Language evolution in the lab tends toward informative communication

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Human languages carve the world into category systems that are highly informative (e.g. Kemp & Regier, 2012)—but how do such systems develop? One possibility is that these systems result from the process of cultural transmission. Xu, Dowman, and Griffiths (2013) showed that human simulation of cultural transmission in the lab creates systems of categories that converge toward those in natural language—but they did not test whether those systems also converge toward greater informativeness. Here, we test that proposal in an iterated learning experiment. We find that learners do modify category systems over generations in the direction of greater informativeness, and that this increase in informativeness is closely tied to the systems' similarity to natural languages. These findings support accounts of linguistic universals as the natural result of shared communicative principles across communities of language learners.