

## Simulating Language Assessment 2

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**Deadline:** April 14th (noon)

**Marks returned:** May 6th

**Feedback:** comments on assignment, peer review

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By submitting this work you are agreeing that you understand the plagiarism rules and that this assessment is entirely your work alone. Group work on this assessment is not permitted.

**IMPORTANT: each of your three answers must be uploaded as a separate submission! Please remember to number your answers!**

**A strict limit of one side of A4 for each question applies. Think about how to answer these questions efficiently and precisely.**

For every question I expect concise answers plus, where appropriate, the use of simulation results to illustrate key points. Ranking of work will be done partly through peer assessment. I will be asking you all to rank work based on **clarity, brevity and precision** in writing plus clear presentation of **simulation results** in questions 1 and 2.

Note, it is perfectly fine to use code from the course for your answers. You may find you do not need to make any changes to the code to give a good answer (although it's fine if you wish to do so). The emphasis is on graphs showing simulation results. Think carefully about how to present your results clearly so that their meaning is obvious at a glance. You may want to google "matplotlib" for examples of nice graphs and help on how to make them!

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1. How does Bayesian learning capture the interplay between linguistic data and prior bias of learners? Illustrate with examples from Reali & Griffiths's (2009) model of frequency learning.
2. An implicit assumption in much of linguistics suggests that language universals are a close reflection of features of the language faculty. Using code from this course, give simulation results that support this assumption, and simulation results that do not.
3. How have computer simulations been used to understand the ways in which cultural and biological evolution influence each other, and what conclusions can we draw about the language faculty from these results?

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