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Jacquelyn L Rische* (rische@hws.edu) and **Natalia L Komarova**. *Mathematical Modeling of Language Regularization by Adults and Children*.

E.L. Newport and colleagues have demonstrated that 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. We find that neither a linear model nor a symmetric, nonlinear model adequately capture the learning behavior in the experiments. In order to capture the differences between children's and adults' learning patterns, we need to introduce a certain asymmetry in the learning algorithm. We 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 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. (Received September 06, 2015)