

# From alien language to Wikipedia: a study of the emergence of structured variation in language

Gareth Roberts

*gareth@ling.ed.ac.uk*

Language Evolution and Computation Research Unit  
University of Edinburgh

Human beings exploit variation in cultural systems to create markers of affiliation, a behaviour important to the development and maintenance of complex social networks based on reciprocal exchange (Enquist & Leimar, 1993). Since language is a particularly good source of markers, we should expect this behaviour to influence the course of language change. Computational simulations have confirmed that this exploitation of linguistic variation can lead to stable populations that cannot be invaded by cheats, and to high levels of linguistic diversity (Nettle & Dunbar, 1997; Nettle, 1999). Simulations by Livingstone and Fyfe (1999) and Livingstone (2002), however, have challenged this, suggesting that drift and varying levels of contact are sufficient.

The first part of this paper will briefly discuss a series of experiments that complement such computational simulations, and suggest that social selection can play a role in stimulating linguistic divergence. The second part of the paper will discuss work in progress to compare the data from this experiment with real occurring data, namely archives of the discussion pages of the Wikipedia article on evolution.

## References

- Enquist, M., & Leimar, O. (1993). The evolution of cooperation in mobile organisms. *Animal Behaviour*, *45*, 747–57.
- Livingstone, D. (2002). The evolution of dialect diversity. In A. Cangelosi & D. Parisi (Eds.), *Simulating the evolution of language* (pp. 99–117). London: Springer Verlag.
- Livingstone, D., & Fyfe, C. (1999). Modelling the evolution of dialect diversity. In D. Floreano, J.-D. Nicoud, & F. Mondada (Eds.), *Advances in artificial life, proceedings of the 5th European conference in artificial life, ECAL '99, Laussane, Switzerland* (pp. 704–8). London: Springer Verlag.
- Nettle, D. (1999). *Linguistic diversity*. Oxford: Oxford University Press.
- Nettle, D., & Dunbar, R. (1997). Social markers and the evolution of cooperative exchange. *Current Anthropology*, *38*(1), 93–9.