

Contents

| | | |
|----------|--|-----------|
| 1 | Some Questions to Begin with | 1 |
| 1.1 | Numbers and/or Neurons | 1 |
| 1.2 | Natural Statistics...or Probability Without Numbers | 7 |
| 1.3 | The Emergence of Natural Statistics in Humans | 10 |
| 1.4 | So...Must Statistics Be Considered as a Property of the World or the Result of Our Ignorance? | 12 |
| 1.5 | Then...What the h__ll Is Statistics? | 14 |
| | References | 15 |
| 2 | Ancient Statistics History in a Nutshell | 19 |
| 2.1 | Dice in a Deterministic World | 19 |
| 2.2 | From Dice to Moral Wagers and God in Mathematics | 23 |
| 2.3 | Fortuna, Destiny, Luck, Chance, or Probability | 27 |
| 2.4 | <i>Pay Me Again, Sam...</i> From New Gods and Taxes to Statistics | 28 |
| 2.5 | From Dice to Vaccines and Assurance Companies: The Birth of Probability | 30 |
| 2.5.1 | First of All, Vaccines | 30 |
| 2.5.2 | Secondly, Insurance Companies | 31 |
| 2.5.3 | Third, Legal Issues and the Notion of "Evidence" | 32 |
| | References | 35 |
| 3 | The Bayesian Approach and Its Evolution Until the Beginning of the Twentieth Century | 37 |
| | References | 46 |
| 4 | A Conceptual Reply to Reverend Bayes: The Frequentist Approach | 49 |
| | References | 58 |
| 5 | The Coevolution, Battles, and Fights of Both Paradigms | 61 |
| 5.1 | Demarcation Problems | 62 |
| 5.2 | An Acid and Blurred Debate | 66 |

5.3 Why Bother to Become Frequentist/Bayesian?..... 68

5.4 A Practical Mixture and Mutual Influence..... 69

References 73

**6 The Birth of Multicausality as the Death of Causality
and Their Statistical Corollaries 77**

6.1 Epidemiology as a Data-Scanner Discipline 80

6.2 The Epidemiological Monocausality..... 80

6.3 The Multiple Causes Paradigm in Epidemiological Studies 84

6.4 New Trends in Epidemiology and Causality 86

References 89

7 Natural Versus Artificial Minds and the Supercomputing Era 93

7.1 Artificial Intelligence and Statistics 94

7.2 Supercomputing, Big Science and Big Data 96

References 98

8 And the Winner Is..... 101

References 107

Index 109