

Salience – a modality independent cue of topicality?

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Speakers enrich communication by means of both linguistic and extra-linguistic information to guide language comprehension. Information transfer is optimized by appropriate information packaging reflected for instance in word order alternation (e.g., Chafe, 1976).


Mental models have been proposed as a non-linguistic meaning representation that hearer and speaker derive via language and perception of the communication setting (e.g., Johnson-Laird, 1983). Therein the information status of discourse referents might be represented as a gradient representation of discourse salience (for a review, see Arnold, 2013). Salience as well as accessibility has been attributed to the information structural notion of topicality (e.g., Ariel, 1988; Givón, 1983). Topic has been defined as what the sentence is about (e.g., Reinhart, 1981), establishing the anchoring role to the hearers mental world (Vallduvi & Engdahl, 1996). Syntactically, topics strongly tend to occur sentence-initially (e.g., Frey, 2004). In the visual domain, salient referents (unconsciously or explicitly cued) are more likely first-mentioned and hence lead to word order variation in sentence production (e.g., Gleitman et al., 2007; Myachykov et al., 2012; Tomlin, 1995). Overall, research in the field of language and perception reveals overlapping evidence concerning effects of information status on structural linguistic choices. Still it is unclear, if and how the degree of salience of a discourse referent – the indication of topicality via a linguistic context vs. visual salience – affects information packaging.

In a recent study, we showed that a linguistically presented context indicating the aboutness topic status of one of two previously given referents enhanced judgments on the comprehension of the following topic-first non-canonical (object-before-subject) sentence in German (Burmester et al., 2014). In line with this, event-related potentials (ERPs) revealed reduced costs for updating the current discourse model as compared to a preceding neutral context.

In a series of experiments we are investigating if the aboutness topic status that was effective for the processing of object-before-subject sentences in the verbal modality can also be established by a context increasing the visual salience of the depicted topic referent. Accordingly, we replaced the linguistic topic context (*What about the x?*) by an equivalent visually presented scene increasing the visual salience of the topic referent via an unconscious cue to the location of the topic referent (Exp. 1), a zoom of the topic referent (Exp. 2), or the gaze of a virtual person to the topic referent (Exp. 3) (see Table 1).

Taken together, the results of our ongoing study applying different experimental methods (i.e., ERPs, comprehensibility judgments, comprehension measures) and different modulations of salience to induce topicality in the visual modality fail to replicate the impact of aboutness topic induced in the verbal modality. We discuss if salience of a referent in discourse by means of visual perceptual features affects the representation of the mental model convergent to verbally given information structural features of topicality.

Table 1: Sample stimuli for the condition topic context in the verbal (Burmester et al., 2014) and visual modality (Exp. 3) followed by an object-before-subject target sentence. Approximate English translation written in italics.

Lead-in context	Topic context	Object-before-subject target sentence
	Verbal modality	
	Was ist mit dem Hamster?	
	<i>‘What about the hamster?’</i>	
Der Käfer und der Hamster haben eine Schüssel mit Wasser gefüllt.	Visual modality	Den Hamster wäscht der Käfer mit dem Lappen.
<i>‘The beetle and the hamster have filled a bowl with water.’</i>		[the _[ACC] hamster _[ACC]] _{DP1} [washes] _V [the _[NOM] beetle _[NOM]] _{DP2} [with the cloth] _{PP} .
		<i>‘The hamster, the beetle washes with the cloth.’</i>

Abbreviations: NOM = nominative case, ACC = accusative case, DP1 = first determiner phrase, V = verb, DP2 = second determiner phrase, PP = prepositional phrase.

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