The Subjectivity of Lexical Cohesion in Text

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1 Research questions

General: What degree of subjectivity exists in text understanding?

Specific: Degree of subjectivity in readers' perceptions of lexical cohesion.

Future: How does this subjectivity reflect the reader's attitude?

2 Lexical cohesion

Intersentence groups of related words indicate the structure of topical units:

call, notify, send, demand \Rightarrow communications.

James Bond, Hollywood, filmmakers, actors ⇒ movies.

3 Lexical semantic relations

"Classical": hyponymy, synonymy, antonymy, meronymy, ...

"Non-classical": All the rest: Nonhierarchical relations with no standard classification. Heavily used by readers but under-represented in lexical resources.

James Bond / Hollywood: Related because James Bond films are made in Hollywood.

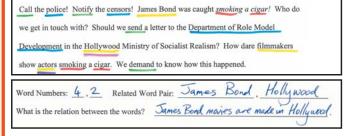
4 Our approach

Investigate readers' perceptions of lexical cohesion.

Basic methodology: Measure subjectivity as individual differences.

5 Experiment

Pilot: 5 readers, 1.5 pages of *Reader's Digest* article. Subjects marked the word groups and the related word pairs they perceived, and then described how they thought the word pairs were related.



Subjects used colored pencils to mark words that they perceived to be related. Then they explained the relationship that they saw.

6 Results

- (1) Pairwise agreement on word membership in each group.
- (2) Word pairs agreed on by $\geq 50\%$ of the subjects for "core" words.
- (3) Agreement on relation types for pairs used by ≥2 readers.

Gloss of	Pairwise	Word pairs	Relationship
word group	agreement (%)	agreed on (%)	agreement (%)
Movies	71	10	75
Communications ^a	69	12	20
Smoking	73	13	85
Groups and causes	63	18	69
Bad behaviors	41	12	100

aOnly 3 subjects used this group.

8 Discussion

There is a "common core" of words within word groups, but some subjectivity is observed.

The word pair agreement is low, but the relation type agreement is high.

The subjects reported that marking word groups and explaining relations in context is easy, but they had difficulty choosing word pairs from the word groups.

9 Future work

Complete the study with 3 texts, 26 subjects. (Present results are for pilot only.)

Focus on non-classical relations: Is there a "smallish" set of common non-classical relations that readers use?

Use different types of readers and texts.

Investigate the potential of Hasan's "cohesive harmony".

Hasan, Ruqaiya. (1984). Coherence and cohesive harmony. In J. Flood (ed.), *Understanding reading comprehension*. International Reading Association.

Further explore how attitude is reflected in subjectivity.

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Subjectivity and attitude

Subjects largely agree on the core words of "bad behaviors" group: Core words (chosen by $\geq 3/5$ subjects)

- 5 shooting
- 4 sex
- 4 drinking
- 4 dangerous
- 3 drag racing
- 3 irresponsible [behaviors]

One subject adds idiosyncratic attitude-bearing choices:

"Law/order/authority" outliers (all chosen by one single subject)

- 1 police
- 1 caught
- 1 British Intelligence Service
- 1 gun control lobby
- 1 Department of Role Model Development
- 1 MADD
- 1 spies