

universities. However, given its conclusion and significant engagement with Christianity, it will likely be taught more often in Christian universities. Because of its accessibility, it could be appreciated by a wide audience of those interested in evidence for God or Christianity. Indeed, I would suggest that it is one of the best accessible books for making a case for Christianity. Finally, given its creativity and interdisciplinary engagement, I believe *Taking Pascal's Wager* is a must-read for anyone who teaches Pascal's wager.

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A Pocket Guide to Critical Thinking, 5th edition

Richard Epstein; illus. Alex Raffi

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The most recent edition of Richard Epstein's "Pocket Guide to Critical Thinking" gives a useful and enlightening overview of topics relevant to critical thinking and informal logic. The book provides a rigorous examination of much of the traditional subject matter of critical thinking courses, including informal fallacies, generalizations, analogical reasoning and reasoning about cause and effect. There are also excellent chapters on evaluating numerical claims and reading graphs and substantial material on reasoning in the sciences that is new to this edition. The focus throughout is on informal and non-deductive methods, with relatively little space devoted to deductive validity and no material on formal logic. The book is a "pocket guide" rather than a "textbook" in that it does not include practice exercises or pre-made homework assignments. However, it is more than appropriate for use as a textbook by instructors who prefer to use a relatively succinct text and are willing to generate their own homework assignments and exams. This review will focus on issues of relevance to its use both as a required text in a critical thinking course and as a resource for interested students to read independently.

In keeping with its description as a "pocket guide," the book can be used purely as a reference, with each chapter useful when read separately from the rest of the book. However, reading chapters out of order obscures one of its strongest features: the thoughtful way in which the subjects are ordered within the book. Each chapter builds on the concepts and definitions of the previous, leading the reader through a coherent overall explication of good argument.

The book is built around examples, with general exposition on types of reasoning kept to a minimum. Each chapter begins with a brief introduction of key concepts and definitions and then proceeds to present a series of examples to which those key concepts can be applied. The examples may

be arguments, experiments or explanations, depending on the concept under discussion. Some are taken from outside sources, but many are invented by the author. The examples are typically brief, with four or five included on a page, but in the later chapters dealing with scientific and causal explanations, examples tend to be longer, as dictated by the subject matter. This focus on examples and applications is entirely appropriate for a book intended as a first systematic inquiry into critical thinking. Detailed discussions of the structural features of good and bad arguments frequently leave students more confused than enlightened when not accompanied by illustrative examples. Perhaps even worse, such presentations can leave students with a false sense of confidence; having understood the schematic account of informal fallacies or deductive inference, some students seek to evaluate arguments purely by pattern recognition, even when it means ignoring their own commonsensical background knowledge. Epstein's book avoids this problem by providing examples that illustrate the conceptual points followed closely with examples that challenge the reader's grasp of those points. Evident care has been taken throughout the book to order examples so as to lead the reader through different aspects of the ideas focused on in the chapter.

Throughout the book, key terms are highlighted in bold-faced letters and definitions are set apart from the rest of the text in boxes. In order to get the most out of the book, one must take care to keep track of the meanings of these key terms as stipulated by Epstein. In many cases, the terminology introduced is completely standard and likely to agree in meaning with uses throughout the critical thinking literature. In some cases, however, Epstein stipulates meanings for terms in ways that might differ from other philosophical sources, and these differences sometimes reflect important aspects of Epstein's approach to critical thinking.

One example of this is his definition of "begging the question" as the property an argument has when "even one of its premises is not more plausible than its conclusion" (15). This definition is straightforward, easy to explain and consistent with much common use of the term (at least, with the increasingly uncommon uses of the term that don't take it to mean "raise the question"). However, it is somewhat different than the definitions students will find in many other texts, including, for example, Paul Herrick's *Think with Socrates*, Anthony Weston's *A Rulebook for Arguments* and Irving Copi and Carl Cohen's *Introduction to Logic*, all of which require that an argument be circular in order to count as begging the question. Since many arguments have a premise that is equally or less plausible than the conclusion without requiring one to assume the truth of the conclusion, Epstein's definition will diverge from these circularity definitions in at least some cases. However, there are clear reasons for Epstein to define "begging the question" as he does. Doing so puts the emphasis on an analysis of the plausibility of claims, and therefore fits discussion of begging the question neatly into the overall methodology set out in the book. In addition, Epstein's discussion of explanation in chapter 21

requires a distinction between begging the question and circular argument. In this chapter he defines “inferential explanation of E” as an explanation “that is meant to answer the question ‘Why is E true?’” (144). Among the requirements he gives for a good inferential explanation is that at least one member of the explanans must be less plausible than the explanandum (146). Therefore, any good inferential explanation is such that, when understood as an argument, it begs the question. The distinction Epstein draws between circularity and begging the question then becomes significant, in that he specifies that, while a good inferential explanation begs the question, it must not be circular, since “we can’t explain why a claim is true just by restating it in other words” (146).

