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How the brain shapes its own input: using stateflow to study behavior

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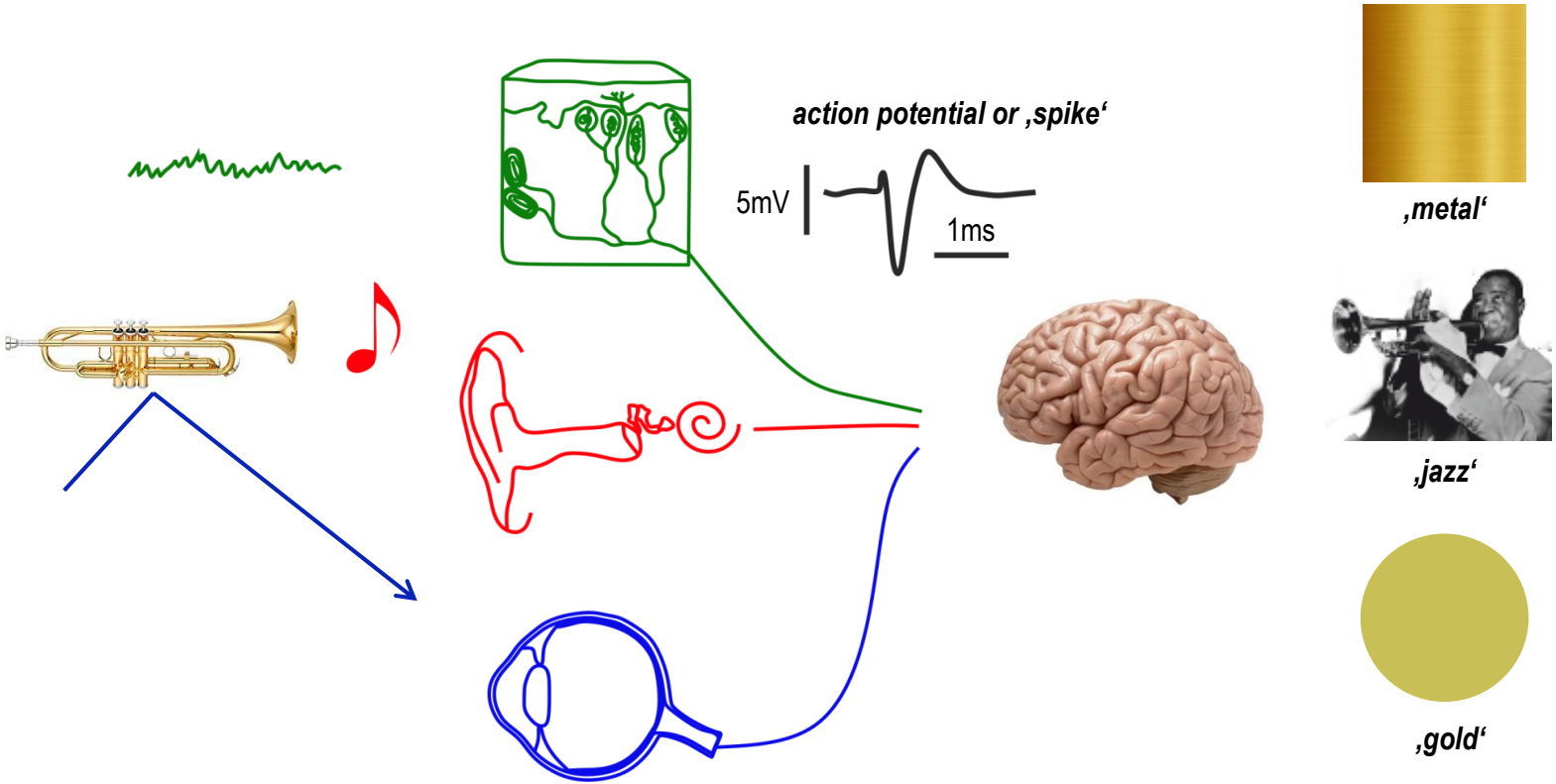
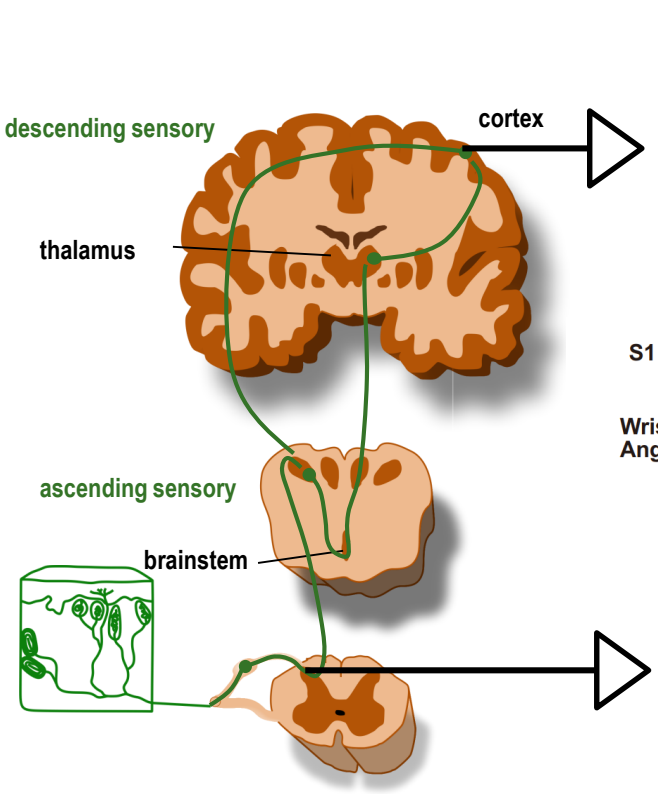
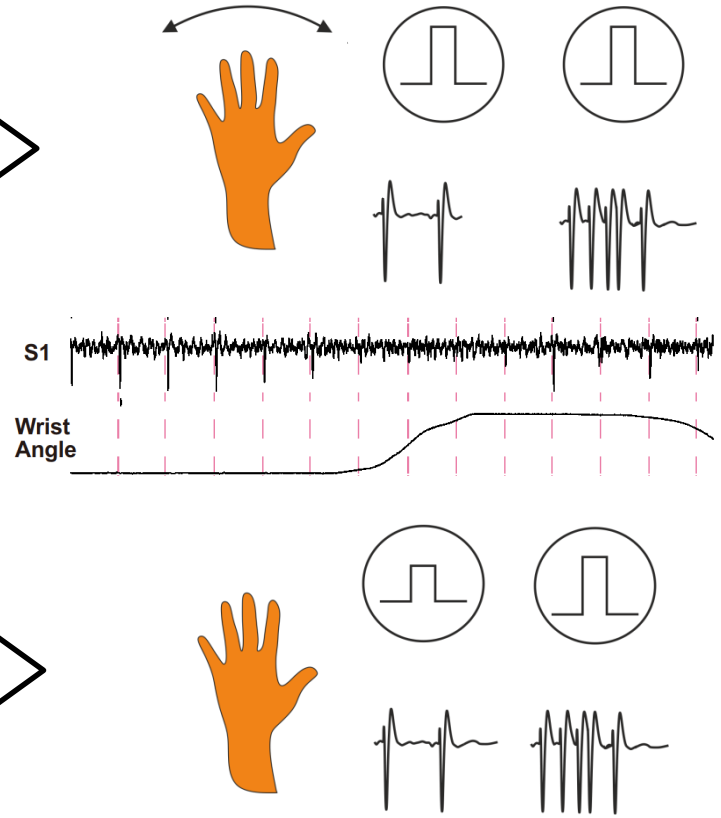
Sensory responses lead to perception



