

Contents

| | |
|--|----------------|
| <i>List of contributors</i> | <i>page</i> vi |
| 1 Introduction | 1 |
| <i>Gerhard Ernst and Andreas Hüttemann</i> | |
| Part I: The arrows of time | 11 |
| 2 Does a low-entropy constraint prevent us from influencing the past? | 13 |
| <i>Mathias Frisch</i> | |
| 3 The past hypothesis meets gravity | 34 |
| <i>Craig Callender</i> | |
| 4 Quantum gravity and the arrow of time | 59 |
| <i>Claus Kiefer</i> | |
| Part II: Probability and chance | 69 |
| 5 The natural-range conception of probability | 71 |
| <i>Jacob Rosenthal</i> | |
| 6 Probability in Boltzmannian statistical mechanics | 92 |
| <i>Roman Frigg</i> | |
| 7 Humean metaphysics versus a metaphysics of powers | 119 |
| <i>Michael Esfeld</i> | |
| Part III: Reduction | 137 |
| 8 The crystallization of Clausius's phenomenological thermodynamics | 139 |
| <i>C. Ulises Moulines</i> | |
| 9 Reduction and renormalization | 159 |
| <i>Robert W. Batterman</i> | |
| 10 Irreversibility in stochastic dynamics | 180 |
| <i>Jos Uffink</i> | |
| <i>Index</i> | 208 |