

# CRITICAL THINKING

10e



MOORE/PARKER



---

*This page intentionally left blank*

Tenth  
Edition

# Critical Thinking

Brooke Noel Moore  
Richard Parker  
California State University, Chico

Chapter 13  
by Nina Rosenstand and Anita Silvers





Published by McGraw-Hill, a business unit of The McGraw-Hill Companies, Inc., 1221 Avenue of the Americas, New York, NY 10020. Copyright © 2012, 2009, 2007, 2004, 2001, 1998, 1995, 1991 by The McGraw-Hill Companies, Inc. All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of The McGraw-Hill Companies, Inc., including, but not limited to, any network or other electronic storage or transmission, or broadcast for distance learning. Some ancillaries, including electronic and print components, may not be available to customers outside the United States.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 0 RJE/RJE 1 0

ISBN: 978-0-07-803828-0

MHID: 0-07-803828-6

Vice President, Editorial: *Michael Ryan*  
Director, Editorial: *Beth Mejia*  
Sponsoring Editor: *Mark Georgiev*  
Development Editor: *Susan Messer*  
Editorial Coordinator: *Amy Flauaus*  
Marketing Director: *Allison Jones*  
Marketing Manager: *Pamela Cooper*  
Media Project Manager: *Shannon Gattens*  
Production Editor: *Ruth Sakata Corley*  
Cover Designer: *Laurie Entringer*  
Manager, Photo Research: *Brian J. Pecko*  
Buyer II: *Louis Swaim*  
Production Service: *Matrix Productions, Inc.*  
Composition: *10/12 Trump Medieval by Lachina Publishing Services*  
Printing: *45# New Era Matte by R.R. Donnelley & Sons*

Cover image: ©Jose Luis Stephens/Radius Images/Getty Images; iPhone: © Kacper Kida / Alamy

Credits: The credits section for this book begins on page 535 and is considered an extension of the copyright page.

#### Library of Congress Cataloging-in-Publication Data

Moore, Brooke Noel.  
Critical thinking / Brooke Noel Moore, Richard Parker. — 10th ed.  
p. cm.  
Includes bibliographical references and index.  
ISBN-13: 978-0-07-803828-0 (alk. paper)  
ISBN-10: 0-07-803828-6 (alk. paper)  
1. Critical thinking. I. Parker, Richard (Richard B.). II. Title.  
B105.T54M66 2012  
160—dc22

2010050768

The Internet addresses listed in the text were accurate at the time of publication. The inclusion of a website does not indicate an endorsement by the authors or McGraw-Hill, and McGraw-Hill does not guarantee the accuracy of the information presented at these sites.

# Brief Table of Contents

Chapter 1	What <i>Is</i> Critical Thinking, Anyway? 1
Chapter 2	Two Kinds of Reasoning 37
Chapter 3	Clear Thinking, Critical Thinking, and Clear Writing 69
Chapter 4	Credibility 104
Chapter 5	Persuasion Through Rhetoric: Common Devices and Techniques 146
Chapter 6	More Rhetorical Devices: Psychological and Related Fallacies 184
Chapter 7	More Fallacies 210
Chapter 8	Deductive Arguments I: Categorical Logic 253
Chapter 9	Deductive Arguments II: Truth-Functional Logic 295
Chapter 10	Thinking Critically About Inductive Reasoning 349
Chapter 11	Causal Explanation 389
Chapter 12	Moral, Legal, and Aesthetic Reasoning 439

---

*This page intentionally left blank*

# Table of Contents

*Preface* xxii  
*Acknowledgments* xxiv  
*A Note to Our Colleagues* xxvi  
*About the Authors* xxviii