Sensory responses are not constant

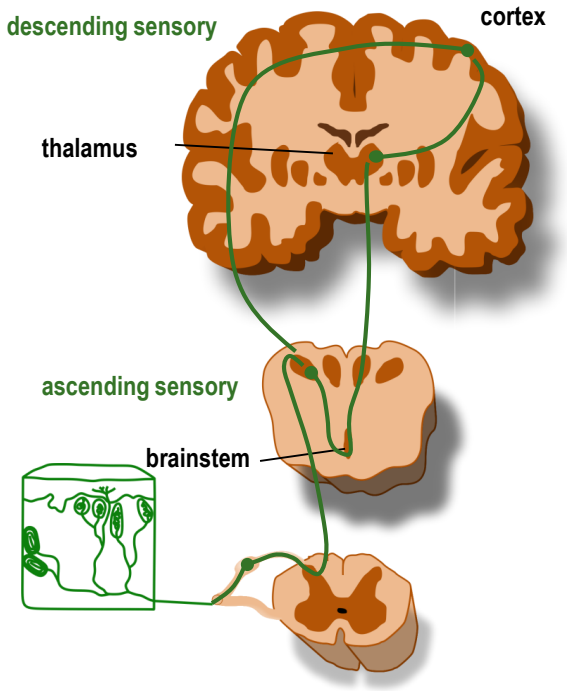


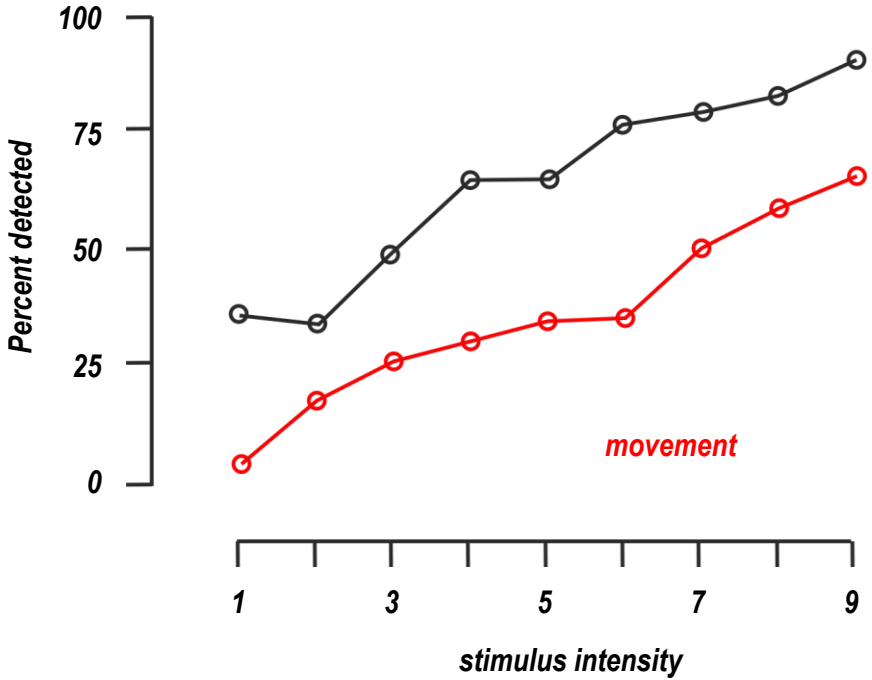


Spike rate decreased by movement

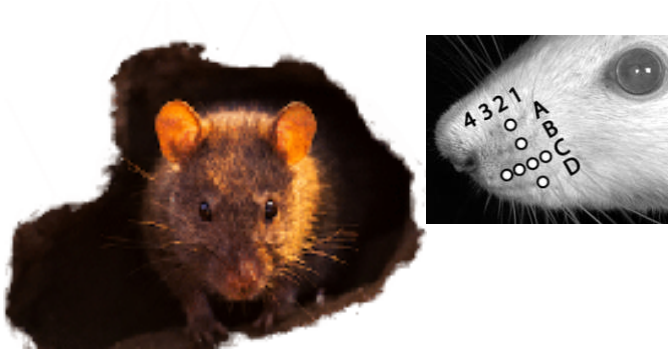
Spike rate encodes stimulus intensity

Perception is also affected by movement

