

Book Review

Critical Thinking: An Introduction to Analytical Reading and Reasoning

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Reviewed by Peter D. Asquith

This is not a text which provides another of the countless variations of formal deductive and inductive logic “lite”. Neither is a central concern argument diagramming techniques or the study of language use and fallacies. The approach taken by this text differs both in what is emphasized and its underlying model of argument. It is concerned with analytic reading and applying an interrogative model of argument. These two concerns form the basis for division into two major sections. The first deals with analytic reading, paraphrasing, and structuring expository text. The second is concerned with the analysis and evaluation of reasoning.

The first portion of the book relies on a set of criteria for essentialness and a taxonomy of dependence or subordination. Chapter 1 discusses paraphrasing to reduce a passage to its essentials (“the bare-bones paraphrase”), while Chapter 2 lays out the taxonomy of subordination along with conventions and a notation for expressing it. Chapter 3 spells out the portion of the taxonomy of subordination relevant to arguments and introduces some refinements applicable only to texts concerned with reasoning.

In getting to the bare-bones paraphrase various types of padding are to be set aside: the setting; background information; definitions; dispensable detail; restatements; illustrations; and frills (p. 13). In addition, two principles are provided to assist in the interpretation of the passage and justify the addition of necessary material: the principle of applied significance (whenever we say something we imply it is significant) and the principle of charity (maximize plausibility). Armed with this notion of essential paraphrase, four main types of subordination of a secondary point (SP) to a main point (MP) are considered in Chapter 2: [s] support or argument; [e] cause of, or explanation for;

[r] result or ramification; and [q] qualification. In the [r] category a distinction is made between $[r_e]$, effects, and $[r_i]$, implications (inferential results), while in the [e] category distinctions are made among $[e_c]$, cause, $[e_m]$, motive, and $[e_p]$, purpose. Coupled with independent secondary points [i], which are of lesser priority, but say nothing directly about the main point, this provides eight subordination categories to have in mind while reading for structure. Here are two examples from the text to illustrate how passages to which this notation and structuring had been applied would look:

(MP): First and Richmond needs a 4-way stop.

[s] (SP): The heavy traffic is a danger to children crossing there on the way to school.

(MP): The Soviet Navy will try to raise a nuclear sub that recently sank (off Norway).

$[e_p]$ (SP): They want to discover why it sank.

[i] (SP): The sub poses no radiation dangers.

In the first case the (SP) provides support for the (MP) while in the second case the first (SP) is the purpose and the second (SP) is an independent subordinate point of the (MP).

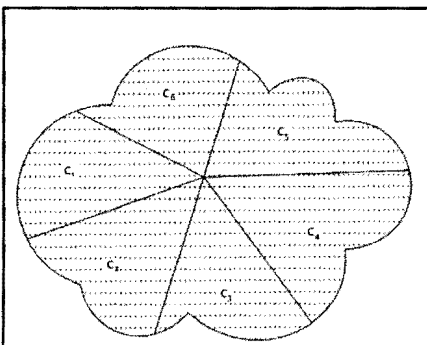
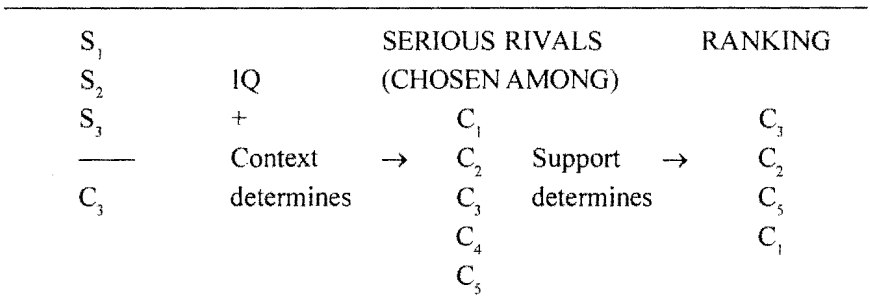
Despite the eight different categories, functionally secondary points (SPs) have only three general functions: explanatory, inferential, and qualificatory. The book is primarily concerned with inferential (SPs), cases where the (SP) either provides support [s] for the (MP) or is an inferential consequence $[r_i]$ of the (MP). Separating these out is not always trivial. For instance “because” as a flag term can indicate $[e_c]$, $[e_m]$, or [s] subordination, while “so” as a flag term can indicate $[e_p]$, $[r_c]$, or $[r_i]$ subordination. The remainder of Chapter 2 is primarily devoted to providing criteria and techniques for distinguishing among these types of subordination to enable the inferential subordinations to be picked out.

Chapter 3 focuses on reading for reasoning. Clues that indicate reasoning is occurring come in three basic kinds: (1) general common sense indicators, flags that indicate investigation or controversy; (2) indirectness flags, keys that enable us to determine which of the points is known on the basis of the other; and (3) [s] and $[r_i]$ indicators such as “because” and “so”. An indicator from one of these categories suggests reasoning is occurring while indicators from two of these categories make reasoning almost certain. Moreover, when they pair in specific ways the existence of reasoning is certain, e.g., an indirectness flag with either a “because” or a “so” or the occurrence of an indirectness flag in an investigation. Examples and refinements of these claims form the bulk of the chapter.