## Chapter 1 What Is Critical Thinking, Anyway? 1

### **In Depth** Critical Thinking, the Long Version 3

Beliefs and Claims 4

Objective Claims and Subjective Claims 5

### **In Depth** Thinking About Thinking 6

Fact and Opinion 6

Moral Subjectivism 6

Issues 7

Arguments 8

Cognitive Biases 17

### **In Depth** Rational Choice? 19

Truth and Knowledge 23

What Critical Thinking Can and Can't Do 24

A Word About the Exercises 24

Recap 25

Additional Exercises 26

## Chapter 2 Two Kinds of Reasoning 37

Arguments: General Features 37

Conclusions Used as Premises 38

Unstated Premises and Conclusions 38

### **In Depth** Conclusion Indicators 39

Two Kinds of Arguments 39

Deductive Arguments 39

### **In Depth** Premise Indicators 40

Inductive Arguments 40

### **Real Life** Abe Lincoln Knew His Logic 41

Beyond a Reasonable Doubt 43

Deduction, Induction, and Unstated Premises 43

**In the Media** Is an Ad Photo an Argument? 45

“Balance of Considerations” and IBEs 45

What Are Not Premises, Conclusions, or Arguments 46

Pictures 46

If . . . then . . . Sentences 47

Lists of Facts 47

“A because B” 47

Ethos, Pathos, and Logos 48

Techniques for Understanding Arguments 52

Clarifying an Argument’s Structure 52

Distinguishing Arguments from Window Dressing 54

**On Language** Stupid Liberal! 55

Evaluating Arguments 56

Recap 56

Additional Exercises 57

**Chapter 3** Clear Thinking, Critical Thinking,  
and Clear Writing 69

Vagueness 71

**In the Media** Say What?? . . . 71

**Real Life** Vagueness at the Border 72

**In the Media** A Subtle Ambiguity 74

Ambiguity 74

Semantic Ambiguity 75

Grouping Ambiguity 76

**In Depth** Composition and the First Cause Argument 77

Syntactic Ambiguity 77

**In Depth** More Examples of the Composition and Division Fallacies 78

**On Language** Making Ambiguity Work for You 79

Generality 80

Defining Terms 83

Purposes of Definitions 84

Kinds of Definitions 85

Some Tips on Definitions 86



- **In Depth** Are We Innately Selfish? 86
  - Writing Argumentative Essays 87
    - Good Writing Practices 89
    - Essay Types to Avoid 90
- **On Language** And While We're on the Subject of Writing 90
  - Persuasive Writing 91
  - Writing in a Diverse Society 91
- Recap 93
- Additional Exercises 93
  
- Chapter 4** Credibility 104
  
- **Real Life** The Nigerian Advance Fee 4-1-9 Fraud: The Internet's Longest-Running Scam Is Still Running Strong 105
  - The Claim and Its Source 106
- **In the Media** Guaranteeing an Interested Party, or the Fox Audits the Henhouse 107
  - Assessing the Content of the Claim 108
    - Does the Claim Conflict with Our Personal Observations? 108
- **In the Media** Incredible Claims! 108
- **Real Life** When Personal Observation Fails . . . 109
- **In Depth** Incredible but True 111
  - Does the Claim Conflict with Our Background Information? 111
- **Real Life** Do Your Ears Stick Straight Out? 112
- **Real Life** Fib Wizards 113
  - The Credibility of Sources 115
    - Interested Parties 115
- **Real Life** Not All That Glitters 115
  - Physical and Other Characteristics 116
- **Real Life** Whom Do You Trust? 116
  - Expertise 118
- **Real Life** War-Making Policies and Interested Parties 118
- **Real Life** Smoking and Not Paying Attention Can Be Deadly 120
  - Credibility and the News Media 122
    - Consolidation of Media Ownership 122
    - Government Management of the News 123
    - Bias Within the Media 124

- **In the Media** Jumping to Conclusions in the News 124
- **In the Media** Saving Private Lynch 125
  - Talk Radio 127
  - Advocacy Television 127
  - The Internet, Generally 127
- **In the Media** Evaluating Website Credibility: A Tip from the Professionals 128
- **In the Media** Webcheckers 130
  - Advertising 131
- **Real Life** When Is an Ad Not an Ad? When It's a Product Placement! 133
- **On Language** WAY Too Good To Be True! 134
  - Recap 135
  - Additional Exercises 136
  
- Chapter 5** Persuasion Through Rhetoric: Common Devices and Techniques 146
  - Rhetorical Devices I 147
    - Euphemisms and Dysphemisms 147
  - **Real Life** The Death Tax 148
    - Weaselers 149
  - **In the Media** Innuendo with Statistics 149
    - Downplayers 150
  - Rhetorical Devices II 152
    - Stereotypes 152
  - **In the Media** We Get Dumber in Company of Blondes 153
    - Innuendo 154
    - Loaded Questions 155
  - Rhetorical Devices III 156
    - Ridicule/Sarcasm 156
    - Hyperbole 157
  - Rhetorical Devices IV 158
    - Rhetorical Definitions and Rhetorical Explanations 158
  - **On Language** Legislative Misnomers 158
    - Rhetorical Analogies and Misleading Comparisons 159
  - **In the Media** A Misleading Mathematical Visual 161
  - **Real Life** Cause for Alarm? 162

- **In Depth** Visual Hyperbole, Ridicule, or Just Beefcake? 163
  - Proof Surrogates and Repetition 164
    - Proof Surrogates 164
    - Repetition 165
  - Persuasion Using Visual Images 166
- **In the Media** Now You See Him—Now You Don't 167
- **In the Media** The Daschle Salute 168
- **In Depth** Don't Get Carried Away! 169
  - Recap 170
  - Additional Exercises 171

## Chapter 6 More Rhetorical Devices: Psychological and Related Fallacies 184

- Fallacies That Involve Appeals to Emotion 185
  - The Argument from Outrage 185
- **In the Media** Wishful Thinking 187
- **Real Life** Prudential Grounds Versus Rational Grounds 188
  - Scare Tactics 188
  - Other Fallacies Based on Emotions 189
- **Real Life** Knee Operation Judged Useless 190
- **Real Life** Patriotic Passion 191
  - Some Non-Emotion-Based Fallacies 194
    - Red Herring/Smoke Screen 194
- **In Depth** The "True For . . ." Cop-Out 194
- **In the Media** A Red Herring in a Letter to *Time* 195
  - Everyone Knows . . . 196
- **Real Life** Is It Still a Lie If Everybody Does It? 197
  - Rationalizing 199
  - Two Wrongs Make a Right 200
  - Recap 201
  - Additional Exercises 202

