

# Adaptive integration of habits into depth-limited planning spectrum

Proceedings of the National Academy of Sciences of the United States of America  
113, 12868-12873

DOI: [10.1073/pnas.1609094113](https://doi.org/10.1073/pnas.1609094113)

Citation Report

#	ARTICLE	IF	CITATIONS
1	(Reinforcement?) Learning to forage optimally. <i>Current Opinion in Neurobiology</i> , 2017, 46, 162-169.	2.0	36
2	Continuous track paths reveal additive evidence integration in multistep decision making. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 10618-10623.	3.3	9
3	Imaginative Reinforcement Learning: Computational Principles and Neural Mechanisms. <i>Journal of Cognitive Neuroscience</i> , 2017, 29, 2103-2113.	1.1	15
4	Flexibility to contingency changes distinguishes habitual and goal-directed strategies in humans. <i>PLoS Computational Biology</i> , 2017, 13, e1005753.	1.5	10
5	Planning Complexity Registers as a Cost in Metacontrol. <i>Journal of Cognitive Neuroscience</i> , 2018, 30, 1391-1404.	1.1	41
6	Behavioural signatures of backward planning in animals. <i>European Journal of Neuroscience</i> , 2018, 47, 479-487.	1.2	5
7	Heuristic and optimal policy computations in the human brain during sequential decision-making. <i>Nature Communications</i> , 2018, 9, 325.	5.8	42
8	The detour problem in a stochastic environment: Tolman revisited. <i>Cognitive Psychology</i> , 2018, 101, 29-49.	0.9	3
9	Anxiety, Depression, and Decision Making: A Computational Perspective. <i>Annual Review of Neuroscience</i> , 2018, 41, 371-388.	5.0	124
10	Quantifying Motor Task Performance by Bounded Rational Decision Theory. <i>Frontiers in Neuroscience</i> , 2018, 12, 932.	1.4	16
11	Measuring Habitual Arm Use Post-stroke With a Bilateral Time-Constrained Reaching Task. <i>Frontiers in Neurology</i> , 2018, 9, 883.	1.1	10
12	What Is a Cognitive Map? Organizing Knowledge for Flexible Behavior. <i>Neuron</i> , 2018, 100, 490-509.	3.8	580
13	Competition and Cooperation Between Multiple Reinforcement Learning Systems. , 2018, , 153-178.		33
14	Realigning Models of Habitual and Goal-Directed Decision-Making. , 2018, , 407-428.		18
15	Remembrance of inferences past: Amortization in human hypothesis generation. <i>Cognition</i> , 2018, 178, 67-81.	1.1	22
16	Am I Self-Conscious? (Or Does Self-Organization Entail Self-Consciousness?). <i>Frontiers in Psychology</i> , 2018, 9, 579.	1.1	103
17	The Successor Representation: Its Computational Logic and Neural Substrates. <i>Journal of Neuroscience</i> , 2018, 38, 7193-7200.	1.7	106
18	Planning and navigation as active inference. <i>Biological Cybernetics</i> , 2018, 112, 323-343.	0.6	129

#	ARTICLE	IF	CITATIONS
20	Cognitive prostheses for goal achievement. <i>Nature Human Behaviour</i> , 2019, 3, 1096-1106.	6.2	17
21	Multiple associative structures created by reinforcement and incidental statistical learning mechanisms. <i>Nature Communications</i> , 2019, 10, 4835.	5.8	29
22	Curious Meta-Controller: Adaptive Alternation between Model-Based and Model-Free Control in Deep Reinforcement Learning. , 2019, , .		6
23	Monetary Policy Analysis When Planning Horizons Are Finite. <i>NBER Macroeconomics Annual</i> , 2019, 33, 1-50.	2.5	25
24	Learning task-state representations. <i>Nature Neuroscience</i> , 2019, 22, 1544-1553.	7.1	200
25	Planning at decision time and in the background during spatial navigation. <i>Current Opinion in Behavioral Sciences</i> , 2019, 29, 69-76.	2.0	29
26	From Freedom From to Freedom To: New Perspectives on Intentional Action. <i>Frontiers in Psychology</i> , 2019, 10, 1193.	1.1	11
27	Caching mechanisms for habit formation in Active Inference. <i>Neurocomputing</i> , 2019, 359, 298-314.	3.5	27
28	Bounded Rational Decision-Making from Elementary Computations That Reduce Uncertainty. <i>Entropy</i> , 2019, 21, 375.	1.1	23
29	Minimizing threat via heuristic and optimal policies recruits hippocampus and medial prefrontal cortex. <i>Nature Human Behaviour</i> , 2019, 3, 733-745.	6.2	38
30	Confidence resets reveal hierarchical adaptive learning in humans. <i>PLoS Computational Biology</i> , 2019, 15, e1006972.	1.5	36
31	Forming global estimates of self-performance from local confidence. <i>Nature Communications</i> , 2019, 10, 1141.	5.8	59
32	Animal models of OCD-relevant processes: An RDoC perspective. <i>Journal of Obsessive-Compulsive and Related Disorders</i> , 2019, 23, 100433.	0.7	7
33	Optimizing the depth and the direction of prospective planning using information values. <i>PLoS Computational Biology</i> , 2019, 15, e1006827.	1.5	11
34	Retrospective model-based inference guides model-free credit assignment. <i>Nature Communications</i> , 2019, 10, 750.	5.8	24
35	Hierarchical Action Control: Adaptive Collaboration Between Actions and Habits. <i>Frontiers in Psychology</i> , 2019, 10, 2735.	1.1	48
36	Time-dependent competition between goal-directed and habitual response preparation. <i>Nature Human Behaviour</i> , 2019, 3, 1252-1262.	6.2	107
37	Annual Research Review: Developmental computational psychiatry. <i>Journal of Child Psychology and Psychiatry and Allied Disciplines</i> , 2019, 60, 412-426.	3.1	33

