How stance markers in contexts influence the processing of subjective relations: Evidence from on-line reading

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Background & Research questions   Connectives such as *because* and *so* are considered processing instructors in discourse (Britton, 1994): they provide information on the type of coherence relation involved (e.g., temporal, adversative or causal), and in several languages they also code information on subjectivity, i.e., the involvement of a locutionary agent (Finegan, 1995). For example, the Dutch connectives *want* 'because' and *dus* 'so' and Mandarin Chinese *kejian* 'so' prototypically express subjective relations. On-line processing studies found that subjective relations usually take longer to process (Traxler, Sanford, Aked, & Moxey, 1997); and there is an immediate processing delay after the specific subjective connectives (Canestrelli, Mak, & Sanders, 2013). The processing delay of subjective relations and connectives are facilitated by the presence of stance markers such as *John thinks*, *perhaps* and *according to Peter* (Canestrelli et al., 2013; Traxler et al., 1997). An explanation is that these stance markers help readers formulate expectations of the forthcoming coherence relations, and thus influence the processing of a later stage – at the end of the sentence or at the connective.

The stance markers investigated in previous studies all relate to the epistemic stance of the utterance, indicating – just like subjective connectives – that someone's mind is involved in the construction of the coherence relation. However, stance marking is not restricted to epistemic stance; other dimensions can be distinguished: for instance, attitudinal stance (e.g., *fortunately*; Conrad & Biber, 2000). This study aims to explore two research questions. First, how does the presence of stance markers affect the processing patterns at the connective region and at later regions in subjective relations? Second, do these effects of epistemic stance markers on the processing of subjective relations also hold for attitudinal stance markers?

Method   We conducted an online eye-tracking reading experiment in Chinese with 65 participants (44 female, mean age = 26). The materials contained argument-claim relations with either the subjective connective *kejian* or the connective *suoyi*, which, like the English connective *so* is underspecified for subjectivity. We also varied the type of stance marking in the first segment (no stance marking, epistemic stance marker, and attitudinal stance marker). A modal verb *may/must* was added in the second clause of the relation. The modal verb provided an unambiguous cue that the second segment contained a claim. The experiment was conducted with an EyeLink-1000 eye tracker**.** We used four reading time measures: *first pass*

reading time, *first pass gaze duration*, *regression path duration*, and *total reading time*. Reading times of different regions were analysed with mixed-effect linear regression models.

Results &Conclusion The subjective connective *kejian* led to a processing delay at the connective region compared to the underspecified connective *suoyi*, irrespective of the presence of stance markers and the stance marker types. However, both epistemic stance markers and attitudinal stance markers facilitated the processing at the modal verb, where the subjective relation becomes clear. Therefore, the presence of stance markers did change readers' expectation of the forthcoming relations and facilitate the processing of subjectivity, but the facilitation effects only surfaced at a later stage. The subjectivity encoded by the connective itself still led to increased processing times initially.

Key words: stance markers, subjective relation, connective, on-line reading

Selected references

Britton, B. K. (1994). Understanding expository text: Building mental structures to induce insights. In M. A. Gernsbacher (Ed.), Handbook of psycholinguistics (1st ed., pp. 641–674). San Diego, CA: Academic Press.

Canestrelli, A., Mak, W.M., & Sanders, T.J.M. (2013). Causal connectives in discourse processing: How differences in subjectivity are reflected in eye-movements. *Language and Cognitive Processes*, *28* (9): 1394-1413.

Conrad, S., & Biber, D. (2000). Adverbial marking of stance in speech and writing. In S. Hunston & Thompson，Geoffrey (Eds.), *Evaluation in text: Authorial stance and the construction of discourse* (pp. 57–73). Oxford and New York: Cambridge University Press.

Finegan, E. (1995). Subjectivity and subjectivisation: An introduction. In D. Stein & S. Wright (Eds.), Subjectivity and subjectivisation: Linguistic perspectives (pp. 1–15). Cambridge: Cambridge University Press.