Another interesting issue of terminology arises with regards to Epstein’s way of defining “argument” and “claim.” Epstein defends a relatively strict approach to determining what should count as an argument. In the opening chapter, he restricts the term “claim” to declarative sentences that have identifiable truth conditions and requires that the premises of any argument be claims in this sense. This means that attempts to persuade based on hopelessly vague assertions fail to count as arguments at all, because the assertions meant as premises don’t count as claims. In addition, he advises caution when it comes to inferring unspoken or unwritten claims as implicit premises. One of his examples concerns the claim, made by David Kelley in *The Art of Reasoning*, that Martin Luther King’s “I have a dream” speech is an argument. Epstein objects to this claim on the grounds that turning the speech into an argument requires adding premises that we have no reason to take King to have been asserting. He concludes his analysis by commenting that “not every good attempt to persuade is an argument” (37). Arguments, in Epstein’s view, are specifically attempts to persuade someone of the *truth* of a specific claim, and he counsels caution in supplementing an argument by assuming that unspoken premises are implicit in it.

Epstein’s restrictive definition of argument has much to commend it. One certainly wants to leave room for persuasive assertion that is non-argumentative, and without an appropriate degree of caution, adding premises to arguments in the name of charitable interpretation can lead one to become unmoored from the intentions of the person making the argument in the first place. On the other hand, inferring implicit premises is a crucial part of analyzing arguments, and insisting on an over-literal reading of an argument can lead to a failure to acknowledge the obvious intent of the arguer. Epstein acknowledges the need to occasionally supplement arguments with additional premises and includes a chapter on “repairing arguments” that provides a useful set of guidelines for how and when to do so. Much of the philosophical disagreement between Epstein and philosophers who take a more expansive view of when charitable interpretation requires the addition of premises can therefore be understood in terms of a distinction between *interpreting* an argument and *repairing* an argument. Those who think that Epstein is overly restrictive in his application of charitable interpretation are still likely to agree with his sensible advice about when premises might be added or deleted in order to “repair” the argument.

New to this edition are chapters on the scientific method, experiments, models and theories. A notable strength of these chapters is that they deal with substantive issues concerning scientific knowledge beyond what students are likely to have encountered prior to college. There is a tendency for presentations on critical thinking and the sciences to focus on relatively easy cases; debunking psychics, creation science, ESP, and so forth. This can have the unintended consequence of making the evaluation of scientific claims seem too easy and straightforward. Epstein avoids this pitfall by providing a more philosophically rich analysis of genuine scientific examples and the problems they raise.

The chapter on experiments provides a nuanced discussion of standards of evidence, explaining how different disciplines have different standards for what counts as a duplicable and replicable experiment. In the chapter on explanations, Epstein discusses the limits of inference to the best explanation in the sciences, arguing that identifying the most plausible current explanation for a phenomena is the beginning of rigorous enquiry, rather than the end. The chapter on models and theories focuses on the idea that the sciences aim for models that are appropriately *applicable* to given areas of investigation and provides a good discussion of the role that abstraction plays in scientific theories. All of this material requires a bit more philosophical sophistication than many other critical thinking texts ask for on the topic of science, but in doing so it provides the benefit of offering an account of science that can help equip students for the often difficult task of evaluating scientific findings as they are presented in the popular media.

Many of the examples in these newer sections cover historically important theories and experiments, including the Copernican model of the solar system, the kinetic theory of gases and the Michaelson-Morley experiment. Reading this book will likely be the first time many students will have encountered these theories, and Epstein provides excellent overviews of them, giving enough detail to communicate why they are interesting without sacrificing clarity and accessibility. In addition to his discussion of classic work, Epstein also includes discussions of less famous work in a variety of fields, and he makes good use of amusing examples of bad research, taken from *The Journal of Parapsychology* and *Annals of Improbable Research*.

The Pocket Guide's overall combination of accessibility, rigor and succinctness make it stand out from the crowded field of critical thinking texts, and the material new to this edition makes it an even more valuable resource for the teaching of critical thinking. This book should prove useful to instructors of critical thinking courses who are looking for a short text on critical thinking to supplement their own homework and exam materials as well as to any philosophy teacher looking for a relatively condensed treatment of critical thinking to recommend or assign to their students.

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