Richard L. Epstein

Critical Thinking

ILLUSTRATED BY ALEX RAFFI

Critical Thinking

Richard L. Epstein

Cartoons by Alex Raffi

Wadsworth Publishing Company
I(T)P® An International Thomson Publishing Company

Belmont, CA • Albany, NY • Bonn • Boston • Cincinnati • Detroit • Johannesburg • London
Madrid • Melbourne • Mexico City • New York • Paris • Singapore • Tokyo • Toronto • Washington

Philosophy Editor: *Peter Adams*
Editorial Assistant: *Kelly Bush*
Development Editor: *Alan Venable*
Marketing Manager: *David Garrison*
Cover Design: *Stephen Rapley*
Permissions Editor: *Robert Kauser*
Assistant Editor: *Kerri Abdinoor*

Printed in the United States of America
1 2 3 4 5 6 7 8 9 10

For more information, contact Wadsworth Publishing Company,
10 Davis Drive, Belmont, CA 94002, or electronically at
http://www.thomson.com/wadsworth.html

International Thomson Publishing Europe
Berkshire House 168–173
High Holborn
London, WC1V 7AA, England

International Thomson Editores
Campos Eliseos 385, Piso 7
Col. Polanco
11560 México DF México

Thomas Nelson Australia
102 Dodds Street
South Melbourne 3205
Victoria, Australia

International Thomson Publishing Asia
60 Albert St.
50–01 Albert Complex
Singapore 189969

Nelson Canada
1120 Birchmount Road
Scarborough, Ontario
Canada M1K 5G4

International Thomson Publishing Japan
Hirakawacho Kyowa Building, 3F
2–2–1–Hirakawacho
Chiyoda-ku, Tokyo 102, Japan

International Thomson Publishing GmbH
Königswinterer Strasse 418
53227 Bonn, Germany

International Thomson Publishing Southern Africa
Building 18, Constantia Park
240 Old Pretoria Road
Halfway House, 1685 South Africa

Library of Congress Cataloging–in–Publication Data

Epstein, Richard L. , 1947–
Critical thinking / by Richard L. Epstein ; cartoons by Alex Raffi .
p. cm.
Includes index.
ISBN 0–534–55839–9
1. Critical thinking. I. Title.
BF441.E67 1998 98–22234
160—dc21

Preface to the Student

You can read this book on your own. There are plenty of examples. The exercises illustrate the ideas you're supposed to master. With some effort you can get a lot out of this text.

But if you only read this book by yourself, you'll miss the discussion, the exchanges in class that make the ideas come alive. Many of the exercises are designed for discussion. That's where your understanding will crystallize, and you'll find that you can begin to use the ideas and methods of critical thinking.

You'll get the most out of discussions if you've worked through the material first. You need to know how to read this (or any) textbook.

Read the chapter through once, with a pencil in hand. Get an overview. Mark the passages that are unclear. You need to understand what is said—not all the deep implications of the ideas, not all the subtleties, but the basic definitions. You should have a dictionary on your desk.

Once the words make sense and you see the general picture, you need to go back through the chapter paragraph by paragraph, either clarifying each part or marking it so you can ask questions in class. Then you're ready to try the exercises.

You should try all the exercises. Many of them will be easy applications of the material you've read. Others will require more thought. And some you won't make sense of until you talk about them with your classmates and instructor. When you get stuck, look up the answer in the back.

By the time you get to class, you should be on the verge of mastering the material. Some discussion, some more examples, a few exercises explained, and you've got it.

That pencil in your hand is crucial. Reading shouldn't be a passive activity.

You need to master this material. It's essential if you want to write well. It's essential in making good decisions in your life. If you can think critically you can advance in your work. No matter where you start in your career—flipping hamburgers or behind a desk—when you show your employer that you are not only responsible but can think well, can foresee consequences of what you and others do and say, you will go far. As much as the knowledge of this or that discipline, the ability to reason and communicate will speed you on your way. Those skills are what we hope to teach you here.

Preface to the Instructor

This textbook is designed to be the basis of classroom discussions. I've tried to write it so that lectures won't be necessary. I've minimized the jargon while retaining the ideas. The material is more challenging than in other texts, while, I hope, more accessible.

The exercises are meant to lead to discussion, encouraging the students to compare ideas. Class time can be used to discuss homework. Instead of spending masses of time grading all the exercises, there are Quickie Exams in the Instructor's Manual that you can assign.

The chapters build on one another to the end. Rely on your students to read the material—quiz them orally in class, call on them for answers to the exercises, clear up their confusions. You can do the whole book in one semester that way.

I've chosen the material that I think is essential for a one-semester course, the fundamentals of reasoning well. I comment below on how you might rearrange the order a bit and why I've left out some subjects that are occasionally covered in a critical thinking course.

This course should be easy and fun to teach. If you enjoy it, your students will, too.

The order of the material

The Fundamentals (Chapters 1–5) is all one piece. I suggest you go through it in a direct line. It's the heart of the course. Here and throughout there is a lot of emphasis on learning the definitions.

