

Table S4. Results of the logistic regression analysis of stage 1 and stage 2 choices for the experiment reported in the main paper. For the stage 1 choices, the analysis is focused on staying on the same stage 1 action on the next trial, based on whether the previous trial was rewarded (reward), and whether the previous trial was common or rare (transition). ‘reward:transition’ is the interaction between reward, and transition type, and ‘intercept’ refers to the intercept term. For stage 2 choices, the analysis is focused on staying on the same stage 2 action, based on staying on the same stage 1 action (stay) and earning a reward in the previous trial (reward). ‘reward:stay’ is the interaction between ‘reward’, and ‘stay’. ‘probe 3’ are the results reported in the main paper.

Stage 1 actions				
		probe 1	probe 2	probe 3
intercept	<i>p</i> -value	0.618	0.054	0.373
	β (SE)	-0.065 (0.131)	0.299 (0.155)	-0.166 (0.186)
reward	<i>p</i> -value	0.002	<1e-4	0.003
	β (SE)	0.52 (0.174)	0.504 (0.128)	0.612 (0.208)
transition	<i>p</i> -value	0.832	0.155	0.164
	β (SE)	-0.057 (0.273)	-0.406 (0.285)	0.371 (0.267)
reward:transition	<i>p</i> -value	0.005	0.02	<1e-5
	β (SE)	0.842 (0.3)	0.399 (0.171)	0.923 (0.204)
Stage 2 actions				
		probe 1	probe 2	probe 3
intercept	<i>p</i> -value	0.221	0.576	0.001
	β (SE)	-0.266 (0.217)	-0.168 (0.301)	-0.95 (0.295)
reward	<i>p</i> -value	<1e-4	<1e-5	<0.001
	β (SE)	0.631 (0.149)	1.244 (0.265)	0.849 (0.235)
stay	<i>p</i> -value	0.111	0.255	0.019
	β (SE)	0.254 (0.159)	0.234 (0.205)	0.608 (0.259)
reward:stay	<i>p</i> -value	0.222	0.153	0.027
	β (SE)	0.182 (0.149)	0.29 (0.203)	0.494 (0.224)