#	ARTICLE	IF	CITATIONS
38	Analogues of mental simulation and imagination in deep learning. <i>Current Opinion in Behavioral Sciences</i> , 2019, 29, 8-16.	2.0	30
39	Resource-rational analysis: Understanding human cognition as the optimal use of limited computational resources. <i>Behavioral and Brain Sciences</i> , 2020, 43, e1.	0.4	288
40	Rationalization is rational. <i>Behavioral and Brain Sciences</i> , 2020, 43, e28.	0.4	50
41	Deep Reinforcement Learning and Its Neuroscientific Implications. <i>Neuron</i> , 2020, 107, 603-616.	3.8	102
42	Improving robot dual-system motor learning with intrinsically motivated meta-control and latent-space experience imagination. <i>Robotics and Autonomous Systems</i> , 2020, 133, 103630.	3.0	11
43	Spatial planning with long visual range benefits escape from visual predators in complex naturalistic environments. <i>Nature Communications</i> , 2020, 11, 3057.	5.8	22
44	Combined model-free and model-sensitive reinforcement learning in non-human primates. <i>PLoS Computational Biology</i> , 2020, 16, e1007944.	1.5	17
45	Dynamic integration of forward planning and heuristic preferences during multiple goal pursuit. <i>PLoS Computational Biology</i> , 2020, 16, e1007685.	1.5	4
46	Space, Time, and Fear: Survival Computations along Defensive Circuits. <i>Trends in Cognitive Sciences</i> , 2020, 24, 228-241.	4.0	138
47	Multi-step planning in the brain. <i>Current Opinion in Behavioral Sciences</i> , 2021, 38, 29-39.	2.0	25
48	Habit, choice, and addiction. <i>Neuropsychopharmacology</i> , 2021, 46, 689-698.	2.8	45
49	Reply to commentaries to willpower with and without effort. <i>Behavioral and Brain Sciences</i> , 2021, 44, e57.	0.4	0
50	When will's wont wants wanting. <i>Behavioral and Brain Sciences</i> , 2021, 44, e35.	0.4	1
51	Human subjects exploit a cognitive map for credit assignment. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	11
52	Recent Developments in the Habit Hypothesis of OCD and Compulsive Disorders. <i>Current Topics in Behavioral Neurosciences</i> , 2021, 49, 147-167.	0.8	6
53	Model based planners reflect on their model-free propensities. <i>PLoS Computational Biology</i> , 2021, 17, e1008552.	1.5	4
54	Memory as a Computational Resource. <i>Trends in Cognitive Sciences</i> , 2021, 25, 240-251.	4.0	29
55	Sophisticated Inference. <i>Neural Computation</i> , 2021, 33, 713-763.	1.3	65

#	ARTICLE	IF	CITATIONS
56	Cognitive maps and novel inferences: a flexibility hierarchy. <i>Current Opinion in Behavioral Sciences</i> , 2021, 38, 141-149.	2.0	20
57	Effects of subclinical depression on prefrontalâ€“striatal model-based and model-free learning. <i>PLoS Computational Biology</i> , 2021, 17, e1009003.	1.5	6
58	The virtual loss function in the summary perception of motion and its limited adjustability. <i>Journal of Vision</i> , 2021, 21, 2.	0.1	2
59	Formalizing planning and information search in naturalistic decision-making. <i>Nature Neuroscience</i> , 2021, 24, 1051-1064.	7.1	40
60	Efficiency and prioritization of inference-based credit assignment. <i>Current Biology</i> , 2021, 31, 2747-2756.e6.	1.8	2
63	Resourceâ€“rational Models of Human Goal Pursuit. <i>Topics in Cognitive Science</i> , 2021, , .	1.1	3
65	Increased and biased deliberation in social anxiety. <i>Nature Human Behaviour</i> , 2022, 6, 146-154.	6.2	21
66	Linear reinforcement learning in planning, grid fields, and cognitive control. <i>Nature Communications</i> , 2021, 12, 4942.	5.8	36
67	Generating Options and Choosing Between Them Depend on Distinct Forms of Value Representation. <i>Psychological Science</i> , 2021, 32, 1731-1746.	1.8	17
69	Computational Psychiatry Needs Time and Context. <i>Annual Review of Psychology</i> , 2022, 73, 243-270.	9.9	47
70	Astrocyte-neuron interaction in the dorsal striatum-pallidal circuits and alcohol-seeking behaviors. <i>Neuropharmacology</i> , 2021, 198, 108759.	2.0	9
71	Neural autopilot and context-sensitivity of habits. <i>Current Opinion in Behavioral Sciences</i> , 2021, 41, 185-190.	2.0	3
72	Habits without values.. <i>Psychological Review</i> , 2019, 126, 292-311.	2.7	153
73	Measuring habit formation through goal-directed response switching.. <i>Journal of Experimental Psychology: General</i> , 2020, 149, 1449-1459.	1.5	37
74	Reliance on model-based and model-free control in obesity. <i>Scientific Reports</i> , 2020, 10, 22433.	1.6	6
81	Predictive representations can link model-based reinforcement learning to model-free mechanisms. <i>PLoS Computational Biology</i> , 2017, 13, e1005768.	1.5	203
82	Interrupting behaviour: Minimizing decision costs via temporal commitment and low-level interrupts. <i>PLoS Computational Biology</i> , 2018, 14, e1005916.	1.5	17
83	Mixing memory and desire: How memory reactivation supports deliberative decisionâ€“making. <i>Wiley Interdisciplinary Reviews: Cognitive Science</i> , 2022, 13, e1581.	1.4	6