The Structure of Arguments (Chapters 6–8) is important. Chapter 6 on compound claims—an informal version of propositional logic—is probably the hardest for most students. There's a temptation to skip it and leave that material for a formal logic course. Yet some skills in reasoning with conditionals is essential, for if you skip this chapter you'll end up having to explain the valid and invalid forms piecemeal when you deal with longer arguments. It's the same for Chapter 8 on general claims—an informal introduction to quantifiers in reasoning—except that the material seems easier. The second half of Chapter 7 can be skipped.

Avoiding Bad Arguments (Chapters 9–11) is a lot of fun. Slanters and fallacies give the students motive to look around and find examples from their own lives and from what they read and hear. It engages them. Because of that, many instructors like to put this material earlier. But then you end up teaching a hodge-

podge of fallacies that won't connect and won't be retained. I've introduced the fallacies along with the good arguments they mock (e.g., slippery slope with reasoning in a chain with conditionals, *ad hominem* with a discussion of when it's appropriate to accept an unsupported claim), so that Chapter 11 is a summary and overview. You can push Chapters 9 and 10 forward to right after Chapter 5, but that leaves Chapter 11 hanging alone later. Covering this material here helps students unify the earlier material and gives them some breathing room. With the exercises in Arguments for Analysis, you can conclude a one-quarter course.

The last part, *Reasoning About Our Experience* (Chapters 12–15), covers specific kinds of arguments. Chapter 13 on numerical claims could follow directly after Chapter 5. I don't include chapters on moral reasoning, legal reasoning (there are examples of legal reasoning in the chapters and in the Instructor's Manual), or explanations. These are important subjects, and I deal with them in a second course on critical thinking. But students need to know about analogies, generalizing, and cause and effect before they tackle them. And they require introducing a lot of background: philosophical distinctions for moral reasoning, law for legal reasoning, science for explanations.

It is possible to teach students how to write good arguments. I've included two types of writing exercises. The first requires the student to write an argument for or against a given issue, where the issue and the method of argument are tied to the material that has just been presented. About midway through the book you can have your students read Composing Good Arguments, which summarizes the lessons they should learn. The writing exercises take some time to grade, but, as I discuss in the Instructor's Manual, there are shortcuts.

The second type of writing lesson presents a situation or a series of actions in a cartoon, and requires the student to write the best argument possible for a claim based on that. These lessons seem to do more to teach students reasoning than any other exercise I've used. Students have to distinguish between observation and deduction; they have to judge whether a good argument is possible; they have to judge whether the claim is objective or subjective; they have to judge whether a strong argument or a valid argument is called for. These deserve class time for discussion.

What is new or unusual about this text

• The big difference is that I have tried to tie all the material into a single whole, a one-semester course covering the basics. The text is meant to be read and studied from one end to the other. The ideas fit together and make sense as one piece.

An example of this unity is how the principle of charity is revised into the Principle of Rational Discussion and the Guide to Repairing Arguments (Chapter 4). These play a central role in any argument analysis. They are explained and justified. They are used continuously to give shape to the analyses. They serve to organize the fallacies (Chapter 11), so that fallacies are not just a confusing list.

• There is an enormous variety and number of examples and exercises. The exercises relate to the material, and start from simply stating a definition, to relating the various ideas, to applying the concepts. There is repetition of exercises to promote mastery of the most important ideas. There are worked examples, both in the text and in the exercises, which help the students see how to proceed in their own work.

The exercises and examples are about topics students worry about all the time (their studies and grades, their love lives, their digestion, the superiority of dogs to cats, . . .). The examples from newspapers and media are focused on the material and on what will interest students. Philosophical issues are raised, but in the context of dialogues that students can imagine hearing their friends say. The text relates theory to the needs of the students to reason in their own lives.

• There is a Workbook which lays out exercises in a format that forces students to do the basic steps in argument analysis for every argument they encounter. It also makes grading a lot easier. There are many cartoon exercises in the Workbook not found in the text, including a dozen cartoon writing lessons at the end.

• Cartoons for this book have been drawn specifically to reinforce the ideas, to show relationships of ideas, and, with the writing exercises, to get students to convert nonverbal experience into arguments. The cartoons, especially the cartoon writing lessons, help students grasp the ideas much faster.

• The book has an Instructor's Manual that is extraordinarily complete. Not only have I included answers and lots of sample exams, but also a running commentary on teaching methods and why the material is presented as it is. There is also an Instructor's Disk that contains all the sample exams ready to modify and print, as well as other handouts and answers to the exams.

• Definitions and key ideas are boxed. It's easy to find the important material.

• The text is fun to read, yet challenges the very best student.

I've tried to steer between the Scylla of saying nonsense
and the Charybdis of teaching only trivialities. I hope
you find the journey memorable. The water is deep.

