

1086-VL-1610      **Jacquelyn L. Rische\*** ([jrische@math.uci.edu](mailto:jrische@math.uci.edu)). *Mathematical Modeling of Language*. Preliminary report.

We consider a population without language on a two-dimensional grid. Through mutation, individuals with language appear. Using mathematical models, we study how the individuals with language spread through the population. One aspect we focus on is the effect of talking. If two individuals with language are next to each other on the grid, then they can communicate. We consider their ability to talk to be advantages, giving them a higher reproduction rate. We also consider the effects of movement, where individuals are able to move around on the grid. (Received September 23, 2012)