## Chapter 7 More Fallacies 210

- The Ad Hominem Fallacy 210
  - The Personal Attack Ad Hominem 211
  - The Inconsistency Ad Hominem 211

- **In Depth** Ad Hominem 212
  - The Circumstantial Ad Hominem 213
  - Poisoning the Well 213
  - “Positive Ad Hominem Fallacies” 214
- The Genetic Fallacy 214
- Straw Man 216
- **In the Media** Seig Heil? . . . or Shut Up? 217
- **In the Media** Straw Man in the Elder Competition 218
  - False Dilemma 218
- **Real Life** Which Is It Going to Be, Springfield? 220
  - The Perfectionist Fallacy 221
  - The Line-Drawing Fallacy 221
- Slippery Slope 222
- **Real Life** \$8 Billion Down the Tube! 223
  - Misplacing the Burden of Proof 223
- **In the Media** A Double Slippery Slope 224
- **In Depth** Innocent Until Proved Guilty 226
- **In the Media** So Much for Presumed Innocence . . . 227
  - Begging the Question 227
- **Real Life** Getting Really Worked Up over Ideas 228
- **On Language** Begging . . . or Begging *For*? 229
  - Recap 230
  - Additional Exercises 230
  
- Chapter 8** Deductive Arguments I: Categorical Logic 253
  - Categorical Claims 255
    - Venn Diagrams 256
    - Translation into Standard Form 257
  - **On Language** The Most Versatile Word in English 259
  - **In Depth** More on Individual Claims 260
    - The Square of Opposition 262
  - Three Categorical Operations 264
    - Conversion 264
    - Obversion 265
    - Contraposition 265
  - **In Depth** Venn Diagrams for the Three Operations 266

Categorical Syllogisms 271

- **Real Life** Some Do; Therefore, Some Don't 272
  - The Venn Diagram Method of Testing for Validity 273
  - Categorical Syllogisms with Unstated Premises 276
  - Real-Life Syllogisms 277
- **Real Life** The World's Most Common Syllogism 278
- **Real Life** The World's Second Most Common Syllogism 278
- **Real Life** Brodie! 281
- **In Depth** Additional Common Invalid Argument Forms 281
  - The Rules Method of Testing for Validity 281
- **Real Life** A Guide to Dweebs, Dorks, Geeks, and Nerds 283
  - Recap 283
  - Additional Exercises 284

## Chapter 9 Deductive Arguments II: Truth-Functional Logic 295

- Truth Tables and the Truth-Functional Symbols 296
  - Claim Variables 296
  - Truth Tables 296
- **In Depth** Test Yourself 301
  - Symbolizing Compound Claims 302
- **In Depth** Truth-Functional Logic and Electrical Circuits 303
  - "If" and "Only If" 304
- **Real Life** Truth-Functional Trickery 305
- **Real Life** Damned If You Do, Damned If You Don't . . . 306
  - Necessary and Sufficient Conditions 307
- **On Language** Another "If" and "Only If" Confusion 308
  - "Unless" 308
  - "Either . . . Or" 309
- Truth-Functional Argument Patterns (Brief Version) 311
  - Three Common Valid Argument Patterns 311
  - Three Mistakes: Invalid Argument Forms 314
- Truth-Functional Arguments 317
  - The Truth-Table Method 317
- **Real Life** An AI Gore Chain Argument 320
  - The Short Truth-Table Method 321

Deductions 325

Group I Rules: Elementary Valid Argument Patterns 325

■ **Real Life** If the Dollar Falls . . . 327

■ **Real Life** Logician at Work 328

Group II Rules: Truth-Functional Equivalences 330

Conditional Proof 337

Recap 340

Additional Exercises 341

## Chapter 10 Thinking Critically About Inductive Reasoning 349

■ **In Depth** Everyday Statistical Syllogisms 350

Reasoning from the General to the Specific (Statistical Syllogisms) 351

Reasoning from the Specific to the General (Inductive Generalizing from a Sample) 352

Everyday Inductive Generalizing from a Sample 354

Reasoning from the Specific to the Specific: Inductive Arguments from Analogy 363