Acknowledgments

I am grateful that so many people have been willing to give their time and ideas to help me improve this text. I am indebted to:

- Tom Bittner for a close reading of early versions of many chapters.
- Todd Jones for discussions.
- Walter Carnielli for discussions.
- Maurice Finocchiaro for discussions and the opportunity to teach this course.
- Benson Mates for discussions and correcting mistakes in an early version.
- Peter Eggenberger for discussions.
- Peter Hadreas for comments on an earlier version and many discussions.
- Stephen Epstein for a careful reading of an earlier version of the first five chapters.
- Mrs. Gertrude Epstein for her encouragement throughout.
- Vanessa Christopher for reading and checking the exercises in an earlier version.
- Neta Hoff for many discussions on the nature of the course and the organization of this material, and for reading and working through the entire text of an earlier version, not only as a proofreader but as a colleague.
- Fred Kroon, who helped a great deal by clearing up confusions in an earlier draft.
- Maria Sanders for checking the answers to the exercises.
- Ron Leonard, who did classroom testing, for a careful reading of an early version and many ideas on pedagogy.
- Jeanette Catsoulis for discussions and ideas on pedagogy from classroom testing.
- The following reviewers whose comments were crucial in clearing up confusions and shaping the text: David Adams, Phyllis Berger, Blanche Radford Curry, Betsy Decyk, Roger Ebertz, George Gale, Kevin Galvin, James W. Garson, Don Levi, Isabel Luengo, Brian J. Rosmaita, Darlene Macomber, and Kenneth Stern.
- Peter Adams for many good suggestions on how to organize and present the material, and for his help and encouragement throughout.
- Alex Raffi who contributed so much in collaboration on the cartoons.
- Alan Venable, whose careful and insightful editing improved the text enormously.
- And my students, who provided me with many examples, whose quizzical looks made me rewrite, and whose delight in the material motivated me to finish this book.

I am grateful to them all. Much of what is good in this text comes from them. What is bad is mine, all mine.

Excerpts on the following pages are reprinted by permission of the following persons or organizations.

p.10, *The Spectrum.* p.11, *The Spectrum.* p. 20, Heather Subran. p. 21, *USA TODAY.* p. 24, Associated Press. p. 31, *Las Vegas Review-Journal.* p. 33, Associated Press. p. 99, *Weekly World News.* p. 100, *The Spectrum.* p. 101, *The Catalyst.* p. 167, Scripps Howard News Service, United Media. p. 171, Scripps Howard News Service, United Media. p. 204, *The Spectrum.* p. 208, Associated Press. p. 209, *Las Vegas Review-Journal.* p. 209, *Weekly World News.* p. 210, *The Spectrum.* p. 211, *The Spectrum.* p. 233, Associated Press. p. 234, *The Spectrum.* p. 236, *Salt Lake Tribune.* p. 239, *Las Vegas Review-Journal.* p. 241, *The Spectrum.* p. 242, *The Spectrum.* p. 243, *Las Vegas Review-Journal.* p. 244, *Reuters.* p. 244, *Las Vegas Review-Journal.* p. 244–245, *The Spectrum.* p. 245, *Las Vegas Review-Journal.* p. 245–246, *The Spectrum.* p. 246–247, *The Spectrum.* p. 247–248, *The Spectrum.* p. 248–249, *Las Vegas Review-Journal.* p. 249–250, *Las Vegas Review-Journal.* p. 264, Associated Press. p. 265, ©1976 by Scientific American, Inc. All rights reserved. p. 265–266, *Weekly World News.* p. 266, *Albuquerque Journal.* p. 277, Hope Publications, Kalamazoo MI. p. 278, Associated Press. p. 297, Associated Press. p. 297–298, *Boston Globe.* p. 298–299, Associated Press. p. 321–322, Associated Press. p. 322, *Seattle Times.* p. 323, *USA TODAY.* p. 323–324, *Bicycling.* p. 324–325, *Las Vegas Review-Journal.* p. 325–326, Newsday, Inc., ©1966. p. 326–328, *Dollars and Sense.* 328–329, *USA TODAY.* p. 329–331, *The Las Vegas Sun.*

Critical Thinking

by Richard L. Epstein

Truth-Tables

1 Critical Thinking?

A. Are You Convinced?

Everyone's trying to convince you of something: You should go to bed early. You should drop out of college. You should buy a Dodge Ram truck. You should study critical thinking . . . . And you spend a lot of time trying to decide what you should be doing, that is, trying to convince yourself: Should I take out a loan? Is chocolate really bad for my complexion? Should I really date someone who owns a cat?

Are you tired of being conned? Of falling for every pitch? Of making bad decisions? Of fooling yourself? Or just being confused?

Thinking critically is a defense against a world of too much information and too many people trying to convince us. But it is more. Reasoning is what distinguishes us from beasts, for many of them can see better, hear better, and are stronger. But they cannot plan, they cannot think through, they cannot discuss in the hopes of understanding better.

I used to go to city council meetings in the small town where I live. The public was invited to participate, and when a heated discussion took place in which I was interested, I often contributed. I was able to clarify the issues, and when I said my piece the majority often agreed with me, because I could see the issues, I could present my ideas well. That, too, is thinking critically.

An older student was in the spring term of his senior year when he took this course. He was majoring in anthropology and planned to do graduate work in