

The semantics-pragmatics of typographic emphasis in discourse

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The standard view of the effects of typographic emphasis in English is that, as poor man's correlates of prosodic stress, type styles (e.g., capitals, italics) enhance memory for emphasized information to the detriment of reading speed without affecting higher-order linguistic processes [1, 2, 3]. In contrast, a few referential studies offer evidence that typography interacts with linguistic variables [4] and, more specifically, that it adds a modulatory or a contrastive layer of meaning to the interpretation of referential expressions [5, 6]. Because, however, the bulk of these findings stems from memory studies, little is known about the effects of typographic emphasis as a focus mechanism in sentence processing. In addition, no study to date has investigated whether typographic emphasis can bring a referent into discourse focus and consequently affect the real-time processing of anaphoric expressions. This study provides on-line evidence for the visual-emphatic, contrastive, and discourse focus effects of typographic emphasis during normal silent reading in English by means of two eye-tracking experiments manipulating capitals or italics in cohesive pieces of discourse.

The first eye-tracking experiment was conducted in a 2x2x2 within-subjects design with factors Antecedent (Subject, Object), Anaphor Form (Pronoun, Name), and Emphasis (Plain, Capitals). Experimental passages featured a referential target (e.g., "RON") and a competitor (e.g., "Iris") in the first sentence, while the second sentence included an anaphor (e.g., "he"), a verb (e.g., "voted"), and a wrap-up region (e.g., "for a Republican"), as in "RON scorned Iris due to differences in political view. In the last election, he voted for a Republican" (Subject Pronoun Capitals condition). Linear mixed-effects models showed that (i) capitals had an early visual impact paired with a late effect of emphasis, as evidenced by longer first-pass and total times on the target in the Capitals than in the Plain condition; (ii) capitals did not convey contrastive information, since processing on the competitor was not significantly different in the Capitals condition relative to the Plain condition in any measure; and (iii) capitals impacted on discourse focus, yielding an overall repeated-name penalization in first pass on the verb in the Capitals condition (see Fig. 1), in contrast to a classic repeated-name penalty (RNP) effect in the form of an interaction of Antecedent and Anaphor Form in the Plain condition (i.e., Subject Name worse than Subject Pronoun, but Object Name similar to Object Pronoun) [7, 8].

Experiment 2 was identical to Experiment 1 except for the manipulation of a different level of Emphasis (Plain, Italics), e.g. "Iris scorned *Ron* due to..." The mixed-effects results revealed that (i) italics had a late, localized effect of emphasis that was reflected in longer total times on the target in the Object Italics than in the Object Plain condition; (ii) italics also had an early contrastive impact, with longer first fixation durations on the competitor in the Subject Italics than in the Subject Plain condition; and (iii) italics modulated discourse focus, since an interactional RNP effect was observed in go past and regressions in on the anaphor in the Italics but not in the Plain condition (see Fig. 2), and since the magnitude of the RNP in first fixation and first pass on the anaphor was considerably smaller in the Italics than in the Plain condition.

Taken separately, the experimental results diverge in that the on-line processing of capitals and italics was shown to be characterized by distinct visual-emphatic properties, contrastive stress effects, and degrees of modulation of discourse focus over time. Together, however, the experiments converge to show that, like prosodic stress, typographic emphasis interacts with linguistic structure, contributing interpretable content to it and thereby affecting higher-order coreferential processes such as the RNP. In conclusion, we argue that typographic emphasis is a visible carrier of content that serves semantic-pragmatic functions in sentence and discourse processing.

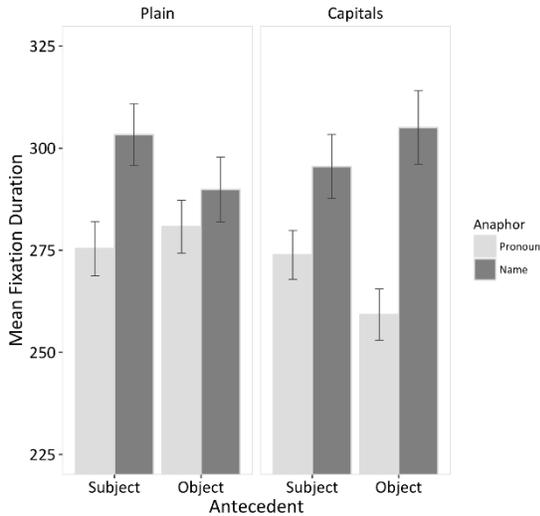


Figure 1. First Pass on the Verb (E1)

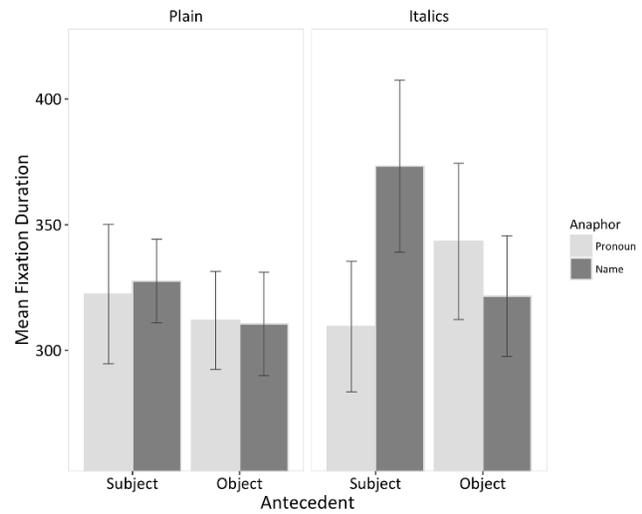


Figure 2. Go Past on the Anaphor (E2)

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