The Way Inductive Arguments from Analogy Work 363

Other Uses of Analogies 366

■ **Real Life** Bears! 367

■ **Real Life** Whom Do You Trust? 368

Reasoning from General to General 373

Informal Error-Margin and Confidence-Level Indicators 375

Fallacies in Inductive Reasoning, and Related Problems 376

Hasty Generalization 376

Anecdotal Evidence 377

Biased Generalization 377

The Self-Selection Fallacy 378

■ **Real Life** The Great Slip-Up of 1948 378

Slanted Questions 379

Weak Analogy 379

■ **On Language** Ask Us No (Loaded) Questions; We'll Tell You No Lies 380

Vague Generalities 381

Recap 382

Additional Exercises 383

**Chapter 11 Causal Explanation 389**

## Two Kinds of Explanations 390

Physical Causal Explanations 390

Behavioral Causal Explanations 391

**Real Life Behavioral Causal Explanations 392**

## Explanatory Adequacy: A Relative Concept 393

The Importance of Testability 393

Nontestable Explanations 393

**In the Media Scientists: Warming Could Kill Two-Thirds of World's Polar Bears 395**

Circular Explanations 395

Unnecessary Complexity 396

## Forming Hypotheses 402

The Method of Difference 402

**In Depth Global Warming and Hypothesis Forming 403**

The Method of Agreement 403

Causal Mechanisms and Background Knowledge 405

**In the Media Working at Night to Be Listed as "Probable" Cause of Cancer 405**

The Best Diagnosis Method 406

**On Language The Wrong Initials Can Shorten Your Life 407**

## General Causal Claims 412

## Confirming Causal Hypotheses 412

Controlled Cause-to-Effect Experiments 413

**In the Media Here's to Wine and Cheese 414**

Alternative Methods of Testing Causal Hypotheses in Human Populations 415

## Mistakes in Causal Reasoning 423

Confusing Conditional Probabilities in Medical Tests 425

Overlooking Statistical Regression 425

**In the Media Decoding Your Handwriting Style 427****Real Life See What Happens When You Watch the Tube? 428**

Proof by Absence of Disproof 428

Appeal to Anecdote 429

Confusing Explanations with Excuses 429

## Causation in the Law 429

**On Language The Great 9/11 Mystery 430**

■	<b>On Language</b>	AC and IBE	431
	Recap		432
	Additional Exercises		432
■	<b>Real Life</b>	Are Women Less Competitive?	438
	<b>Chapter 12</b>	<b>Moral, Legal, and Aesthetic Reasoning</b>	<b>439</b>
	Value Judgments		440
	Moral Versus Nonmoral		441
	Two Principles of Moral Reasoning		441
	Moral Principles		443
■	<b>In Depth</b>	<b>Deducing the Right Thing to Do</b>	<b>443</b>
	Deriving Specific Moral Value Judgments		444
	Major Perspectives In Moral Reasoning		446
	Consequentialism		446
■	<b>In Depth</b>	<b>Acts and Rules</b>	<b>448</b>
	Duty Theory/Deontology		448
■	<b>Real Life</b>	<b>Inmate Who Got New Heart While Still in Prison Dies</b>	<b>450</b>
	Moral Relativism		451
	Religious Relativism		451
	Religious Absolutism		452
	Virtue Ethics		452
	Moral Deliberation		455
■	<b>In Depth</b>	<b>Why Moral Problems Seem Unresolvable</b>	<b>455</b>
	Legal Reasoning		460
	Justifying Laws: Four Perspectives		461
	Aesthetic Reasoning		463
	Eight Aesthetic Principles		463
	Using Aesthetic Principles to Judge Aesthetic Value		466
	Evaluating Aesthetic Criticism: Relevance and Truth		468
	Why Reason Aesthetically?		470
	Recap		471
	Additional Exercises		473
	<b>Appendix</b>	<b>Nineteen Topics for Analysis</b>	<b>476</b>
	Selection 1: Three Strikes and the Whole Enchilada		476
	Selection 2:		477
	Selection 3: Controlling Irrational Fears After 9/11		477



---

Selection 4: Excerpts from Federal Court Ruling on the Pledge of Allegiance	479
Selection 5: The Threat from Same-Sex Marriage	480
Selection 6: Death Penalty Has No Place in U.S.	482
Selection 7: Please, No More Gambling!	483
Selection 8: Hetero by Choice?	484
Selection 9: Bonnie and Clyde	485
Selection 10: Disinformation on Judges	486
Selection 11A: Equal Treatment Is Real Issue—Not Marriage	487
Selection 11B: Gay Marriage “Unnatural”	488
Selection 12: Liberals Love America Like O.J. Loved Nicole	489
Selection 13: Is God Part of Integrity?	490
Selection 14A and 14B: Question: Do College and University Administration Have the Right to Establish Standards for Faculty Dress and Grooming?	491
Selection 15A: Make Fast Food Smoke-Free	492
Selection 15B: Don’t Overreact to Smoke	493
Selection 16A: Buying Notes Makes Sense at Lost-in-Crowd Campuses	494
Selection 16B: Buying or Selling Notes Is Wrong	495
Selection 17A: Next, Comprehensive Reform of Gun Laws	496
Selection 17B: Gun Laws Are No Answer	496
Selection 18: Letters from the National Rifle Association	497
Selection 19A: How Can School Prayer Possibly Hurt? Here’s How	499
Selection 19B: We Need More Prayer	500
<i>Glossary</i>	501
<i>Answers, Suggestions, and Tips for Triangle Exercises</i>	509
<i>Credits</i>	535
<i>Index</i>	537