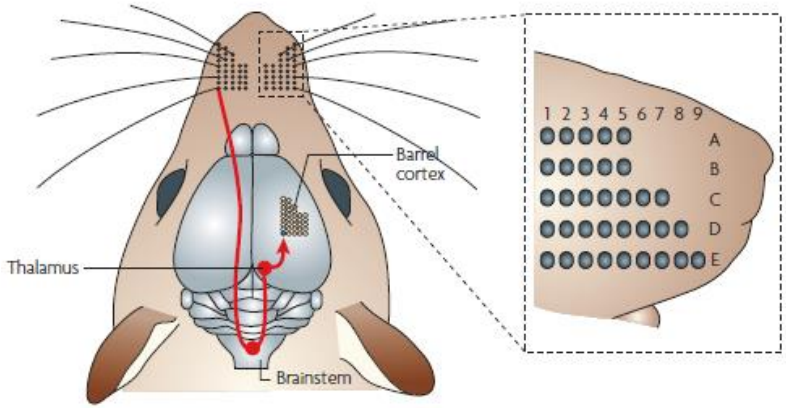


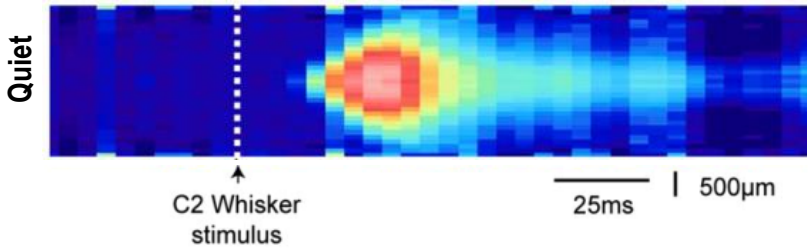


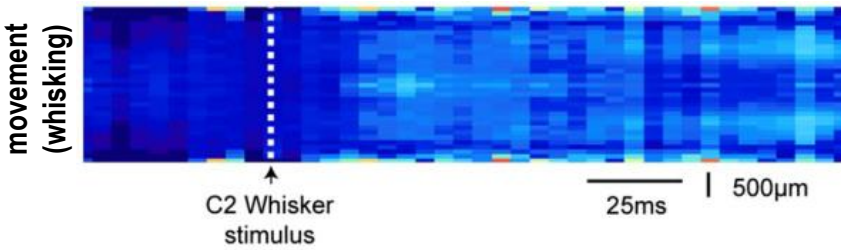
Our model system – the rat whisker system



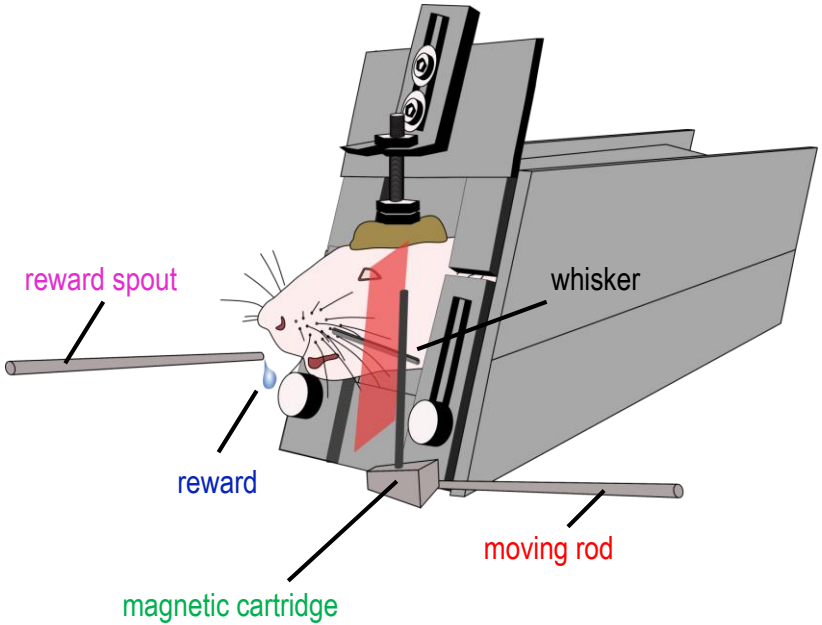
‚Rats are curious animals that use their whiskers to explore their environment‘

