

Language Production for Source-Goal Motion Events: Factors Affecting Goal Mention
Anonymous Otter 1 (Otter School) & Anonymous Otter 2 (Otter School)
{Otter 1 email}

When describing an event in the world, how do people decide what to mention and what to omit? One factor is audience design: speakers tend to omit what's already known or highly inferable to listeners and mention what's unknown. However, recent work investigating descriptions of source-goal motion events (e.g., an octopus_{FIGURE} swimming from a treasure chest_{SOURCE} to a coral reef_{GOAL}), found that while factors related to audience design could dramatically affect the mention/omission of sources; goals – surprisingly – were mentioned whether they were or were not already known to addressees.[1,2] These studies suggest that pragmatic factors related to audience design do not affect message generation for conceptually core event components (i.e., goals, [3-5]) versus conceptually peripheral event components (i.e., sources) in the same way.

Exp1. (n=61) aims to replicate the surprising goal results from [1] using a design that more clearly eliminates ambiguity about the knowledge state of the addressee: we explicitly told speakers in Goal Common Ground (GCG) conditions that addressees would be shown only the last frame of the event on a separate display (Fig1). Speakers in No Common Ground (NCG) conditions were told addressees could not see any part of the event. Prior work has shown that the conceptual status of goals in events with animate (e.g., octopus) versus inanimate (e.g., pirate flag) figures does differ.[6-8] So, animacy of the figure in motion was also varied between-subjects.

Results showed that speakers mentioned goals upwards of 95% of the time – surprisingly, even (i) in GCG conditions, where they were already known to interlocutors and (ii) in Inanimate conditions, where goals are not considered conceptually core ([6-8], Fig2). This pattern was not driven by insensitivity to the knowledge state of the addressee: speakers in GCG conditions used significantly more definite determiners than those in NCG conditions (Fig3; $\beta = 6.20$, $SE = .85$, $|z| = 7.29$). Thus, in line with [1], audience design did **not** affect speakers' decisions about whether to mention/omit goals (e.g., during message generation); but did determine how they talked about them (e.g., during linguistic encoding). As such, **Exp1b** asked whether goal mention was driven in part by the need to convey the telicity of the event (e.g., "The octopus swam from the treasure chest" describes a different, atelic event). We re-analyzed GCG utterances from Exp1 and found that in roughly 70% of utterances telicity was only inferable via goal mention. This suggests that communicating telicity is one reason speakers in both Animate and Inanimate GCG conditions still mentioned even pragmatically uninformative goals.

Exp2. asked why speakers didn't produce telic descriptions like "the octopus {came, swam over} from the lamppost". **Exp2a** tested the possibility that doing so requires speakers to not only be aware of addressees' knowledge states, but also to put themselves in the 'cognitive shoes' of the addressee. We made addressee perspective more salient using the GCG-Shared condition: speakers (n=16) watched the event and with the last frame still visible, turned their computer screen towards the addressee, then described the event from the same physical perspective as the addressee. Contra a perspective-taking account, goal mention rates were no different in GCG-Shared versus Exp1 GCG conditions ($p > .4$) for Animate and Inanimate events. **Exp2b** is ongoing and tests the possibility that goal mention may also depend on whether the manner of motion (e.g., swim vs float vs go) is also pragmatically important to mention to addressees.

Conclusions: Goals are resilient to pragmatic factors because they communicate multiple, core aspects of an event that are otherwise uninferable to addressees – including (but not limited to) the intentionality of the figure in motion [3-5], and the telic nature of the event. These results shed light on why some event components are less sensitive to pragmatic factors than others. They also bear on the relationship between non-linguistic versus linguistic representations of animate and inanimate source-goal events. Finally, we discuss implications of other exploratory analyses (e.g., order of goal vs source mention) that point to other differences in the way that people talked about animate versus inanimate motion events.

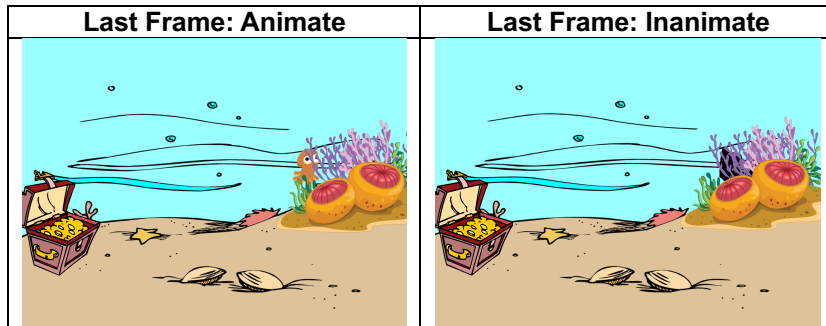


Fig1 Sample stills showing the last frame of the animate (octopus) item and corresponding inanimate (flag) item. Source and Goal arrows shown here were not visible to participants.

