

Communicative need and color naming

Noga Zaslavsky

The Hebrew University, Jerusalem, Israel

Charles Kemp

University of Melbourne, Melbourne, VIC, Australia

Naftali Tishby

Hebrew University of Jerusalem, Jerusalem, Israel

Terry Regier

UC Berkeley, Berkeley, California, United States

Abstract

Color naming across languages has traditionally been held to reflect the structure of color perception. At the same time, it has often, and increasingly, been suggested that color naming may be shaped by patterns of communicative need. However, much remains unknown about the factors that drive communicative need, how need interacts with perception, and how this interaction may shape color naming systems across languages. We engage these open questions by building on general information-theoretic principles, and on a recent account of color naming that integrates the roles of need and perception. On this basis, we present a systematic evaluation of several factors that may influence need, and that have been proposed in the literature: capacity constraints, linguistic usage, and the visual environment. Our findings suggest that communicative need and resulting patterns of color naming are shaped more by linguistic usage than they are by the visual environment alone.