

Appendix

Post-hoc Analyses of the Impact of Target Referent in Experiments 1 and 2

Experiment 1. Our target pictures were counterbalanced between cuing the first- and second-mentioned character in the first context sentence (that is, for a first context sentence such as *The girl was arguing with the boy*, the target picture cued “the girl” for half of the participants and “the boy” for the other half). To examine the influence of this variable, we included in the main model the binary predictor Referent (first-mentioned, coded as 0.5, and second-mentioned, coded as -0.5) and its interactions. This model, however, did not converge even with the simplest random-effects structure (a random intercept by subjects only).

As a next step, we simplified the model by removing the Language group predictor, which did not seem to have an effect in a visual inspection of the data; the remaining predictors in this model were thus Ground, Referent (coded as explained above), and their interaction. With respect to cued referents, this model indicated that participants produced more pronouns when the second-mentioned referent was cued (35.3%) than when the first-mentioned referent was cued (25.6%; a significant effect of Referent, $Estimate = -1.12$, $SE = .25$, $z = -4.45$, $p < .001$). This was likely the case because the second context sentence always shifted the focus to the second-mentioned character (that is, for a first context sentence such as *The girl was arguing with the boy*, the second context sentence was *The boy got really annoyed*); previous research suggests that speakers are more likely to refer with reduced forms to recently-mentioned entities or the grammatical subjects of the preceding clause (Ariel, 1990; Arnold, 1998; Arnold, Eisenband, et al., 2000; Stevenson, Crawley, & Kleinman, 1994). The identity of the target referent, however, differentially influenced pronoun production across the two ground conditions (a significant interaction between Referent and Ground, $Estimate = -1.89$, $SE = .55$, $z = -3.40$, $p <$

.001). Specifically, in common ground, participants produced more pronouns when the second-mentioned referent was cued (45.4%) than when the first-mentioned referent was cued (27.5%), while in privileged ground the number of pronouns produced was similar regardless of which referent was cued (first-mentioned: 23.5%; second-mentioned: 25.3%). This result indicates that our participants took their listener's perspective into account: when the focus-shifting second context sentence was not available to the addressee, participants suppressed their tendency to refer to the character that was in focus for them with a reduced form, and were more likely to use a NP instead. (We note that the pattern of our common ground condition replicates that in Vogels et al. and the difference between the discourse-salient and discourse-nonsalient conditions in their Experiment 2), but the pattern of our privileged ground condition diverges from that of Vogels et al (the difference between the speaker-salient and addressee-salient conditions in their Experiment 1).

To verify that this tendency did not differ between bilinguals and monolinguals, we ran two further separate models on the data of each ground condition (with Language group, Referent and their interaction as fixed predictors). There was an effect of Referent only in the model on the common ground data ($Estimate = -2.07, SE = .41, z = -5.02, p < .001$) but no such effect in the model on the privileged ground data ($Estimate = -.14, SE = .44, z = -.32, p < .75$). Most importantly, there was no interaction between Language group and referent in either model (both $ps > .3$). Further separate models on the data of each language group (with Ground, Referent and their interaction as fixed predictors) indicated that the interaction between Referent and Ground found in the model without the Language group predictor was present for both groups (Monolinguals: $Estimate = -2.87, SE = 1.34, z = -2.14, p = .03$; Bilinguals: $Estimate = -1.45, SE = .59, z = -2.45, p = .01$).

Experiment 2. As in Experiment 1, models including Referent as predictor in addition to Load and Language group did not converge even with the simplest random effects structure. Two simplified models only including the Load predictors, Language group and their interaction showed effects of Referent similar to those in the common ground condition of Experiment 1: Participants used more pronouns when the second-mentioned referent was cued (53.5%) than when the first-mentioned referent was cued (29.7%). That is, Referent was a significant predictor in both the model contrasting verbal load with no load ($Estimate = -1.911, SE = .14, z = -14.117, p < .001$) and the model contrasting visual load and no load ($Estimate = -1.905, SE = .14, z = -14.122, p < .001$); both of these models had only by-subject random intercepts. Further, the referent effect was slightly larger in the verbal load condition (a difference of 26.8%) than in the no load condition (a difference of 19.0%), as indicated by a marginal interaction between Load and Referent in the Verbal Load model, $Estimate = -.56, SE = .31, z = -1.80, p = .07$; this interaction was absent in the Visual Load model, $p = .87$). This result might indicate a tendency of speakers under verbal load to increase their pronoun use specifically to refer to the more accessible (i.e., the second-mentioned) referent.

In separate models on the data of each load condition, with Language group, Referent and their interaction as fixed predictors, there was no interaction between Referent and Language group (all $ps > .29$). However, in separate models on the data of each language group, the Referent effect differed between verbal load (a difference of 31.9%) and no load (a difference of 18.0%) for the bilinguals (as indicated by a marginal interaction between Load and Referent, $Estimate = -.75, SE = .39, z = -1.94, p = .053$), while this was not the case for the monolinguals (referent effect under verbal load: 20.1%; referent effect under no load: 19.6%; no interaction

between Load and Referent ($Estimate = -.14$, $SE = .55$, $z = -.26$, $p = .80$). Both of these models had only by-subject random intercepts. These results might suggest that the tendency of speakers under verbal load to use more pronouns to refer to the more accessible (second-mentioned) referent was more pronounced for bilinguals than for monolinguals. However, we were cautious to interpret these effects further due to the marginal effects and the post-hoc nature of the analyses.