# List of Boxes

## In Depth

- Critical Thinking, the Long Version 3
- Thinking About Thinking 6
- Rational Choice? 19
- Conclusion Indicators 39
- Premise Indicators 40
- Composition and the First Cause Argument 77
- More Examples of the Composition and Division Fallacies 78
- Are We Innately Selfish? 86
- Incredible but True 111
- Visual Hyperbole, Ridicule, or Just Beefcake? 163
- Don't Get Carried Away! 169
- The "True For . . ." Cop-Out 194
- Ad Hominem 212
- Innocent Until Proved Guilty 226
- More on Individual Claims 260
- Venn Diagrams for the Three Operations 266
- Additional Common Invalid Argument Forms 281
- Test Yourself 301
- Truth-Functional Logic and Electrical Circuits 303
- Everyday Statistical Syllogisms 350
- Global Warming and Hypothesis Forming 403
- Deducing the Right Thing to Do 443
- Acts and Rules 448
- Why Moral Problems Seem Unresolvable 455

## In the Media

- Is an Ad Photo an Argument? 45
- Say What?? . . . 71
- A Subtle Ambiguity 74
- Guaranteeing an Interested Party, or the Fox Audits the Henhouse 107
- Incredible Claims! 108
- Jumping to Conclusions in the News 124
- Saving Private Lynch 125
- Evaluating Website Credibility: A Tip from the Professionals 128
- Webcheckers 130
- Innuendo with Statistics 149
- We Get Dumber in Company of Blondes 153
- A Misleading Mathematical Visual 161
- Now You See Him—Now You Don't 167
- The Daschle Salute 168
- Wishful Thinking 187
- A Red Herring in a Letter to *Time* 195
- Sieg Heil? . . . or Shut Up? 217
- Straw Man in the Elder Competition 218
- A Double Slippery Slope 224
- So Much for Presumed Innocence . . . 227
- Scientists: Warming Could Kill Two-Thirds of World's Polar Bears 395
- Working at Night to Be Listed as "Probable" Cause of Cancer 405
- Here's to Wine and Cheese 414
- Decoding Your Handwriting Style 427

## On Language

- Stupid Liberal! 55
- Making Ambiguity Work for You 79
- And While We're on the Subject of Writing 90
- WAY Too Good To Be True! 134
- Legislative Misnomers 158
- Begging . . . or Begging *For*? 229
- The Most Versatile Word in English 259
- Another "If" and "Only If" Confusion 308
- Ask Us No (Loaded) Questions; We'll Tell You No Lies 380
- The Wrong Initials Can Shorten Your Life 407
- The Great 9/11 Mystery 430
- AC and IBE 431

## Real Life

- Abe Lincoln Knew His Logic 41
- Vagueness at the Border 72
- The Nigerian Advance Fee 4-1-9 Fraud: The Internet's Longest-Running Scam Is Still Running Strong 105
- When Personal Observation Fails . . . 109
- Do Your Ears Stick Straight Out? 112
- Fib Wizards 113
- Not All That Glitters 115
- Whom Do You Trust? 116
- War-Making Policies and Interested Parties 118
- Smoking and Not Paying Attention Can Be Deadly 120
- When Is an Ad Not an Ad? When It's a Product Placement! 133

- The Death Tax 148
- Cause for Alarm? 162
- Prudential Grounds Versus Rational Grounds 188
- Knee Operation Judged Useless 190
- Patriotic Passion 191
- Is It Still a Lie If Everybody Does It? 197
- Which Is It Going to Be, Springfield? 220
- \$8 Billion Down the Tube! 223
- Getting Really Worked Up over Ideas 228
- Some Do; Therefore, Some Don't 272
- The World's Most Common Syllogism 278
- The World's Second Most Common Syllogism 278
- Brodie! 281
- A Guide to Dweebs, Dorks, Geeks, and Nerds 283
- Truth-Functional Trickery 305
- Damned If You Do, Damned If You Don't . . . 306
- An AI Gore Chain Argument 320
- If the Dollar Falls . . . 327
- Logician at Work 328
- Bears! 367
- Whom Do You Trust? 368
- The Great Slip-Up of 1948 378
- Behavioral Causal Explanations 392
- See What Happens When You Watch the Tube? 428
- Are Women Less Competitive? 438
- Inmate Who Got New Heart While Still in Prison Dies 450

# Moore & Parker's *Critical Thinking*

## More Engaging . . . More Relevant . . . More Student Success

Imagine a class where students are actively and personally engaged in thinking critically while also discovering how to apply those thinking skills in everyday life. Now imagine those same students confidently participating in class, working efficiently through the exercises outside class, and performing better in the course.

With *Connect Critical Thinking*, students can achieve this success. *Connect Critical Thinking* is a first: a learning program that integrates adaptive diagnostic instruction with pedagogical tools that are anchored in research on critical thinking.

