This and the following chapters are a modified version of a submitted manuscript.

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$_{wout_inact.pdf}$[*Chronicimagingduringstableperformanceofavirtual−navigationdecisiontask.*]**Chronic imaging during stable performance of a virtual-navigation decision task. a,***Sc*
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$_{seq_inact.pdf}$[*Neuronalpopulationdynamicsandinactivationexperiments.*]**Neuronal population dynamics and inac**
$0.001 between control and inactivation trials (bootstrap analysis with shuffled trial labels).$**d,***Optogeneticinactivationduringthe*
$stem(left), second half of the T−$
$stem(middle), and entire T−$
$stem(right). For each manipulation, trials were pooled across multiple sessions. Points indicate mean sem. n =$
$4 mice. indicates p <$
$0.001 based on bootstrap shuffle of control and inactivation trial labels. p =$
$0.06 for the second half of the T−$
$stem(middle).$

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$_{seq_inactc}$).*Theseresultswereobtaineddaysorweeksafterthemouseachievedplateaubehavioralperformance, suggestingthatP*
learningphase.Theseresultswereinagreementwithearlierworkthatusedpharmacologicalmethodstoinactivatethe PPC and ot
PPCactivitycouldbeinvolvedinthetransformationofthesensoryinformationintoabehavioralactionplanorinsomeaspectofv
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$_{all.pdf}$[*Reorganizationofactivitywithinatrialacrossdays.*]**Reorganization of activity within a trial across days.**
$70 cm shift) on a subsequent day. Shading indicates mean sem (n =$
$5 mice; some large interval data points had fewer than 5 mice, see Figure$ **??**$. The gray shaded area indicates 95 confidence intervals$
$p <^{-}8$
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c-
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d,
$10^{-}9$
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$_{all.pdf}$[*Reorganizationofinformationabouttrial−typeacrossdays*]**Reorganization of information about trial-type across days a,***Decodingaccuracyfortrialtypebasedo*
$p <$
$10−$
$11, ANOVA.$**e,***Onagivenday, thecellswiththetop*20*andbottom*20*ofdecodingaccuracieswereidentified. Thedistributionsofdec*
rightturntrials. A model weight was determined at each spatial bin in the maze, and the mean weight was calculated for each cell.$\mathbf{g,}$*E*
type information. Top :
mean fluorescence image of the cell body. Bottom :
mean activity of the cell on correct white cue−
left turn (blue) and black cue−
right turn (red) trials.$\mathbf{h,}$*Onagivenday, thecellswiththetop*20*largestweightsforwhitecue−*
left turn and black cue−
right turn trials were identified. The distributions of trial−
type weights are shown in comparison to the distribution for all cells after intervals of$1, 10,$ *and*20 *days.*

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