Parallel learning processes of a visuomotor adaptation task in a changing environment

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© 2018 Federation of European Neuroscience Societies and John Wiley & Sons Ltd During the control of reaching movements, a key contribution of the visual system is the localization of relevant environmental targets. In motor adaptation processes, the visual evaluation of effector motor behavior enables learning from errors, which demands continuous visual attentional focus. However, most current adaptation paradigms include static targets; therefore, when a learning situation develops in a highly variable environment and there is a double demand for visual resources (environment and motor performance), the evolution of learning processes is unknown. In order to understand how learning processes evolve in a variable environment, a video game task was designed in which subjects were asked to manage a 60° counterclockwise-rotated cursor to capture descending targets with initially unpredictable trajectories. During the task, the cursor and eye movements were recorded to dissect visuomotor