The second major section of the text turns to an analysis and evaluation of the arguments that could be uncovered by the techniques set out in the first section of the book. This portion of the text is based on an interrogative model of argument. Chapter 4 lays out this general model of argument, Chapter 5 concerns a particular type of argument—diagnostic, Chapter 6 deals with three specific kinds of diagnostic argument, Chapter 7 considers two other types of argument—prediction and recommendation, and Chapter 8 deals with fallacies. The book concludes with an appendix discussing deduction on this interrogative model of argument.

On the interrogative model of arguments every argument has an implicit question (IQ) that the arguer is attempting to answer. The conclusion (C) is the “author’s favorite answer” while the support (S) is what recommends (C) as the answer to the (IQ). Since any (C) is the answer to numerous questions, context helps determine why a particular (IQ) is being taken to be the question asked. (IQ) candidates can be checked out by asking these three questions: (1) Does (C) answer it? (2) Does the support make sense as recommending (C) as its answer? (3) Does (C)’s natural competition answer it also? (p. 145). It is also the case that questions have more than one possible answer. Rival answers are not just any possible alternative answer, but ones that reflect large scale differences important in the context. Accepting a (C) as an (IQ)’s right answer implies that other possible answers are rejected.

The overall picture of an analyzed argument looks like this (p. 175)



Rivals need to be real substantive alternatives to one another. They all must answer the (IQ), be mutually exclusive, and express the contrast implicit in the context, i.e., make clear what is being rejected. Rival answers are not simply those that are different answers, but ones that reflect large scale differences important in the context. In general, to provide the contrast they can’t be simply C or

not-C. Different possible answers as well as the rival answers to an (IQ) are represented graphically in a balloon of possibilities. Each of the dots represents a different possible answer to the (IQ) while the pie shaped wedges (the C's) represent the serious rivals indicating that many different possible answers can be gathered under one serious rival. The support may show that some of the wedges are empty—those wedges being incompatible with the support. Throughout the text these balloons are regularly utilized as a means for organizing discussion about dealing with the rival answers.

Support (S) is information which makes a difference. This can happen if: (1) it changes the order of the serious rivals in the ranking; (2) it changes what the serious rivals are; (3) it makes a rival that is already serious either more or less serious without changing the ranking; (4) it changes the proper level of detail in the serious rivals (pp. 172-173).

An argument is “sound” if the support makes the conclusion the best of the rivals. It is strong if it is much better than its rivals.

Arguments and investigations are related. Arguments become investigations when they look for more support and investigations become arguments when they pause to evaluate their progress. Investigations are dynamic arguments and arguments are cross-sections of investigations. (p. 179).

With this general model of interrogative arguments in mind, the text turns to a consideration of various possible types of IQs. They can fall into a number of categories (p. 199):

- (1) Diagnostic questions which ask for a story or a diagnosis.
- (2) Questions which ask for a recommendation.
- (3) Questions which ask for a forecast.

Each of these has specific kinds of information that provide support for an answer, specific sorts of considerations that determine what will count as serious rivals, and specific considerations for ranking the various rivals.

Chapter 5 focuses on the first of these. When considering arguments with an (IQ) which asks for a story or diagnosis data are of two main types: trace data, which are parts of, aspects of, or consequences of what needs to be explained, and non-trace data, which are not part of what is being explained and might include general support and events which occurred prior to the event being explained. Trace data can be divided into central trace data and peripheral trace data. Any serious rival has to explain central trace data. Peripheral trace data may be explained by several rivals or present an explanatory hurdle for another rival. Non-trace data comes in two forms: problem-setting non-trace data and explanatory resources.

Evaluation depends on the impact bits of support have on the various serious rivals. There are four evaluative notions: seriousness, ranking, soundness, and strength.

- (1) Pointing out why a rival is serious involves pointing out the traces it easily explains and perhaps also the NTD that help it explain them.
- (2) Providing a ranking requires saying how much better or worse the various rivals work in explaining the trace.
- (3) Pointing out soundness requires pointing out why the conclusion is the best among rivals.
- (4) Pointing out strength if the sound rival easily explains all the traces and nothing else does (pp. 213-215).

Diagnostic patterns or kinds are determined by the particular kind of trace data which give them distinguishing features. Three are considered in Chapter 6: *correlations*; *testimony*; and *samples*. While falling within the general pattern of diagnostic arguments, each of these has unique features in determining what the rivals are and the relevant characteristics of the support.

The general super-rival for correlation is chance. Amongst causal relationships that could produce the correlation there are a number of possibilities for the direction of causal influence: A can be the cause of B, B can be the cause of A, or both A and B may be the result of a common cause. Various kinds of data both trace and non-trace can help in sorting this out: other correlates, stories that can be told about what might serve to connect the correlates, temporal order, the number of times A and B have occurred together.

For testimony, a two-step process is proposed. The first deals with issues regarding sincerity and the second deals with the testifier's competence.

