

Syntactic Planning and Informational Risk

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This talk picks up on work conducted with colleagues on the project 'Constraints on the Adaptiveness of Information in Language (CAIL)', which involved using information theory to analyze linguistic optionality and its cognitive scaffolding. Building on seminal work by Fenk and Fenk (1980, see also Fenk-Oczlon, 2001 and many subs), we suggest that linguistic planning is adapted for noise resistance. Specifically, speakers use whatever syntactic means are at their disposal in order to reduce the likelihood of catastrophic communication failure in the presence of noise. Thus, part of what motivates choice between syntactic alternatives is a type of risk mitigation.

We demonstrate that more informationally uniform orderings of elements confers functional noise resistance, with a simulation study that compares the preservation of information in different distributions under conditions of noise. Secondly, data from syntactic change in English and Icelandic shows that speakers use the syntactic variants made available by change in progress to achieve a certain minimum (and perhaps maximum) threshold of information uniformity, a threshold that is conserved over historical time. (We have updated some prior work in this area on the OV-to-VO changes in English and Icelandic.) I will also present some data on the decline of DP topicalization in Late Early Modern English and its implications for information uniformity, carrying on the work of Speyer (2008, 2010). Surprisingly, object DP fronting appears to be on a trajectory of slow decline in modern English, quite independently of the well-known phrase structure changes in Middle and Early Modern English. I suggest that this is a "slow change" of the type described in Wallenberg (2016), and that fronted and in-situ orders are partially specialized along the continuous dimension of informational uniformity.

The observation that there is an information threshold (or maximum) is expected if the human language faculty constantly tries to keep the risk of information loss below a certain amount, but at the same time, cannot achieve perfect uniformity due to linguistic constraints. I'll further suggest that keeping loss below a certain level with a certain probability is analogous to the financial notion of "Value at Risk", and so one can see the choice between syntactic options partly as a risk-management exercise.