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## Grounding models in empirical data of language socialisation

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Comment

Grounding models in empirical data of language socialisation  
Comment on “Modelling language evolution:  
Examples and predictions” by Gong, Shuai and Zhang

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Increasingly more support is found for viewing language as a complex dynamical adaptive system, not only from modelling work, but also from other disciplines such as linguistics [4]. The studies reviewed by Gong, Shuai and Zhang [1] provide prominent examples of models to investigate the validity of this view. These models yield interesting predictions, but the challenge remains how to verify predictions generated by models of language evolution.

Some predictions may be ‘verified’ using experiments [3], but experiments merely yield new predictions that require further verification in natural observations. A more effective approach would be to compare the predictions directly to empirical data of such observations, as suggested by Gong et al. [1]. However, the dynamics of models strongly depend on the setting of parameters, such as the ability to use joint attention, the population size, social network structure, or mode of transmission. A comparison with empirical data would therefore only be reliable if such parameters are grounded in empirical data [7].

When modelling the origins of language, it is not only important to ground the model in empirical data, but also to select these data with care. It is attractive to use data obtained from studies carried out among Western middle-class communities, because these are most readily available. However, Western middle-class communities have emerged only recently in evolutionary history, bringing about novel practices in children’s language socialisation [2], which could have a strong impact on the ways languages are evolving.

When looking at children’s language socialisation in a non-Western rural society, such as Mozambique, one can observe children growing up in large extended families, where they are raised by multiple caregivers (including siblings) who focus more on stimulating the development of communal responsibilities and action autonomy than language development [5]. These cultural practices may, for instance, weaken the importance of joint attention in language evolution and may yield a different transmission dynamics. Therefore, future models of language evolution should be grounded in naturally observed phenomena, such as the Nicaraguan Sign Language case [6] or using corpora like those being developed concerning natural observations of language socialisation from various cultures, including non-Western cultures [7].

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