

Contents

List of figures	viii
Preface to the first edition	ix
Preface to the second edition	xi
Introduction: the mechanical mind	1
The mechanical world picture	2
The mind	5
1 The puzzle of representation	8
The idea of representation	11
Pictures and resemblance	13
Linguistic representation	20
Mental representation	22
Thought and consciousness	26
Intentionality	30
Brentano's thesis	36
Conclusion: from representation to the mind	40
Further reading	41
2 Understanding thinkers and their thoughts	42
The mind–body problem	43
Understanding other minds	47
The causal picture of thoughts	54
Common-sense psychology	62
The science of thought: elimination or vindication?	70
Theory versus simulation	77
Conclusion: from representation to computation	80
Further reading	81

Contents

3 Computers and thought	83
Asking the right questions	83
Computation, functions and algorithms	85
Turing machines	92
Coding and symbols	99
Instantiating a function and computing a function	102
Automatic algorithms	104
Thinking computers?	109
Artificial intelligence	114
Can thinking be captured by rules and representations?	118
The Chinese room	123
Conclusion: can a computer think?	128
Further reading	129
4 The mechanisms of thought	130
Cognition, computation and functionalism	131
The language of thought	134
Syntax and semantics	137
The argument for the language of thought	140
The modularity of mind	148
Problems for the language of thought	154
‘Brainy’ computers	159
Conclusion: does computation explain representation?	167
Further reading	167
5 Explaining mental representation	169
Reduction and definition	169
Conceptual and naturalistic definitions	172
Causal theories of mental representation	175
The problem of error	178
Mental representation and success in action	185
Mental representation and biological function	189
Evolution and the mind	194
Against reduction and definition	200
Conclusion: can representation be reductively explained?	208
Further reading	209

Contents

6 Consciousness and the mechanical mind	211
The story so far	211
Consciousness, 'what it's like' and qualia	215
Consciousness and physicalism	219
The limits of scientific knowledge	227
Conclusion: what do the problems of consciousness tell us about the mechanical mind?	230
Further reading	231
Glossary	233
The mechanical mind: a chronology	238
Notes	242
Index	256