Along with Moore & Parker's **engaging writing style** and the wealth of topical exercises and examples that are **relevant to students' lives**, *Connect Critical Thinking* helps ensure that students can come to class confident and prepared. What other course provides students with skills they can apply so broadly to **success in school and success in life**?

## More Engaging

Moore & Parker are known for their fresh and lively writing style. They rely on their own classroom experience and on feedback from instructors in getting the correct balance between explication and example.

- Examples and exercises are drawn from today's headlines.
- Students learn to apply critical thinking skills to situations in a wide variety of areas: advertising, politics, the media, popular culture.

*I love the sense of humor of the authors, the very clear and elegant way they make critical thinking come alive with visuals, exercises and stories.*

—Gary John, Richland College

*[Before reading this chapter] most students don't realize the extent of product placement and other similar attempts at subtle manipulation.*

—Christian Blum, Bryant & Stratton, Buffalo

392

CHAPTER 11: CAUSAL EXPLANATION

### Real Life

#### Behavioral Causal Explanations



Associated Press file, 2003

North Korea's march toward acquiring nuclear weapons could instigate an arms race in the Asia-Pacific region. Japan and South Korea have the capability to enter the nuclear-weapons club but have not done so because they have had confidence in the U.S. nuclear umbrella.

This photo's caption is a behavioral causal explanation, explained in this chapter.

reference not to the past but to the future. Why did Peter leave class early? He wanted to get home in time to watch *American Idol*. Why did the union vote not to approve the contract? The contract contained provisions that members thought diminished benefits. Why is the governor asking the legislature to approve a state lottery? Because she thinks it will decrease the need for new taxes. Explanations in terms of reasons and motives are forward looking, not backward looking.

One mistake is peculiar to this type of explanation—namely, failing to see the difference between a *reason* for doing something and a *particular person's reason* for doing it. Let's take a simple example: There might be a reason for aiding homeless people, but that reason might not be any particular person's reason for helping them. We have to be clear about whether we are requesting (or giving) reasons for doing something, or whether we are requesting (or giving) some individual person's reasons for doing it. When we give a reason for doing something, we are presenting an *argument* for doing it. When we cite an individual person's reason for doing it, we are *explaining* why she or he did it.

## More Relevant

Moore & Parker spark student interest in skills that will serve them throughout their lives, making the study of critical thinking a meaningful endeavor.

- *Real Life* boxes show students how critical thinking skills are relevant to their day-to-day lives.
- Striking visuals in every chapter show students how images affect our judgment and shape our thinking.

*I particularly like the "real world" boxes and the "media" boxes, which will help students connect critical thinking to their everyday lives.*

—Michelle Darnell, Fayetteville State University

*The variety [in the exercises] was outstanding. [They] will provide ample opportunity for the students to put into practice the various logical principles being discussed.*

—Ray Darr, Southern Illinois University

### Real Life

#### Which Is It Going to Be, Springfield?



This or THIS!

This was the message on a flyer urging a "no" vote on a proposed zoning law change in a western city. Since the photos depict only two (fairly extreme) alternatives, and given that there are surely many other reasonable ones, the flyer presents an excellent example of a false dilemma.

winter. You also know that the only heating options available in their location are gas and electricity. Under these circumstances, if you find out that they do not have electric heat, it must indeed be true that they must use gas heat because that's the only alternative remaining. False dilemma occurs only when reasonable alternatives are ignored. In such cases, both X and Y may be false, and some other alternative may be true.

Therefore, before you accept X because some alternative, Y, is false, make certain that X and Y cannot both be false. Look especially for some third alternative, some way of rejecting Y without having to accept X. Example:

MOORE: Look, Parker, you've been worrying about whether you could afford that bigger house on the corner for ~~so long~~ so long. You need to grit your teeth and get used to staying where you are without the extra space.

Moore's alternatives (buying the house on the use of some obvious but unmentioned alter-

er house to buy, bigger than his present one the corner, or he might remodel his current

house than buying the corner house.

Moore would point out that there is more than one

alternative. Aside from the obvious "either X or

Y," we can use the form "if not X, then Y."

### In the Media

#### The Daschle Salute



This looks like a big-time "Oops!" moment for Tom Daschle, former majority leader in the U.S. Senate. In fact, as explained in the text, it is a clever attempt to influence opinion against Daschle through photo manipulation.

The photos in the box "Now You See Him—Now You Don't" on the previous page are from Hong Kong's newspaper, *The Standard*, from September 2, 2004. The original photo [lower right] showed China's then paramount leader Deng Xiaoping (in the gray jacket on the right) shaking hands with Hu Jintao (wearing the tie), who has been China's president since 2003. The person standing between them in the original photo is former President Jiang Zemin. We don't know what might have become of Jiang's reputation (he continued in high office for some years after the photo was made), but his image suffered a disappearing act.

