



Detailed Contents

Acknowledgments	xi
About the Author	xiii
Prologue	xiv
Chapter 1. The Doubling Game: From Thomas Malthus to Bernie Madoff	1
Chapter 2. She Told Two Friends, and They Told Two Friends, and They Told Two Friends . . .	13
2.1. Bernie Madoff and the Never-Losing Fraud Fund	16
2.2. More About Pyramids and Connected Growth	18
2.3. New Scam, Old Scam	22
2.4. Scrooge or Faust? The Future Is in the Balance	25
Chapter 3. The Mathematics of Change: A New World Model	31
3.1. The Measure and the Change in the Measure	31
3.2. Distance Versus Speed, or Who to Bet on in the Crunch	37
3.3. Inflation Decreases, So Why Don't Prices Go Down? It's All in the Delta	39
3.4. The Measure and the Change in the Measure: More on Slopes	41
3.5. Turning Points: More Change and Illusive Growth	46
Chapter 4. Fairness and Uncertainty: Who Watches the Watchers?	53
4.1. Random or Systematic Error: <i>Economically Advantaged American Redial Idol</i>	54
4.2. Bias and Unfairness: From Politics and Maps to Search Engines and Sports <i>The Truth About Sports Leagues: Owner, Not Player Competitiveness</i>	60
4.3. Statistical Error: Who Makes the Choice?	64
4.4. Cost-Benefit, Either/Or Error Decisions <i>Ralph Nader and How Cost-Benefit Analysis Elected President George W. Bush</i>	67
	69

4.5. Hagglng About Uncertainty: The Real Price of Goods	72
<i>More Hagglng: An Everyday Fish Tale</i>	75
4.6. Testing Error: Do We Test the Student, the Teacher, or the Test?	77
<i>Conditional Probabilities: What Was the Intent?</i>	79
Chapter 5. Statistics Made Simple: The Science of Weighting	85
5.1. Today's Information Age: The Art of Numbers	86
5.2. Electoral College Weighting: How Some Votes Are More Equal Than Others	88
<i>Other Electoral Weightings: First-Past-the-Post Versus Proportional Representation</i>	90
5.3. Numerical Distributions: A Question of Balance	91
5.4. The Mean as a Picture	97
5.5. The Standard Deviation or Error in the Mean	105
5.6. Real-World Statistics and Advertising Abuse	107
5.7. The Law of Large Numbers: A Simple Measure of Uncertainty	109
5.8. Skewness and Recognizing Outliers: The Third Moment	111
5.9. The Science of Longitudinal Weighting: A Question of Time	115
<i>Pay Me Now or Pay Me More Later</i>	115
<i>Should Credit Cards Be Called Debt Cards?</i>	117
5.10. The Push and Pull of Change: Prices and Inflation	121
<i>Oil Prices and Phil Mickelson's World Ranking</i>	124
<i>Changing With the Times</i>	127
Chapter 6. A Case for Correlation: Sampling and Inference, From Shakespeare to Death Row to Sports Competitiveness	133
6.1. A Simple Comparison: Shakespeare's Plays by the Numbers	133
6.2. Cause and Effect? Executions by the Numbers	135
6.3. Correlation: From Fingerprint Matches to <i>Roe v. Wade</i>	138
6.4. Correlation and Trend Lines	142
6.5. Analyzing Statistical Data: The Qualitative Becomes Quantitative	145
<i>Gauging Competiveness: Absolute and Standard Deviation</i>	148
<i>Outliers in the Data</i>	151
<i>Changing Statistics Over Time</i>	151
<i>Standard Metric to Analyze Sports Leagues</i>	152

Chapter 7. Counting and Computers: From Boole to Google and Back	157
7.1. George Boole: The Real Brains Behind the Google Universe	158
7.2. How to Make Money in Your Spare Time, From Barbecues to E-mail Orders	162
<i>A 50/50 Binomial Internet Numbers Scam</i>	165
7.3. Is He or Isn't He? A Not-so-Random Guru World	168
7.4. Not All Numbers Are to Plan: Noise and the Art of Confusion	173
<i>Betting Strategies: How to Go Broke Over the Long Run</i>	176
7.5. Monopoly: What Would Aesop, Smith, Rousseau, and Marx Think?	179
<i>More Monte Carlo Solutions</i>	185
Chapter 8. Who to Believe? Numbers and the Art of Deception	193
8.1. Debunking the Mystery Behind the Meaning	193
8.2. How Old Are We? A Simple Calculation	199
8.3. Modulo Arithmetic: How the Days Got Their Names	201
8.4. More Debunking: What's in a Number or Code?	205
<i>The Meaning of Numbers and Words</i>	206
<i>Some Codes: Old and New</i>	210
8.5. The Doubling Game and the Superstition of Choice—as Advertised	213
8.6. While We Were Sleeping: The Growth of the Modern Lottery	217
Chapter 9. Two Kinds of People: Those Who Divide and Those Who Don't	225
9.1. The Forward Stampede and the Home-Comers	226
9.2. A Simple Zero-Sum Game: Keep Your Eye on the Birdie	231
<i>The Economic Landscape and Government Engineering</i>	235
9.3. Laissez-Faire Illusions: <i>Cui Bono?</i>	237
9.4. Economies of Speed: The Ever-Expanding Financial World	240
9.5. The Private and the Public: Spend Now, Ask Questions Later	244
9.6. More Zero-Sum Losers and Winners: User Pay Versus a Shared Society	251

9.7. The Hot 100: Are the Rich Getting Richer?	255
<i>The Hot 100 Countries?</i>	257
9.8. The Fictional Commonwealth: You, Me, or Us	260
Chapter 10. How to Get Along: Be Nice, Clear Your Ice	267
10.1. Modern Etiquette, the Rise of the Road Hog, and Other Self-Interest Strategies	268
<i>How to Win Friends and Become Infamous Against Your Better Judgment</i>	271
<i>The Politician Who Came in From the Cold</i>	274
10.2. Needs and Wants as Advertised: How the Poor Stay Poor	276
<i>Feedback Loops and the Devil You Know</i>	281
10.3. No Need to Think: The Adult as Child and the Child as Consumer	284
Chapter 11. Cooperation: The Art and Science of Agreement	289
11.1. Bottom-Up or Top-Down Learning?	289
11.2. The Prisoner's Dilemma: You Scratch My Back, and Maybe I'll Scratch Yours	295
<i>Trading Up and Down: Good for Both?</i>	296
<i>The Mathematics of Cooperation</i>	299
<i>Fool Me Once, Shame on You; Fool Me Twice, Shame on Me</i>	301
11.3. The Iterated Prisoner's Dilemma: "No More Mister Nice Guy" Rules, Again and Again	303
<i>Modeling Human Behavior</i>	305
<i>The Real World</i>	307
<i>Is It All Money Madness?</i>	310
<i>Winning at All Costs: How to Become Less Successful</i>	313
Chapter 12. The Roots of Economic Disaster: Making Money From Money	317
12.1. The Future in a Nutshell	330
<i>A New Beginning or More of the Same?</i>	331
12.2. A Final Word on Myths and Fables: A Final Word on Numbers	334
Bibliography	341
Index	355