Simulating Language
Assessment 1

Deadline: March 3rd (noon)
Marks returned: March 24th
Feedback: comments on assignment, peer review, discussion in final lecture

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 3.

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!

1. What can we conclude about the evolution of communication from the simulations in Oliphant (1996)? Illustrate your answer with results from a partial replication of one of Oliphant's simulation models.

2. What is "innate" in the systems being modelled by the **evolution1.py** simulation? What about the **learning2.py** simulation? What do these correspond to in the real world? (You do not need to present any simulation results for this question.)

3. When Smith (2002) talks about "learners", "maintainers", and "constructors", what does he mean? Illustrate your answer with simulation results.