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Sensory prediction errors drive cerebellum-dependent adaptation of reaching.

Tseng YW, Diedrichsen J, Krakauer JW, Shadmehr R, Bastian AJ

J Neurophysiol 2007 Jul **98**(1):54-62 [**abstract on PubMed**] [**citations on Google Scholar**] [**related articles**] [**full text**] [**order article**]

Selected by | W Thomas Thach
Evaluated 27 Jun 2007
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Faculty Member	Comments
W Thomas Thach Washington University School of Medicine, United States of America Neuroscience New Finding Controversial	**The cerebellum is known to be involved in adapting arm movements to visual targets, but the question remains as to what the driving signal is: a sensory (visual) prediction error (forward model), a motor correction (inverse model), or both. The results in this paper are interpreted as supporting a sensory prediction forward model, rather than a motor correction inverse model.** Subjects with cerebellar degenerative disease (as compared to normal controls) adapted poorly in a fast reach visual rotation task (when no motor correction was allowed), and did not benefit from the opportunity to correct the trajectory in a slower reach. There is also a good discussion of theoretical background, and a state-space model of trial-to-trial learning is included. **Competing interests:** None declared Evaluated 27 Jun 2007

How to cite this evaluation

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1) To cite all the evaluations for this article:

Faculty of 1000 Biology: evaluations for Tseng YW et al *J Neurophysiol* 2007 Jul 98 (1) :54-62 http://f1000biology.com/article/id/1088110/evaluation

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W Thomas Thach: Faculty of 1000 Biology, 27 Jun 2007 http://f1000biology.com/article/id/1088110/evaluation

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