.9
Interpolated	**0.65**	**57.3**

Conclusion

- Yes, literary conventions are related to textual features
- Literariness can be predicted from text to quite a large extent
- We presented a data-oriented approach with fully parsed sentences that improves on simpler baselines

THE END


Don't be a novelist-
be a statistician,
Much more scope
for the imagination...