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*Look this way! How and when visual attention affects language production*

**Abstract:**

The present study examines systematic variations in visual and language behavior in event scene descriptions. Directing speakers’ attention towards the patient and not the agent in scenes with transitive actions has been shown to increase the production of passive voice sentences. Also, there is evidence that speakers display a preference for agents positioned to the left of patients. Furthermore, voice and word order variations may depend on conceptual characteristics, such as animacy, with speakers assigning subject/agent roles to animate rather than inanimate referents. This study brought visual and conceptual factors together to reveal how they may interact affecting gazing behavior, speech initiation and voice selection.

Two experiments were conducted on native German speakers (N1 = 44, N2 = 45) who were tested in a picture description task while seated in front of a computer screen with an eye-tracker. Participants were instructed to describe each picture using one sentence. The pictures depicted scenes with animate agents and either animate or inanimate patients who were situated to the right or to the left of agents (Figure 1). Half of the patients were preceded by a short (60 ms, Experiment 1) or a long (600 ms, Experiment 2) visual cue (Figure 2).

The results show that scenes with left- rather than right-positioned patients lead to longer speech onset times and a higher number of passive sentences. In addition, passive utterances occurred more often for scenes with animate rather than inanimate patients in Experiment 1, and the same was observed in case of left-positioned patients in Experiment 2. Visual cueing did not only produce more looks to cued vs. non-cued patients but - in case of longer cues – also caused a significant increase in the number of produced passive descriptions. Moreover, visual cueing and patient position affected initial eye movements, whereas patient animacy also influenced utterance production at a later stage.

When examined together rather than separately, visual and conceptual factors of event scenes influence different aspects of behavior. The visual orientation of patients pervasively affected both the initiation of utterances and the voice selection. Moreover, voice selection was also sensitive to the animacy of patients. The observed gaze patterns indicate changes in the relevance of visual and conceptual factors over time, with visual factors having rather short-lived effects and conceptual factors being relatively long lasting. The discussion of findings integrates cognitive and linguistic models relating differences in linguistic output to attention and prominence effects.
Figure 1.

Figure 2.