In the next box, "The Daschle Salute," it looks as though Tom Daschle (the majority leader in the Senate at the time) doesn't know how to salute the flag or doesn't know his right hand from his left. In reality, he did it correctly, but someone reversed his image, flipping it right-to-left so that he appeared to be saluting with his left hand rather than his right. There are two clues to the doctoring that went on in this photo. It would take not just a critical thinker but a sharp eye to spot them. The first is that Daschle is married and wears a wedding ring. If this were really his left hand, one would see his ring. The second clue is more convincing. It's that his coat is buttoned backwards: Men's clothing always has buttons on the right side of the garment, so it's the left side that closes over the right. In the photo, the right side of Daschle's jacket closes over the left, indicating that it isn't just his hand that is on the wrong side, his clothing would have to be reversed, too!

Critical Thinking  
MWF 8-10 am Section 2  
Sarahb Sarab

connect

home library reports

### assignment results

Use the options below to view assignment scores.

report type: Assignment Results

show report options & settings

assignment results: MWF 8-10 am Section 2 (Hill, Sarahb)

report created: 11/15/2010 1:18 PM PST  
report date range: 11/01/2010 - 11/15/2010  
attempt: Best score style: Points  
assignment type: Homework, Practice, Quiz, Exam

Select the checkboxes on columns you want to export or print. Learn how to export these results into Blackboard or WebCT.

highlight ranges: 0-59% 60-79% 80-100% all ranges no ranges export to excel print

Student	CH01 Pretest	Video and questions	CH01 Posttest	Practice quiz 1	Total
Total Value (Points)	100	20	100	50	270
Akanez, Tom	100	10	80	50	240
Rovk, Sabina	80	10	80	50	197

\* submitted past due date \* exception \* requires manual grading

© 2010 The McGraw-Hill Companies. All rights reserved. Trademarking Terms of Use Privacy Notice

## More Student Success

Moore & Parker provide a path to student success, making students active participants in their own learning while teaching skills they can apply in all their courses.

- Learning objectives link to chapter sections and in turn to print and online activities, so that students can immediately assess their mastery of the learning objective.
- Exercises are now dispersed throughout the chapters rather than grouped at the end, so that they link more tightly with the concepts as they are presented.
- Instructors can assess students' command of the material—online and at any time—so that they don't have to wait for a midterm to assess their own progress.
- Students can use the adaptive diagnostic program throughout the course to identify gaps in their understanding, and as a result can go into any test confident in their mastery of critical thinking skills.
- Students have access to over 2,000 exercises that provide practice in applying their skills.

*Hands-on, practical, and one might say, even "patient" with the students' learning as it emphatically repeats concepts and slowly progresses them step by step through the process.*

—Patricia Baldwin, Pitt Community College

*There are a lot of exercises, which provides nice flexibility. The . . . mix of relatively easy and more challenging pieces . . . is useful in providing some flexibility for working in class.*

—Dennis Weiss, York College of Pennsylvania

is too ugly to eat" translates into the I-claim "Some examples of boiled okra are things that are too ugly to eat."

As we noted, it's not possible to give rules or hints about every kind of problem you might run into when translating claims into standard-form categorical versions. Only practice and discussion can bring you to the point where you can handle this part of the material with confidence. The best thing to do now is to turn to some exercises.

Translate each of the following into a standard-form claim. Make sure that each answer follows the exact form of an A-, E-, I-, or O-claim and that each term you use is a noun or noun phrase that refers to a class of things. Remember that you're trying to produce a claim that's equivalent to the one given; it doesn't matter whether the given claim is actually true.

Exercise 8-1

- Every salamander is a lizard.
- Not every lizard is a salamander.
- Only reptiles can be lizards.
- Snakes are the only members of the suborder Ophidia.
- The only members of the suborder Ophidia are snakes.
- None of the burrowing snakes are poisonous.
- Anything that's an alligator is a reptile.
- Anything that qualifies as a frog qualifies as an amphibian.
- There are frogs wherever there are snakes.
- Wherever there are snakes, there are frogs.
- Whenever the frog population decreases, the snake population decreases.
- Nobody arrived except the cheerleaders.
- Except for vice presidents, nobody got raises.
- Unless people arrived early, they couldn't get seats.
- Most home movies are as boring as dirt.
- Socrates is a Greek.
- The bank robber is not Jane's fiancé.
- If an automobile was built before 1950, it's an antique.
- Salt is a meat preservative.
- Most corn does not make good popcorn.

Follow the instructions given in the preceding exercise.

Exercise 8-2

- Students who wrote poor exams didn't get admitted to the program.
- None of my students are failing.
- If you live in the dorms, you can't own a car.
- There are a few right-handed first basemen.
- People make faces every time Joan sings.

## Teaching with Moore & Parker's *Critical Thinking*

The complete content of Moore & Parker's *Critical Thinking* is available to instructors and students in traditional print format as well as online with integrated and time-saving tools.

**McGraw-Hill's *Connect***, a new web-based assignment and assessment platform, connects students with their coursework and with their instructors. With *Connect Critical Thinking*, students no longer just read a textbook: they interact online with engaging activities and exercises. The result is a hands-on experience that deepens critical thinking skills.

