



nature publishing group



► **COVER:** 'Talk is cheap' by Kirsten Lee, inspired by the Review on p747. Original photograph by Yuki Ozawa.



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This issue of *Nature Reviews Neuroscience* contains three articles that exemplify the utility of combining data from studies in animals and humans to answer long-standing questions.

In a Review on page 747, Bolhuis, Okanoya and Scharff discuss parallels between birdsong and speech. The similarities between songbirds and humans regarding vocal learning, the neural circuits underlying vocalization, the structure of vocalizations and the role of *FOXP2* in vocal learning have revealed that different evolutionary lineages have developed similar strategies to optimize vocal communication.

On page 760, a leading group of basal ganglia researchers present a revision of the standard model of the architecture of this group of nuclei, based on anatomical, functional and clinical data. In the new model, two separate but interacting areas within the basal ganglia regulate either goal-directed or habitual control circuits. The authors discuss its implications for understanding the motor impairments in patients with Parkinson's disease.

In a provocative Perspective on page 773, Pessoa and Adolphs consider the subcortical pathway that is often assumed to mediate non-conscious processing of emotion-related visual information. They argue that such a pathway does not exist in primates and propose that the main role of the amygdala and the pulvinar, two key components of the purported subcortical pathway, is to coordinate cortical networks during the evaluation of the biological significance of stimuli.

Our featured Review (page 735) revisits the extracellular matrix (ECM). Dityatev, Schachner and Sonderegger discuss recent studies that point to a dual role of this network in the CNS, promoting both plasticity and homeostasis at the synapse. These new findings highlight the importance of the ECM in learning and memory, and may be relevant to neurological diseases.

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