# Perceptual learning, motor learning, and automaticity

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Learning is one of the most basic functions of the brain: it changes the structure of synapses, forges bonding between mothers and their offspring, enables humans to ride a bike and to recite passages from literary works. In this issue of *Trends in Cognitive Sciences*, we are launching a series of articles dedicated to various aspects of learning, with a focus on perceptual learning, motor learning and automaticity. The papers in this series resulted from a conference held in Amsterdam on 9–12 December 2008 on the occasion of the opening of the Netherlands Institute for Neuroscience (http://www.nin.knaw.nl/) and the 200th anniversary of the Royal Netherlands Academy of Arts and Sciences (Koninklijke Nederlandse Akademie van Wetenschappen-KNAW; http://www.knaw.nl/).

In the first article in this series, Hans Op de Beeck and Chris Baker overview the recent literature on the neural basis of visual object learning in humans and non-human primates. They conclude that, contrary to the currently prevailing view, sensory learning in adults has moderate and distributed (rather than dramatic and focal) effects in high-level visual cortex and that these effects modulate a rich pre-existing set of neural object representations.

Topical reviews by experts in the field will follow in forthcoming issues, providing a snapshot of some of the most exciting current work on perceptual learning, motor learning and automaticity. We hope that the articles in this series will give readers a flavour of the breadth of research and insights in this rapidly progressing field.

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