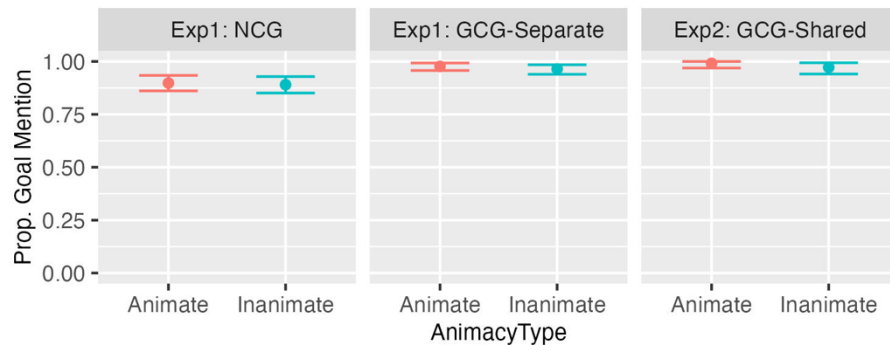


Fig1 Proportion of Goal Mentions in Exps. 1 & 2. Error bars show +/- 1 SE. In Exp1: NCG, addressees saw no part of the event. In Exp1: GCG-Separate, they saw the last frame of the event on their own separate computer screen. In Exp2: GCG-Shared, they saw the last frame on the speaker's computer screen.

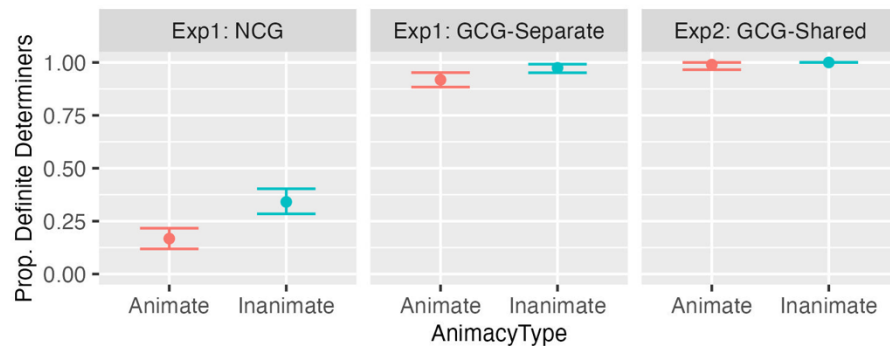


Fig2 Proportion of definite determiners used when referencing goal landmarks in Exps. 1 & 2 with error bars showing +/- 1 standard error.

References

- [1] [Redacted] (2020). Cognitive and pragmatic factors in language production: Evidence from source-goal motion events. *Cognition*, 205, 104447.
- [2] [Redacted] (2022). Encoding Motion Events During Language Production: Effects of Audience Design and Conceptual Salience. *Cognitive Science*, 46(1)
- [3] Regier, T., & Zheng, M. (2007). Attention to endpoints: A cross-linguistic constraint on spatial meaning. *Cognitive Science*, 31, 705–719.
- [4] Lakusta, L., & Landau, B. (2005). Starting at the end: The importance of goals in spatial language. *Cognition*, 96(1), 1–33.
- [5] Lakusta, L., Wagner, L., O'Hearn, K., & Landau, B. (2007). Conceptual Foundations of Spatial Language: Evidence for a Goal Bias in Infants. *Language Learning and Development*, 3(3), 179–197.
- [6] Lakusta, L., & Landau, B. (2012). Language and Memory for Motion Events: Origins of the Asymmetry Between Source and Goal Paths. *Cognitive Science*, 36(3), 517–544.
- [7] Lakusta, L., & Carey, S. (2015). Twelve-Month-Old Infants' Encoding of Goal and Source Paths in Agentive and Non-Agentive Motion Events. *Language Learning and Development*, 11(2), 152–175.
- [8] [Redacted] (2023). Conceptual and pragmatic factors influencing the representations of core event components. Poster presented at AMLAP 29, San Sebastian, Spain.