

1106-VG-1817 **Jacquelyn L Rische*** (rische@hws.edu) and **Natalia L Komarova**. *Restructuring of Languages by Learners: a Mathematical Framework*. Preliminary report.

E. L. Newport and colleagues have shown that adults have the ability to restructure linguistic input to facilitate better communication. In Fedzechkina et al. (2012), when learning an artificial language with inefficient case marking, the learners restructure their input to make the case marking more efficient, thus making the language easier to understand. We focus on a variant of our algorithm created in Rische and Komarova (2014) that models the patterns in Fedzechkina et al. (2012). In the study, there are four sentence types, each with different degrees of ambiguity. The meaning of an ambiguous sentence becomes clear when it is case-marked. Our learning algorithm is asymmetric, and we find that the learners (who are all adults) react more strongly to implicit negative feedback. Also, the learners do not remember everything they learn. They forget a certain amount between each day of the experiment. In particular they forget more after the first day since what they learn is not reinforced with a test at the end of the first day (as it is at the end of each subsequent day). With these factors, the learners are able to restructure their input and make the language more efficient. (Received September 15, 2014)