

Contents

Preface

viii

Part I	The Mind as Computer	1
	Introduction	3
1	<i>A History of Thinking</i>	
	D. Dellarosa Cummins	8
2	<i>Minds and Machines</i>	
	H. Putnam	20
3	<i>Semantic Engines: An Introduction to Mind Design</i>	
	J. Haugeland	34
4	<i>The Language of Thought: First Approximations</i>	
	J. A. Fodor	51
5	<i>Vision</i>	
	D. Marr	69
6	<i>GPS, a Program that Simulates Human Thought</i>	
	A. Newell and H. A. Simon	84
7	<i>A Procedural Model of Language Understanding</i>	
	T. Winograd	95
8	<i>A General Learning Theory and its Application to Schema Abstraction</i>	
	J. R. Anderson, P. J. Kline, and C. M. Beasley, Jr	114
9	<i>Minds, Brains, and Programs</i>	
	J. R. Searle	140
10	<i>Computing Machinery and Intelligence</i>	
	A. M. Turing	153

Part II	The Mind as Neural Network	169
	Introduction	171
11	<i>The Perceptron: A Probabilistic Model for Information Storage and Organization in the Brain</i>	
	F. Rosenblatt	179
12	<i>Cognitive Activity in Artificial Neural Networks</i>	
	P. M. Churchland	198
13	<i>Cooperative Computation of Stereo Disparity</i>	
	D. Marr and T. Poggio	217
14	<i>On Learning the Past Tenses of English Verbs</i>	
	D. E. Rumelhart and J. L. McClelland	225
15	<i>Parallel Networks that Learn to Pronounce English Text</i>	
	T. J. Sejnowski and C. R. Rosenberg	259
16	<i>Connectionism and the Problem of Systematicity: Why Smolensky's Solution Doesn't Work</i>	
	J. A. Fodor and B. P. McLaughlin	273
17	<i>Connectionism, Constituency, and the Language of Thought</i>	
	P. Smolensky	286
18	<i>Rules and Connections in Human Language</i>	
	S. Pinker and A. Prince	307
Part III	The Mind as Brain	319
	Introduction	321
19	<i>The Organization of Behavior</i>	
	D. O. Hebb	323
20	<i>In Search of the Engram</i>	
	K. S. Lashley	333
21	<i>A Logical Calculus of the Ideas Immanent in Nervous Activity</i>	
	W. S. McCulloch and W. H. Pitts	351
22	<i>Is Consciousness a Brain Process?</i>	
	U. T. Place	361
23	<i>The Computational Brain: Anatomical and Physiological Techniques</i>	
	P. S. Churchland and T. J. Sejnowski	367
24	<i>What the Frog's Eye Tells the Frog's Brain</i>	
	J. Y. Lettvin, H. R. Maturana, W. S. McCulloch, and W. H. Pitts	382
25	<i>Positron Emission Tomographic Studies of the Cortical Anatomy of Single-word Processing</i>	
	S. E. Petersen, P. T. Fox, M. I. Posner, M. Mintun, and M. E. Raichle	397
26	<i>Computational Neuroscience</i>	
	T. J. Sejnowski, C. Koch, and P. S. Churchland	405

27	<i>Two Cortical Visual Systems</i>	
	L. G. Ungerleider and M. Mishkin	420
Part IV Special Topics		445
	Introduction	447
28	<i>Recent Contributions to the Theory of Innate Ideas</i>	
	N. Chomsky	452
29	<i>The "Innateness Hypothesis" and Explanatory Models in Linguistics</i>	
	H. Putnam	458
30	<i>Linguistics and Philosophy</i>	
	N. Chomsky	464
31	<i>Initial Knowledge: Six Suggestions</i>	
	E. Spelke	484
32	<i>Précis of The Modularity of Mind</i>	
	J. A. Fodor	493
33	<i>Eliminative Materialism and the Propositional Attitudes</i>	
	P. M. Churchland	500
34	<i>The Social Function of Intellect</i>	
	N. K. Humphrey	513
35	<i>Origins of Domain Specificity: The Evolution of Functional Organization</i>	
	L. Cosmides and J. Tooby	523
	Index	544