

The Effect of Position on Understanding : Preposed vs Inserted 'selon X' (according to X)

Anne-Marie ARGENTI^{1,2,3}, Michel CHAROLLES^{1,2,3}

¹Unité mixte de recherche 8094 du CNRS, ²Ecole Normale Supérieure, ³Université de Paris III

Contact : anne-marie.argenti@ens.fr

INTRODUCTION

Centering theory (Grosz et al., 1983, Walker et al., 1998) establishes a structural relationship between the form of referential expressions and attentional focus. It predicts specifically that highly focused entities tend to be realized with less marked forms (e.g. pronouns) and that factors such as grammatical status or surface position affect prominence. The experiments reported here aimed to test a claim put forward in linguistic studies on French evidential adverbials (Schrepper, 2005) concerning the functioning of the preposed position as a potential frame influencing the following pronominal resolutions : a preposed prepositional phrase (PP), but not an inserted one, frames an informational bloc in which antecedents are easily accessed compared to antecedents located outside the bloc

EXPERIMENT 1

Counterbalanced Factors

- Prepositional Phrase Position** → Preposed or Inserted
- Target Pronoun Gender** → Gender of the NP complement of the evidential PP (here the Speaker) or Previous Grammatical Subject Gender

Material

- P1 : *Selon Francine, Vincent a trouvé un stage dans une agence de publicité.*
(According to Francine, Vincent found an advertising agency internship.)
- P2 : *Il/Elle apprécie que les cursus étudiants incluent une expérience professionnelle...*
(He/She appreciates the fact that the curriculum includes a work experience...)
- P1 : *Vincent a trouvé, selon Francine, un stage dans une agence de publicité.*
(Vincent found, according to Francine, an advertising agency internship.)
- P2 : *Il/Elle apprécie que les cursus étudiants incluent une expérience professionnelle...*
(He/She appreciates the fact that the curriculum includes a work experience...)

Hypothesis

- Preposed Position x Subject's Gender Pronoun → Quick « Inside Frame » Reading
- Preposed Position x Speaker's Gender Pronoun → Slow « Outside Frame » Reading
- Inserted Position x Speaker's Gender Pronoun → Slow Reading due to inaccessibility of antecedent
- Inserted Position x Subject's Gender Pronoun → Quickest Reading consistent with Centering Theory

Methodology : Self Paced Reading Paradigm with P2 as Target + Comprehension task

Participants : 24 students (University of Paris III)

RESULTS

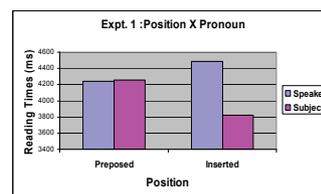
Main effect : Shorter Reading time of Target sentence for Subject's Gender Pronoun ($F(1,23)=7, p=0.01$)

Interaction : Shorter Reading time for Inserted Position x Subject's Gender Pronoun condition than for others ($F(1,23)=4.45, p=0.046$)

Interprétation

In Preposed Position → no Reading time difference of Target sentence whatever the Pronoun

Possibly due to the first mention effect reported by Gernsbacher et al. (1989)



➡ **Adjunction of a new factor to manipulate protagonist Prominence**

Two introductory sentences are added to the previous texts : the first sentence starts with the mention of one of the protagonists, the Speaker or the Subject

EXPERIMENT 2

Same material with two introductory sentences added

- P-2 : *Vincent/Francine prépare un master de gestion à Paris-Dauphine.*
(Vincent/Francine is taking a Master in Management at Paris-Dauphine.)
- P-1 : *Les programmes comprennent des enseignements théoriques et des mises en situation...*
(The syllabus includes theoretical knowledge and applied skills...)

