Contents

Preface	X
1. Deliberation: A Bayesian Framework	1
1.1 Acts, Conditions, Consequences	1
1.2 Desirabilities and Probabilities	2
1.3 Summary and Rationale	5
1.4 Incompletely Specified Desirabilities	•
1.5 Dominance, and a Fallacy	8
1.6 Problems	10
1.7 Ratifiability	15
1.8 Notes and References	20
2. Equivalent Scales	26
2.1 Equivalent Desirability Matrices	27
2.2 Conventions about Probabilities	31
2.3 A General Desirability Transformation	32
2.4 A Special Desirability Transformation	34
2.5 Problems	39
3. Ramsey's Theory	41
3.1 From Desirabilities to Probabilities	41
3.2 From Probabilities to Desirabilities	42
3.3 The von Neumann-Morgenstern Method	44
3.4 Ethical Neutrality; Probability 1/2	46
3.5 Calibrating the Desirability Scale	49
3.6 Measuring Probabilities	50
3.7 Conclusion	51
3.8 Problems	53
3.9 Notes and References	55
4. Propositional Attitudes	59
4.1 Belief and Desire	59
4.2 Justifying the Special Addition Law	60

Contents	viii
4.3 Remarks on Fairness	
4.4 Desirability	61
4.5 Sentences and Propositions	62
4.6 Notation	64
4.7 Belief versus Assent	65
4.8 Problems	68
4.9 References and Solutions	70 72
	. –
5. Preference	74
5.1 Computing Probabilities	74
5.2 The Propositions T and F	76 76
5.3 A Remark on Computing Probabilities	76
5.4 Computing Desirabilities 5.5 The Probability and Desirability Assigns	78
5.5 The Probability and Desirability Axioms 5.6 "Good," "Bad," "Indifferent"	80
5.7 Preference between News Items	81
5.8 Acts as Propositions	82 83
5.9 Desirabilities Determine Probabilities	85 85
5.10 Problems	87
5.11 Notes and References	87 91
6. Equivalence, Perspectives, Quantization	95
6.1 Bolker's Equivalence Theorem	96
6.2 Zero and Unit	99
6.3 Bounds on Desirabilities	100
6.4 Bounds on c	102
6.5 Perspective Transformations of Desirability	103
6.6 Probability Quantization 6.7 Problems	106 111
6.8 Acknowledgment	112
0.6 Acknowledgment	112
7. From Preference to Probability	113
7.1 The Existence, Closure, G, and Splitting Conditions	116
7.2 Determining Ratios of Probabilities	118
7.3 A Probability Scale for Indifferent Propositions	122
7.4 Nullity	124
7.5 A General Technique	125
7.6 Measuring Probabilities of Indifferent Propositions	126
7.7 Problems	129
8. Uniqueness	132
8.1 Uniqueness of Probabilities	133
8.2 A Scale of Desirabilities between 0 and 1	134
8.3 Uniqueness of the Scale	136
8.4 Uniqueness of Desirabilities in the Unit Interval	137
8.5 Uniqueness of Negative Desirabilities	139
8.6 Completing the Uniqueness Proof	140
8.7 Problems	141
8.8 Notes and References	142

Cambana	•
Contents	12

9. Existence: Bolker's Axioms	144
9.1 Preference-or-Indifference as a Primitive	144
9.2 Prospects as Propositions	145
9.3 Averaging, Nullity, and Impartiality	146
9.4 Completeness, Atomlessness, Continuity	147
9.5 Notes and References	149
10. Boundedness; Causality	150
10.1 The St. Petersburg Paradox	151
10.2 Resolving the Paradox	154
10.3 Gambles as Causal Relationships	156
10.4 Our Theory Is Noncausal	157
10.5 Further Comparison with Ramsey's Theory	158
10.6 Justifying Quantization	161
10.7 Notes and References	162
11. Probability Kinematics	164
11.1 Conditionalization and Its Limits	164
11.2 The Problem	160
11.3 Solution for $n = 2$	168
11.4 Relevance	170
11.5 Comparison with Conditionalization	171
11.6 Solution for Finite n	172
11.7 Origination, Closure	173
11.8 The Continuous Case	175
11.9 Probabilistic Acts; Trying	177
11.10 Observation; Meaning	179
11.11 Notes and References	180
12. Induction and Objectification	184
12.1 Belief: Reasons versus Causes	184
12.2 Bayes's Theorem	183
12.3 Simple Induction	187
12.4 Confirming Generalizations	190
12.5 Objectivity and Learning	193
12.6 De Finetti's Representation Theorem	199
12.7 Objectification	202
12.8 Conclusion	208
12.9 Notes and References	21
Appendix: Preference among Preferences	214
Notes and References	224
Index	229