#	ARTICLE	IF	CITATIONS
93	Representation, abstraction, and simple-minded sophisticates. Behavioral and Brain Sciences, 2020, 43, e126.	0.4	0
94	Fiscal and monetary stabilization policy at the zero lower bound: Consequences of limited foresight. Journal of Monetary Economics, 2022, 125, 18-35.	1.8	16
96	Planning in the brain. Neuron, 2022, 110, 914-934.	3.8	37
97	Pathologies of precision: A Bayesian account of goals, habits, and episodic foresight in addiction. Brain and Cognition, 2022, 158, 105843.	0.8	5
99	Humans persevere on punishment avoidance goals in multigoal reinforcement learning. ELife, 2022, 11, .	2.8	7
100	The relationship between habits and motor skills in humans. Trends in Cognitive Sciences, 2022, 26, 371-387.	4.0	29
101	Decision prioritization and causal reasoning in decision hierarchies. PLoS Computational Biology, 2021, 17, e1009688.	1.5	5
102	The neuroecology of the water-to-land transition and the evolution of the vertebrate brain. Philosophical Transactions of the Royal Society B: Biological Sciences, 2022, 377, 20200523.	1.8	18
103	Dopamine enhances model-free credit assignment through boosting of retrospective model-based inference. ELife, 2021, 10, .	2.8	6
105	Forward planning driven by context-dependant conflict processing in anterior cingulate cortex. NeuroImage, 2022, 256, 119222.	2.1	0
108	Rational use of cognitive resources in human planning. Nature Human Behaviour, 2022, 6, 1112-1125.	6.2	24
109	The what, how, and why of naturalistic behavior. Current Opinion in Neurobiology, 2022, 74, 102549.	2.0	18
110	People construct simplified mental representations to plan. Nature, 2022, 606, 129-136.	13.7	24
111	Representational Exchange in Human Social Learning. , 2022, , 169-192.		5
112	Costâ€“benefit considerations have limited effect on the decision to exert cognitive effort in real-world computer-programming tasks. Royal Society Open Science, 2022, 9, .	1.1	1
113	Deep imagination is a close to optimal policy for planning in large decision trees under limited resources. Scientific Reports, 2022, 12, .	1.6	2
114	Hierarchical inference as a source of human biases. Cognitive, Affective and Behavioral Neuroscience, 2023, 23, 476-490.	1.0	5
115	Adaptive search space pruning in complex strategic problems. PLoS Computational Biology, 2022, 18, e1010358.	1.5	2

#	ARTICLE	IF	CITATIONS
117	Increased persuadability and credulity in people with corpus callosum dysgenesis. <i>Cortex</i> , 2022, 155, 251-263.	1.1	3
118	Snapping Out of Autopilot: Overriding Habits in Real Time and the Role of Ventrolateral Prefrontal Cortex. <i>Perspectives on Psychological Science</i> , 2023, 18, 482-490.	5.2	1
119	Planning with Theory of Mind. <i>Trends in Cognitive Sciences</i> , 2022, 26, 959-971.	4.0	23
120	Humans account for cognitive costs when finding shortcuts: An information-theoretic analysis of navigation. <i>PLoS Computational Biology</i> , 2023, 19, e1010829.	1.5	7
121	Formalising social representation to explain psychiatric symptoms. <i>Trends in Cognitive Sciences</i> , 2023, 27, 317-332.	4.0	2
122	Proselfs depend more on model-based than model-free learning in a non-social probabilistic state-transition task. <i>Scientific Reports</i> , 2023, 13, .	1.6	0
124	Habit formation viewed as structural change in the behavioral network. <i>Communications Biology</i> , 2023, 6, .	2.0	0
125	Time pressure promotes habitual control over goal-directed control among individuals with overweight and obesity. <i>Current Psychology</i> , 2024, 43, 4431-4442.	1.7	0