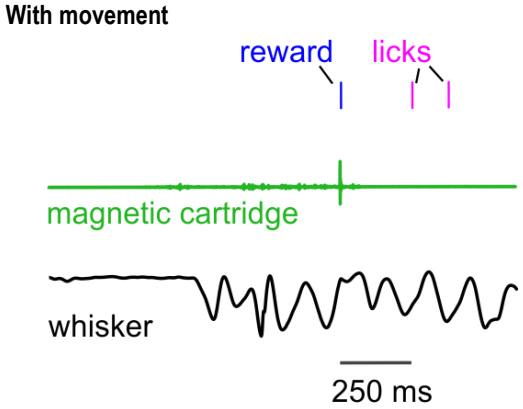


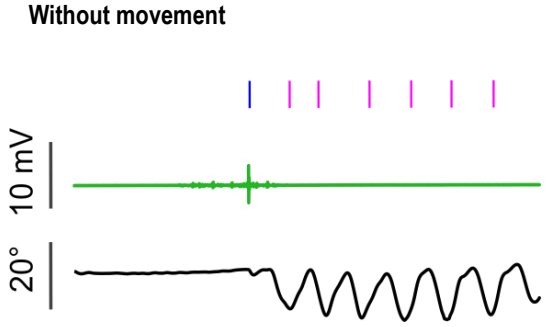




