

Generalization of Hand Localization Shifts in Motor Adaptation

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Where you localize your unseen hand is based on sensory (proprioceptive) afferents and efferent-based predictions from the motor system, but how are these combined?

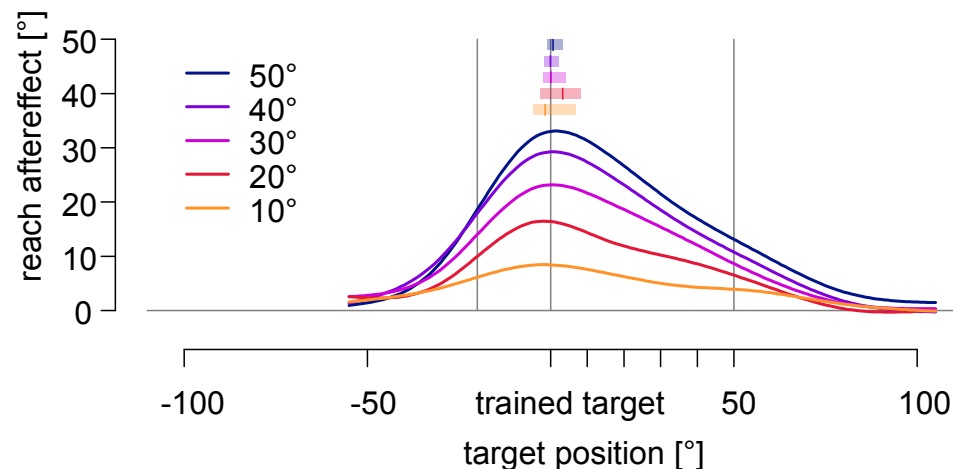
In an adaptation task, we increased visuomotor rotation to 50° in steps of 10° , gradually increasing motor and sensory changes. After every training trial (1 target) participants switch between no-cursor trials and hand localizations (same 8 locations).

No-cursor reach deviations peak at the trained target and reflect motor changes.

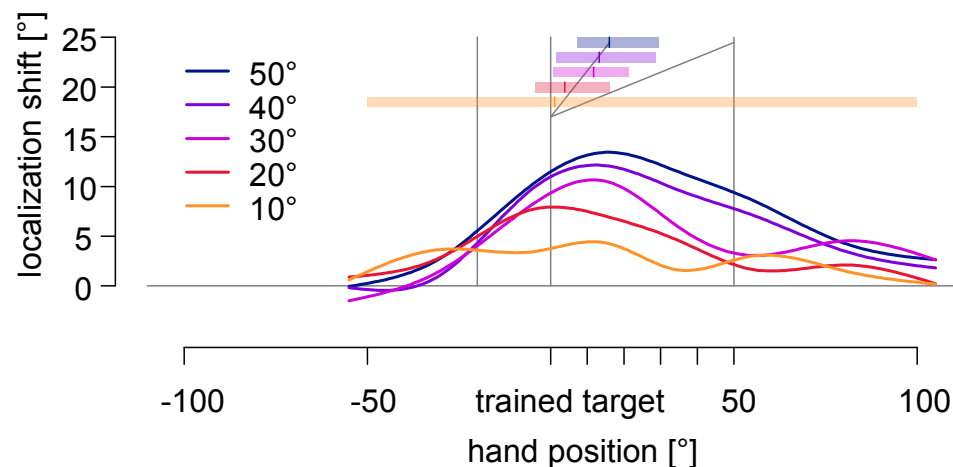
Hand localization shifts peak between the trained target and actual hand location, indicating some kind of mix of signals.

