

1096-VG-1721 **Jacquelyn L. Rische*** (jrische@math.uci.edu) and **Natalia L. Komarova**. *Regularization of languages by learners: a mathematical framework.*

E.L. Newport and colleagues have demonstrated that both children and adults have some ability to process inconsistent linguistic input and “improve” it by making it more consistent. We create a learning algorithm of the reinforcement-learning type, which exhibits patterns reported by Hudson Kam and Newport (2009) and suggests a way to explain them. In order to capture the differences between children’s and adults’ learning patterns, we need to introduce a certain asymmetry in the learning algorithm. Namely, we have to assume that the reaction of the learners differs depending on whether or not the source’s input coincides with the learner’s internal hypothesis. We interpret this result in the context of a different reaction of children and adults to positive and negative evidence. We propose that a possible mechanism that contributes to the children’s ability to regularize an inconsistent input is related to their heightened sensitivity to positive evidence rather than the (implicit) negative evidence. In our model, regularization comes naturally as a consequence of a stronger reaction of the children to evidence supporting their preferred hypothesis. The adults’ ability to adequately process implicit negative evidence prevents them from regularizing the inconsistent input. (Received September 16, 2013)