

Baker, M.C. and D.E. Gammon. 2008. Vocal memes in natural populations of chickadees: why do some memes persist and others go extinct? *Animal Behaviour* 75:279-289.

We obtained data on a cultural trait from an 8-year study of a bird species, the black-capped chickadee, *Poecile atricapillus*. The trait is a nonsong vocalization, the gargle call, which exhibits variant acoustic forms (memes) in local populations. Some forms persisted in the local population throughout the study period as traditions transmitted with high fidelity (core memes) and others (failed memes) appeared only briefly, destined for quick extinction. We used our data to test a number of hypotheses concerning the question of why some memes persist as traditions, whereas others are short lived. We found that the persisting core memes were more widely shared among individuals, more frequently expressed, and acoustically different from failed memes. Carriers of core memes were older on average than those expressing failed memes, and similar in body size, but greater in mass, a possible indication of condition. We hypothesize that social selection for conformity to core gargle memes occurs in the context of the agonistic encounters where these vocal signals are used.