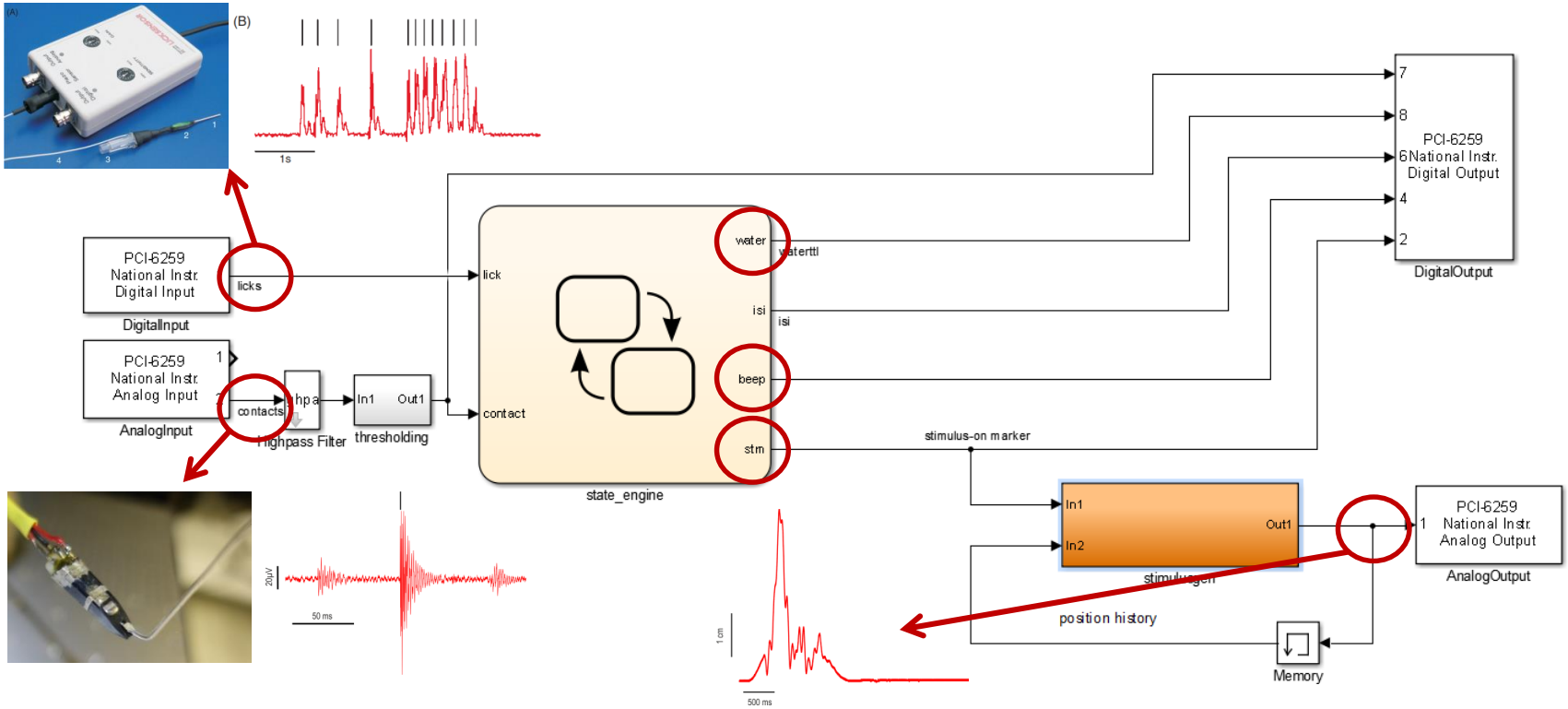
The active touch paradigm



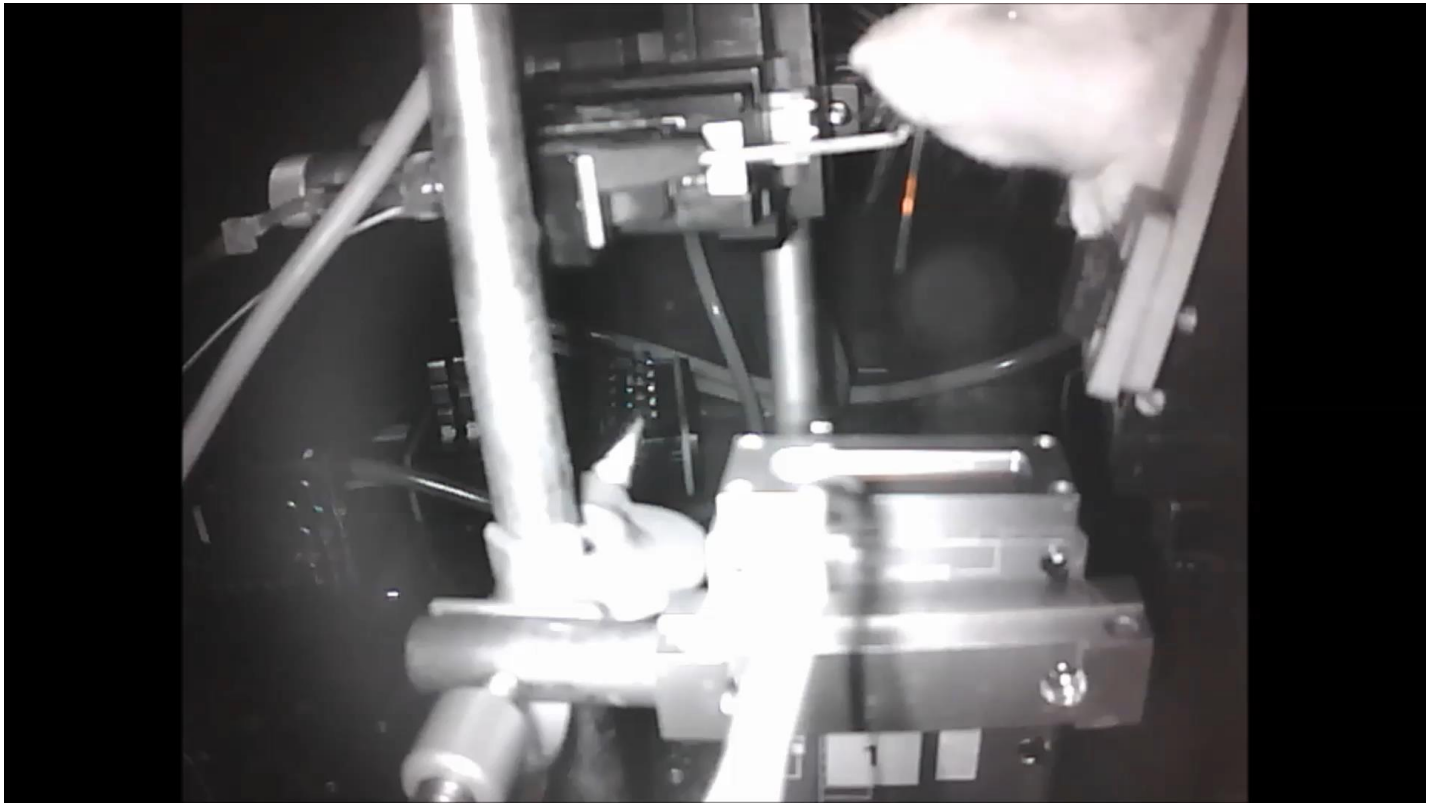




