
Does UID affect rate of pronominalization?

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A large body of experimental evidence supports the Uniform Information Density hypothesis (UID), which shows that high predictability of linguistic units leads to use of shorter variants, while low predictability is correlated with longer variants (Jaeger & Buz, 2016). However, the range of linguistic phenomena that UID extends to remains unclear. UID predicts that pronouns should be used for more predictable referents, while longer expressions (names or complex NPs) should be used for those less predictable.

Existing experimental evidence is mixed. Some studies report an effect of referent predictability on referring expression (RE) type: Tily & Piantadosi (2009) and Kravtchenko (2014), both corpus studies, found that shorter REs are favored over longer ones in more predictable contexts. Rohde & Kehler (2014) manipulated RE predictability in sequences like "Peter admired / impressed Mary. ___", by choosing subject- vs. object-biased verbs, and seeing how discourse participants were referred to in prompted continuations. They found no effect of predictability on RE choice.

Here we report two new studies addressing this question. Our first study attempts to replicate Tily & Piantadosi (2009), but with a significantly larger corpus from a more colloquial data register. We find no significant effect of predictability on RE type, after accounting for structural biases.

Our second study attempts to replicate Rohde & Kehler (2014), but looks at a broader range of REs. In our sequences we alternated names with long NPs, as people may be more motivated to reduce the latter. We successfully replicate Rohde & Kehler, but find no effect of predictability with long NPs.

These experiments suggest that UID may not affect RE choice, and may extend to limited phenomena beyond the level of surface form predictability.

References: • Jaeger, T. F. & E. Buz (2016): Signal reduction and linguistic encoding. *Handbook of psycholinguistics*. • Kravtchenko, E. (2014): Predictability and syntactic production: Evidence from subject omission in Russian. *Proceedings of CogSci 2014*, 785–790. • Rohde, H. & A. Kehler (2014): Grammatical and Information-Structural Influences on Pronoun Production. *Language, Cognition, and Neuroscience* 29(8), 912–927. • Tily, H. & S. T. Piantadosi (2009): Refer efficiently: Use less informative expressions for more predictable meanings. In *PRE-CogSci 2009*.