Title: A Centering Analysis of Relative Clauses in English and Greek.
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Abstract
Centering Theory (Grosz et al 1995) was developed as a model of local coherence in discourse. Coherence in Centering is evaluated in terms of center transitions. Four transitions are defined and ranked to reflect four degrees of coherence: Continue>Retain>Smooth-Shift>Rough-Shift. Center transitions are computed for each processed 'utterance' by means of two basic comparisons; whether the topic of current utterance is the same as the topic of the preceding utterance and whether it is realized in a prominent position, e.g., in subject position in English. An entity realized in subject position is the highest ranked entity of the utterance that contains it and the most likely center of the succeeding discourse. Other entities in the same utterance are ranked lower in salience.

Complex sentences raise interesting questions for Centering as well as our understanding of the effects of syntactic structure on discourse processing. Complex sentences contain multiple subjects, i.e., the subject of the main clause and the subjects of subordinate clauses. They may also evoke other entities, some of them in the main clause and some of them in the subordinate clauses. It remains unclear what the relevant status of these entities is with respect to each other. Following up earlier work on adverbial clauses (Author 2002, among others), the paper focuses on relative clauses. We compare and contrast the salience status of entities in main and relative clauses in two languages: English and Greek.

Two Centering studies were conducted on an English and Greek corpus. For each language 100 tokens of non-restrictive, sentence final, relative clauses were extracted. Centering transitions were computed in two conditions: the complex sentence condition, in which the relative clause was processed as a single unit with the main clause, and the single clause condition, in which the main and the relative clause were processed as a single unit each. Assuming reasonable coherence in the written corpus, we expect that if entities evoked in relative clauses are of equal salience status as entities evoked in main clauses, then the single clause condition should yield more 'coherent' transitions than the complex sentence condition. The results, shown in Table 1, indicate that this is not the case. Most importantly, closer inspection of choice and interpretation of referential forms in the following discourse shows that subjects of relative clauses do not always warrant pronominal reference even in the absence of more recent competing antecedents, as shown in Example 1. These preliminary results from the Centering analysis raise a host of interesting questions regarding the status of subjects in complex sentences and their effect on pronominal interpretation. They also have many theoretical and practical implications with regard to the nature of the interaction between topics, subjects and pronouns.

Table 1

Language	More 'coherent' transition	Less 'coherent' transition	No effect	Total
English	13	46	41	100
Greek	8	44	48	100

Example 1

(a) Mr. Taylor-i, 45 years old, succeeds Robert D. Kilpatrick-j, 64, who is retiring, as reported earlier.
(b) Mr. Kilpatrick-j will remain a director.
(b') #He-j will remain a director.

References

Grosz, Barbara, Aravind Joshi, and Scott Weinstein. 1995. Centering: A Framework of Modeling the Local Coherence of Discourse. In *Computational Linguistics* 2 (21), pp. 203-225.