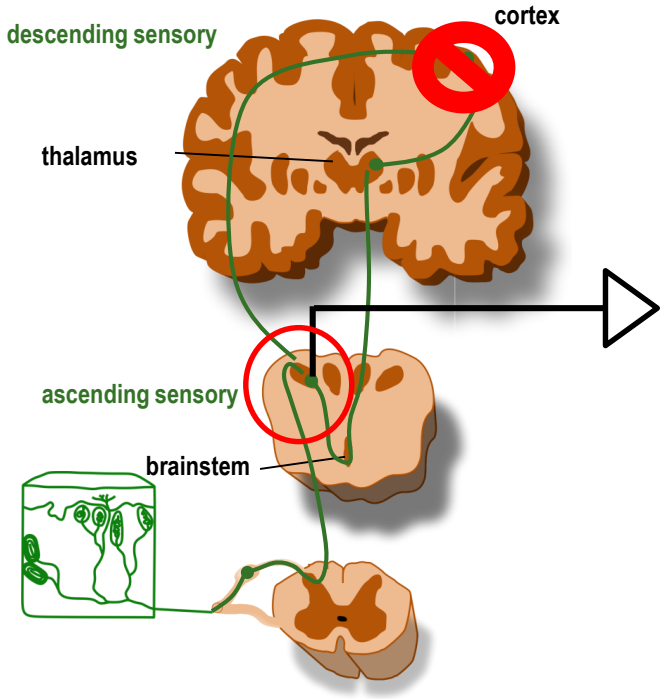
Task controller with Simulink and Stateflow

