7 Supplementary Materials

7.1 Raw RT and latency models

7.1.1 Experiment 1: Task 1 identification RTs

We carried out a linear mixed effects model with raw RT as the dependent variable. Control predictors included block order, trial, and a block order by S1 type interaction. Experimental predictors included S1 type, SOA, relatedness, and a S1 type by SOA interaction. Random intercepts were fit by participant and item, and there were random slopes of S1 type, SOA and relatedness by participant.

Of the control predictors, we found a significant effect of trial (estimate = -0.27, SE = 0.02, t = -11.43), and block order by S1 type interaction (estimate = 16.05, SE = 7.49, t = 2.14). Of the experimental predictors, we found a significant effect of S1 type (estimate = 20.24, SE = 8.22, t = 2.46), as responses to syllables were longer than to tones. We also found a significant interaction between SOA and S1 type (estimate = 4.15, SE = 1.77, t = 2.34), as the difference between syllable and tone RTs at SOA 0ms was larger than at SOA 1000ms. While this effect is different to that from the log-transformed RT model, the same conclusion can be drawn: the syllable condition was more difficult than the tone condition.

7.1.2 Experiment 1: Task 2 naming latencies

We carried out a linear mixed effects model with raw naming latency as the dependent variable. Control predictors included block order, trial, task 1 RTs, and a block order by S1 type interaction. Experimental predictors included S1 type, SOA, relatedness, and all interactions. Random intercepts were fit by participant and item, with random slopes of S1 type, SOA and relatedness by participant, and random slopes of SOA and S1 type by item.

Of the control predictors, trial (estimate = -0.11, SE = 0.02, t = -5.8), block order (estimate = 18.99, SE = 8.55, t = 2.22), and task 1 RTs (estimate = 0.46, SE = 0.007, t = 70.32) were significant. Of the experimental predictors, there was a significant effect of SOA (estimate = 204.1, SE = 12.8, t = 15.94), as participants were slower at SOA 0ms than at SOA 1000ms. There was a significant effect of relatedness (estimate = 11.93, SE = 1.99, t = 5.99) as participants were slower in the related condition compared to the unrelated condition. Additionally, there was a significant interaction between S1 type and SOA (estimate = 14.09, SE = 1.45, t = 9.73). At SOA 0ms, latencies were slower with S1 syllables compared to with S1 tones. At SOA 1000ms, the latencies were more similar. Importantly, this effect holds with the control predictors in the model. All conclusions are the same as when analysing with log-transformed latencies.

7.1.3 Experiment 2: Naming latencies

We carried out a linear mixed effects model with raw naming latency as the dependent variable. Control predictors included block order and trial. Experimental predictors included S1 type, SOA, relatedness, and all interactions. Random intercepts were fit by participant and item, with random slopes of S1 type, SOA and relatedness by participant and by item.

Neither control predictor was significant. There was a main effect of SOA (estimate = 154.96, SE = 8.02, t - 19.32) as participants were slower to respond at SOA 0ms than SOA 1000ms. There was a main effect of relatedness

(estimate = 8.75, SE = 3.11, t = 2.81) as participants took longer to name in the related condition than the unrelated condition. There was also an effect of S1 type (estimate = 12.21, SE = 5.75, t = 2.12), as participants were slower to respond with S1 syllables compared to with S1 tones. The interaction between SOA and S1 type was significant (estimate = 17.36, SE = 2.57, t = 6.77), as participants were slower at SOA 0ms to name with S1 syllables compared to S1 tones, whereas naming latencies were more similar at SOA 1000ms. There was also a significant relatedness by S1 type interaction (estimate = 7.18, SE = 2.57, t = 2.8), as the relatedness effect was present with S1 syllables (t(67.29) = 3.94, p = .0002) and absent with S1 tones (t(65.52) = 0.39, p = .7). The conclusions from these results are the same as when analysing log-transformed latencies.

7.1.4 Experiment 2: Reading latencies

We carried out a linear mixed effects model with raw reading latency as the dependent variable. Control predictors included block order and trial. Experimental predictors included S1 type, SOA, relatedness, and all interactions. Random intercepts were fit by participant and item, with random slopes of S1 type, SOA and relatedness by participant, and SOA and S1 type by item.

Neither control predictor was significant. There was a main effect of SOA (estimate = 193.12, SE = 8.31, t = 23.23), as participants were slower to read the word aloud at SOA 0ms than at SOA 1000ms. There was a main effect of S1 type (estimate = 15.47, SE = 4.85, t = 3.19), as responses were slower with S1 syllables compared to S1 tones. The interaction between SOA and S1 type was significant (estimate = 16.76, SE = 2.14, t = 7.84), as reading latencies were longer at SOA 0ms with S1 syllables compared to S1 tones, whereas at SOA 1000ms latencies were much more similar. No other effects were significant. The results of this model are the same as the log-transformed latency model.

7.1.5 Experiment 3: Naming latencies

We carried out a linear mixed effects model with raw naming latency as the dependent variable. Control predictors included block order and trial. Experimental predictors included S1 type, SOA, relatedness, and all interactions. Random intercepts were fit by participant and item, with random slopes of S1 type, SOA and relatedness by participant, and relatedness and S1 type by item.

Neither control predictor was significant. There was a significant effect of SOA (estimate = 116.61, SE = 7.69, t = 15.17) as latencies at SOA 0ms were longer than at SOA 1000ms. There was a significant effect of relatedness (estimate = 11.04, SE = 3.63, t = 3.04), as latencies were longer in the related condition than in the unrelated condition. The interaction between S1 type and SOA was significant (estimate = 9.2, SE = 2.36, t = 3.89), as latencies at SOA 0ms with S1 syllables were longer than with S1 tones, whereas at SOA 1000ms latencies were more similar. No other effects were significant. This pattern of results is the same as when analysing log-transformed latencies.

7.1.6 Experiment 3: Reading latencies

We carried out a linear mixed effects model with raw reading latency as the dependent variable. Control predictors included block order and trial. Experimental predictors included S1 type, SOA, relatedness, and all interactions. Random intercepts were fit by participant and item, with random slopes of S1 type, SOA and relatedness

by participant and by item.

The control predictor trial was significant (estimate = 0.12, SE = 0.05, t = 2.37). Of the experimental predictors, there was a main effect of SOA (estimate = 159.76, SE = 8.83, t = 18.1) as participants were slower to respond at SOA 0ms than at SOA 1000ms. There was a significant interaction between S1 type and SOA (estimate = 4.49, SE = 1.94, t = 2.31), as participants took longer to read with S1 syllables compared to with S1 tones at SOA 0ms, whereas reading latencies were more similar between S1 types at SOA 1000ms. Aside from the interaction, which was not significant in the log-transformed model, the same pattern of results were found when analysing log-transformed latencies. This interaction is found in all other models as well. This interaction is most likely driven by a greater proportion of longer latencies with S1 syllables at SOA 0ms than with S1 tones. When these values are log-transformed, the difference between them is minimized compared to when the raw latencies are used, which is why they are not detected in an analysis with log-transformed latencies as the dependent variable. However, the presence or absence of this interaction here does not change our conclusions from this experiment.