

| | |
|----------------|----|
| Prologue | ix |
|----------------|----|

Part I
The Prime Number Theorem

| | |
|---|-----|
| 1 Card Trick | 3 |
| 2 The Soil, the Crop | 19 |
| 3 The Prime Number Theorem | 32 |
| 4 On the Shoulders of Giants | 48 |
| 5 Riemann's Zeta Function | 63 |
| 6 The Great Fusion | 82 |
| 7 The Golden Key, and an Improved Prime Number Theorem | 99 |
| 8 Not Altogether Unworthy | 118 |
| 9 Domain Stretching | 137 |
| 10 A Proof and a Turning Point | 151 |

Part II
The Riemann Hypothesis

| | | |
|----|---|-----|
| 11 | Nine Zulu Queens Ruled China | 169 |
| 12 | Hilbert's Eighth Problem | 184 |
| 13 | The Argument Ant and the Value Ant | 201 |
| 14 | In the Grip of an Obsession | 223 |
| 15 | Big Oh and Möbius Mu | 238 |
| 16 | Climbing the Critical Line | 252 |
| 17 | A Little Algebra | 265 |
| 18 | Number Theory Meets Quantum Mechanics | 280 |
| 19 | Turning the Golden Key | 296 |
| 20 | The Riemann Operator and Other Approaches | 312 |
| 21 | The Error Term | 327 |
| 22 | Either It's True, or Else It Isn't | 350 |
| | Epilogue | 362 |
| | Notes | 365 |
| | Appendix: The Riemann Hypothesis in Song | 393 |
| | Picture Credits | 405 |
| | Index | 407 |