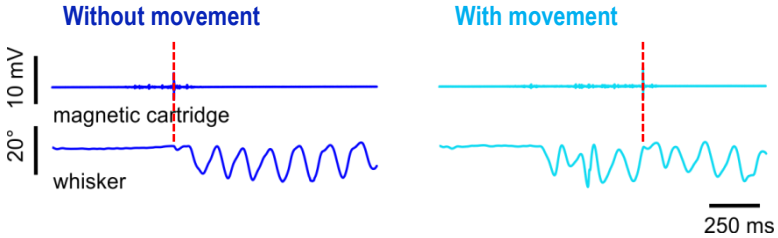


Task controller with Simulink and Stateflow

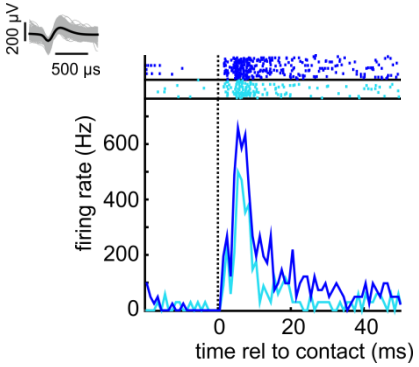


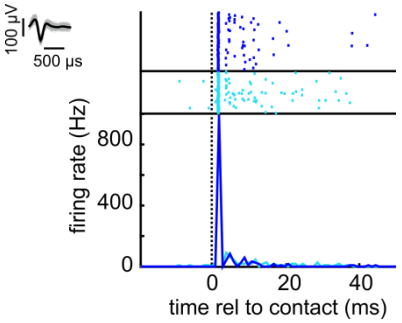
Sensory modulation during movement - the brain shapes its own responses!



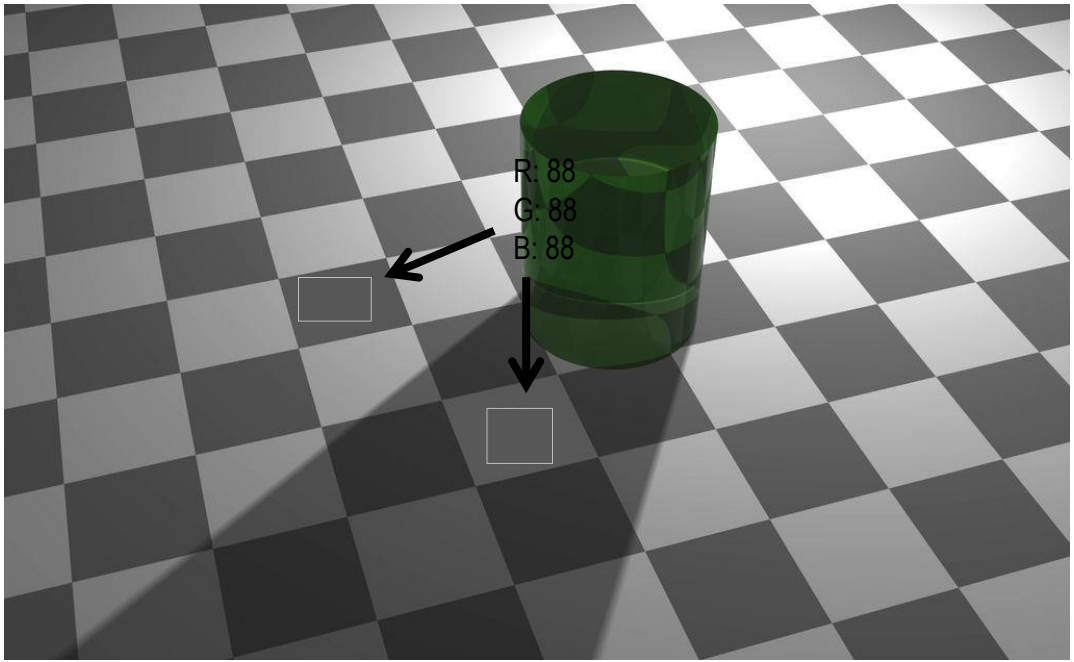


Sensory responses reduced early on! But via which pathway?





Do we really perceive reality?



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