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CULTURAL ROUTE TO THE EMERGENCE OF LINGUISTIC CATEGORIES

Categories provide a coarse grained description of the world. A fundamental question is whether categories simply mirror an underlying structure of nature, or instead come from the complex interactions of human beings among themselves and with the environment. Here we address this question by modeling a population of individuals who co-evolve their own system of symbols and meanings by playing elementary language games. The central result is the emergence of a hierarchical category structure made of two distinct levels: a basic layer, responsible for fine discrimination of the environment, and a shared linguistic layer that groups together perceptions to guarantee communicative success. Remarkably, the number of linguistic categories turns out to be finite and small, as observed in natural languages.

In my talk I will basically deal with the homonymous paper, which can be found here:

<http://arxiv.org/abs/physics/0703164>

While I have a webpage with all my publications (some could be found interesting by the interested reader of the above paper), that is here:

<http://andrea.baronchelli.googlepages.com/>