**Blackboard and McGraw-Hill Higher Education** have teamed up! Now, all McGraw-Hill content (text, tools, and homework) can be accessed directly from within your Blackboard course—all with a single sign-on. Connect assignments within Blackboard automatically (and instantly) feed grades directly to your Blackboard grade center. No more keeping track of two grade books! Even if your institution is not currently using Blackboard, McGraw-Hill has a solution for you. Ask your sales representative for details.

**Tegrity Campus** is a service that makes class time available all the time by capturing audio and computer screen shots from your lectures in a searchable format for students to review when they study and complete assignments. With classroom resources available all the time, students can study more efficiently and learn more successfully.

**CourseSmart**, the largest provider of eTextbooks, offers students the option of receiving *Critical Thinking* as an eBook. At CourseSmart your students can take advantage of significant savings off the cost of a print textbook, reduce their impact on the environment, and gain access to powerful web tools for learning. CourseSmart eTextbooks can be viewed online or downloaded to a computer. Visit [www.CourseSmart.com](http://www.CourseSmart.com) to learn more.

**McGraw-Hill Create** allows you to create a customized print book or eBook tailored to your course and syllabus. You can search through thousands of McGraw-Hill texts, rearrange chapters, combine material from other content sources, and include your own content or teaching notes. Create even allows you to personalize your book's appearance by selecting the cover and adding your name, school, and course information. To register and to get more information, go to <http://create.mcgraw-hill.com>.



# Preface

## CHANGES TO 10TH EDITION

### Broad changes

- Learning objectives have been articulated and stated up front in each chapter.
- The text has been fully integrated with Connect, an online learning program that integrates adaptive diagnostic instruction with pedagogical tools anchored in research on critical thinking.
- Exercises have been interspersed within chapters, following each major section, so that students can more directly monitor their learning.
- Exercises have been updated to reflect current events and issues, and new exercise sets have been added to provide more practice for students.
- Examples of argument diagrams have been added to most chapters.

### Chapter-specific changes

- Chapter 1, *What Is Critical Thinking, Anyway?*, has been completely rewritten in order to present a more direct, more clearly organized introduction. In addition, the chapter now includes new sections on important cognitive biases, fact and opinion, why one should bother to think critically, and what critical thinking can and cannot do.
- Chapter 2, *Two Kinds of Reasoning*, has new sections on pathos, ethos, and logos; what are NOT premises; balance-of-considerations arguments; and inference-to-best-explanation.
- Chapter 4, *Credibility*, has been reorganized to more accurately and logically present the topic.
- Chapter 5, *Persuasion Through Rhetoric*, has been reorganized to more logically group the multiple types of rhetorical devices.
- Chapter 9, *Deductive Arguments II: Truth-Functional Logic*, has a completely new section that provides a basic, introductory account of deductive arguments. Rather than proceed into the complications of deductions, this section deals at greater length with basic deductive argument forms—the sort of thing that was outlined previously on the inside back cover of the book.
- Chapter 10, *Thinking Critically About Inductive Reasoning*, has been completely rewritten for better coverage. In its new incarnation, the chapter includes sections on vague and glowing generalities, reasoning from general to general, the self-selection fallacy, and the principle of total evidence. In addition, the chapter has improved discussions of argument from analogy, scientific generalizing from samples, and everyday generalizing from samples. Illustrative evaluations of inductive reasoning have been added as well.



---

sample content of Critical Thinking

- [download online Hostile Shores: An Alan Lewrie Naval Adventure \(Alan Lawrie, Book 19\)](#)
- [read America's Dreyfus: The Case Nixon Rigged](#)
- [click \*\*Captain Underpants And The Wrath Of The Wicked Wedgie Women \(Captain Underpants, Book 5\) pdf, azw \(kindle\)\*\*](#)
- [click GMAT: Integrated Reasoning and Essay \(5th Edition\) \(Manhattan GMAT Strategy Guides, Guide 9\)](#)
- [read Top 10 Paris \(DK Eyewitness Top 10 Travel Guides\) pdf, azw \(kindle\)](#)
- [download \*\*Eating Wildly: Foraging for Life, Love and the Perfect Meal\*\*](#)
  
- <http://patrickvincitore.com/?ebooks/Shade-It-Black--Death-and-After-in-Iraq.pdf>
- <http://damianfoster.com/books/I-Survived-Hurricane-Katrina--2005--I-Survived--Book-3-.pdf>
- <http://www.netc-bd.com/ebooks/Captain-Underpants-And-The-Wrath-Of-The-Wicked-Wedgie-Women--Captain-Underpants--Book-5-.pdf>
- <http://jaythebody.com/freebooks/The-Cyclist-s-Training-Manual--Fitness-and-Skills-for-Every-Rider.pdf>
- <http://bestarthritiscare.com/library/The-Reconnection--Heal-Others--Heal-Yourself.pdf>
- <http://transtrade.cz/?ebooks/The-Charioteer.pdf>