Counterbalanced Factors : Prominence x Position x Pronoun

Hypothesis

- The Speaker in introduction → Same results in Expt. 1
- The Subject in introduction → In the Preposed Position, shorter Reading time for Subject Gender Pronoun than for Speaker Gender Pronoun

Participants : 64 students (University of Paris III)

Results

Main effect : Shorter Reading of Target sentence for Subject Gender Pronoun ($F(1,63)=7.6, p=0.007$)

Interaction

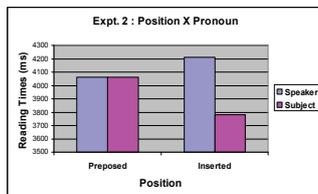
Longer Reading for Inserted Position x Speaker Gender Pronoun condition than for others ($F(1,1252)=4.3, p=0.04$)

Interpretation

No effect of the Prominence manipulated factor

Possibly due to interaction between the meaning of the evidential PP and opinion verbs such as « appreciate, find, think, hope... » systematically used in Target sentences

➡ **Replacement of the opinion verbs of Target sentences by verbs describing the Subject's action**



EXPERIMENT 3

Target sentences of Expt. 2 stimuli are replaced

- P2 : *Il/Elle a mis à contribution proches et relations du secteur en début d'année...*
(He/She asked some friends and colleagues for help early this year...)

Hypothesis

Expected Effect of antecedent Prominence on the Pronoun resolution of Target sentence as predicted in Expt. 2

Participants : 48 students (University of Paris III)

Results

Main effect : as previously ($F(1,47)=16, p<0.001$)

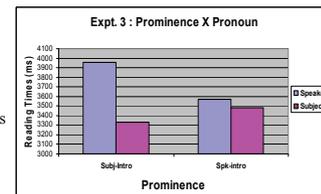
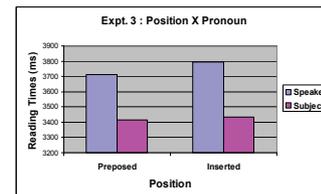
No longer any Position x Pronoun Interaction ($F(1,188)=0.65, p=0.8$)

Prominence x Pronoun Interaction

Longer Reading for Subject in introduction x Speaker Gender Pronoun condition ($F(1,188)=6.96, p<0.01$)

Interpretation

Without opinion verbs, Reading of Target utterances depends on antecedents' prominence given by their grammatical status and their number of occurrences



SUMMARY

In our first experiment, results were similar to those obtained by Gordon et al. (1993) in their 5th test with the Repeated Name Penalty Paradigm, results they interpreted as indicating that "an initial and non subject" or a "non-initial and subject" entity equally provides prominence. Our second experiment, however, suggests that the rather robust effect obtained with our material was probably not only a question of surface order. Our third experiment shows the importance of the verbal phrase in our preceding results. Altogether, these experiments confirm the importance of antecedent prominence in pronominal resolution as pointed out by Centering Theory and suggest a new factor of prominence, besides surface order and grammatical status, namely the semantic affinity between Evidential Preposition and subsequent Verb Phrases whose Subject pronoun is the mentioned Speaker. The Speaker's point of view signaled by the PP seems to prime opinion VP, possibly changing the narrative from an objective story about the previous Grammatical Subject to a story concerning the subjectivity of the Speaker. This last result shows that Preposed PPs fulfil a specific framing function (Charolles, 1987) in certain conditions which further studies will focus on and develop

Bibliographie

- Charolles, M.B. (1987). Spécificité et portée des prises en charge en "selon A". Revue Européenne des Sciences Sociales, Genève, Droz, T XXV, n°77, 243/271.
- Gernsbacher, M.A., Hargreaves, D.J., Beeman, M. (1989). Building and Accessing Clausal Representations: The Advantage of First Mention versus the Advantage of Clause Recency. J.M.L., 28, 735-755.
- Gordon, P.C., Grosz, B., Gilliom, L. (1993). Pronouns, Names and the Centering of Attention in Discourse. Cognitive Science, 17(3), 311-47.
- Grosz, B.J., Joshi, A.K., & Weinstein, S. (1983). Providing a unified account of definite noun phrase in discourse. Proceedings of the 21st Annual Meeting of the Association of Computational Linguistics, Cambridge, MA.
- Schrepper-Andre, G. (2005). Incidence des formes de reprise des SP en *selon X* énonciatifs sur leur portée phrasique et textuelle. Langue Française, 80-94.
- Walker, M.A., Joshi, A.K., Prince, E.F. (1998). Centering in Naturally Occurring Discourse : An Overview. in Walker, M.A. et al. (eds), 1-27.