We plan to add different tests and training trials, to tease apart the signals that contribute to hand location estimates.

no-cursor reaching

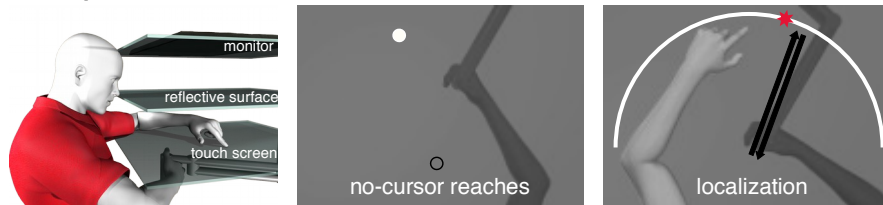


hand localization

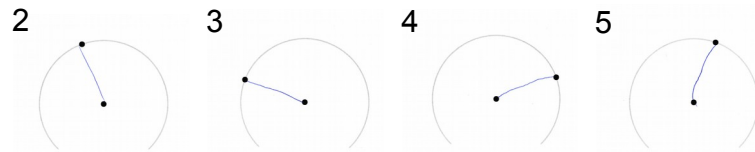


Supplementary material

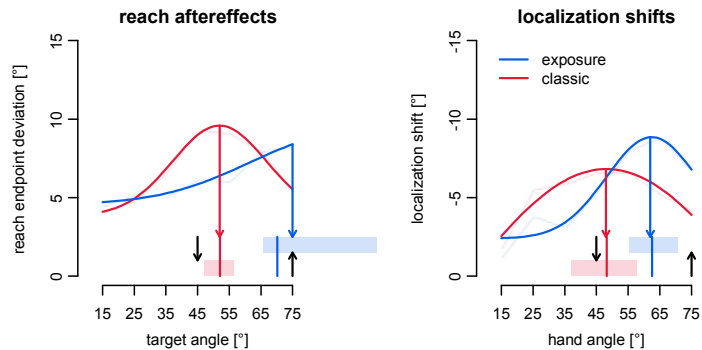
Setup & Tasks



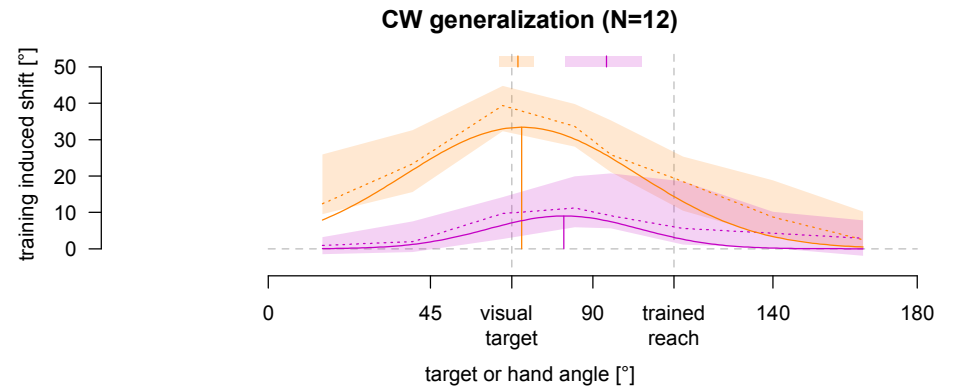
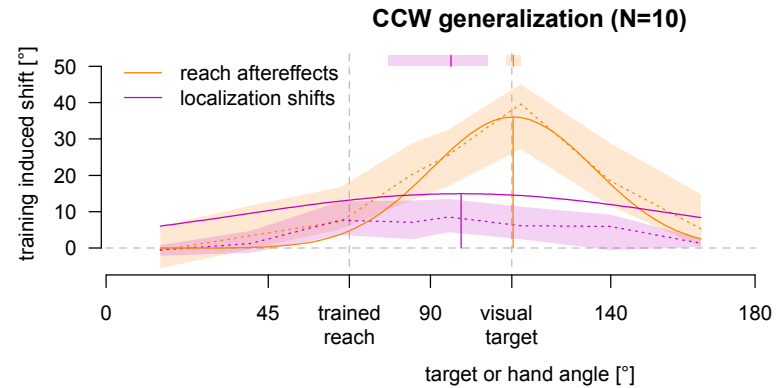
How people would move their hand to get the cursor to the target shows there is no strategy use.



Similar results from [Mostafa et al. \(2019\)](#).



Separate data shows that the direction of rotation dictates in which direction the peak of the generalization curve shifts.



Maximum Likelihood Estimate doesn't work: [poster](#), [video](#).