

CONTENTS

Preface

page 11

CHAPTER ONE

INDUCTION AND ITS PROBLEMS

1. On the Division of Knowledge. Anticipation and Induction 13
2. On the Division of Science. The *savoir pour prévoir* 15
3. Induction and Discovery 16
4. The Justification of Induction 20
5. The Three Problems of Induction 30

CHAPTER TWO

PRELIMINARY CONSIDERATIONS ON LOGIC

1. On Propositions 32
2. On Properties 37
3. On Relations 46
4. On Numbers 49
5. On Sequences 51

CHAPTER THREE

THE FORM OF INDUCTIVE ARGUMENTS LAWS OF NATURE

1. Induction as Inference 63
2. The Logic of Conditions 66
3. Statistical Laws 77

CHAPTER FOUR

INDUCTION AND ELIMINATION

1. The Methods of Induction 84
2. The Method of Elimination. General Remarks 87
3. The Method of Agreement. The Simple Case 93
4. The Method of Difference. The Simple Case 96

CONTENTS

	<i>page</i>
5. The Joint Method. The Simple Case	97
6. The Method of Agreement. The Complex Case	102
7. The Method of Difference. The Complex Case	116
8. The Joint Method. The Complex Case	119
9. Elimination and the Practice of Science	126

CHAPTER FIVE

INDUCTION AND DEDUCTION

1. The Supplementary Premisses of Induction	129
2. The Deterministic Postulate	131
3. The Selection Postulate	135

CHAPTER SIX

INDUCTION AND DEFINITION

1. Actual and Ideal Induction	140
2. Induction and the Formation of Concepts	141
3. Induction and the Rectification of Laws	147
4. Remarks on the Historical Development of the Logic of Inductive Truth	151

CHAPTER SEVEN

THE LOGIC OF PROBABILITY

1. The Concepts of Probability	167
2. The Calculus of Probability	173
3. The Axioms	176
4. The Process of Inference	177
5. The Maximum Principle	181
6. The Multiplication Principle	181
7. The Principle of Extensionality	184
8. The Principle of Equivalence	187
9. The Addition Principle	187
10. The Inverse Principle	190
11. The Composition Principle	192

CONTENTS

	<i>page</i>
12. Independence	193
13. The Generalized Elementary Principles	194
14. Independence-Realms	199
15. The Direct Principles of Maximum Probability and of Great Numbers	204
16. The Inverse Principles of Maximum Prob- ability and of Great Numbers	206
17. Pseudo-Deductions of the Inverse Principles of Maximum Probability and of Great Numbers	210
18. The Principle of Succession	213
19. The Interpretation of the Calculus and the Analysis of Probability	215
20. Frequency, Possibility, Degree of Belief, and Probability	216

CHAPTER EIGHT

PROBABILITY AND PREDICTION

1. Induction and Probability	223
2. The Idea of Chance	225
3. Random Distribution, Equal Possibility, Ra- tional Degree of Belief, and Chance	228
4. Chance and Determinism	234

CHAPTER NINE

PROBABILITY AND LAWS OF NATURE

1. The Concept of Real Inductive Probability	237
2. The Concept of Real Inductive Probability (Continued)	239
3. The Argument from Confirmation	245
4. The Argument from Confirmation. (Continued).	249
5. The Paradox of Confirmation	254
6. The Argument from Simplicity	256
7. The Argument from Analogy	264
8. Inductive Probability and Types of Law	272

CONTENTS

CHAPTER TEN

page

INDUCTION AND INVERSE PROBABILITY

1. The Concept of Apparent Inductive Probability 275
2. The Probability of Causes 276
3. Inductions from Statistical Samples 280
4. The Probability of Future Events 286
5. Remarks on the Historical Development of the Logic of Inductive Probability 290

INDEX OF NAMES 305

SUBJECT INDEX 307