Testimony (p. 280)

STEP ONE

- S₁: X said "P"
- S₂: Sincerity circumstances
- S₃: Sincerity background

d

- C₁[!]: X thinks P
- C₂[!]: X's motivation to say "P" insincerely.

IQ: Why did X say "P"?

STEP TWO

- S₄: X thinks that P
- S₅: Access/competence circumstances
- S₆: Competence background

d

- C₁[!]: P
- C₂[!]: How X came to think P incompetently or mistakenly.

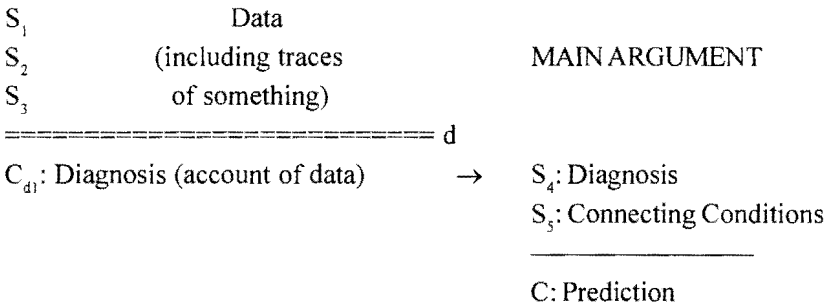
IQ: Why does X think P?

For sampling, the general three rivals are that the sample has P because the population does, that the sample has P as the result of bad luck, or that the sample has P due to distortion in sampling procedure. The text discusses a number of ways in which the evidence can be used to sort through these various possibilities.

Arguments whose (IQs) ask for a prediction or a recommendation are the topic of Chapter 7. The picture of the internal structure of these arguments also involves multiple stages. The first stage of which is a diagnostic argument followed by other sorts of argument.

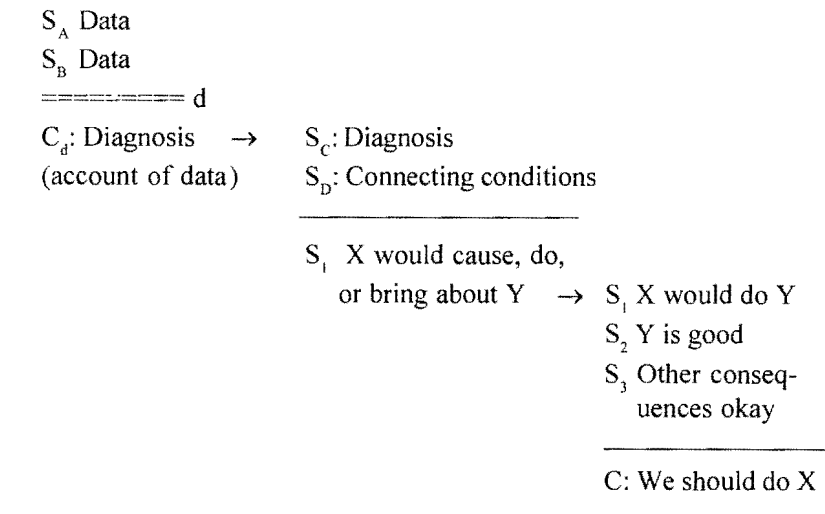
Predictions (p. 324)

DIAGNOSTIC TRIBUTARY



The discussion of the text for this type of predictions focuses on rival diagnoses, the role of the connecting conditions, and the opportunities for gaining information on the circumstances after a prediction either succeeds or fails.

Recommendations (p. 333)



This type of argument consists of a diagnosis, a prediction, and the recommendation that is based on an appeal to consequences. Consequently, all the considerations of diagnostic and predictive arguments still are applicable. The new features raised in this type of argument are how these arguments connect to the recommendation, the judgment of goodness, and the role of “other consequences”. These are discussed in this section.

The final chapter turns to a consideration of fallacies. Fallacies codify temptations to be avoided, temptations that arise because our competence normally is so effortless. Two general headings of fallacies are considered. The first are fallacies that occur when making arguments. These are labeled fallacies of construction, and consist of begging the question, loaded descriptions, false dilemmas, appeal to ignorance. The second set are fallacies that occur when criticizing arguments rather than making them. These are labeled as critical fallacies, and consist of attacking straw men, demanding proof, the charge of no evidence, and the charge of circularity. In the discussion of fallacies some of the machinery developed earlier is applied.

Where does the traditional distinction between deductive and inductive arguments fit into this view of argument? An appendix takes up this issue. In the analysis of arguments the concern has been to rank the various rivals. The feature of a deductive argument is that it semantically eliminates all rivals to its conclusion, but it also does more than this. If the support in a deductive argument is true, it semantically guarantees the truth of its conclusion. To accomplish this the support must not only contain information incompatible with all other answers, but something guaranteeing that one of the answers is true. Substantive reasoning about the world does not have this categorical nature. The strength of an argument requires thinking about the virtues of the most serious rivals which a deductive argument does not do. Semantic arguments generally are better for summarizing reasoning than actually depicting that reasoning.

The text provides exercises scattered throughout each chapter with answers provided at the end of that chapter. In addition there are supplemental exercises at the end of every chapter containing review questions and passages for analysis with leading questions or instructions. Answers to these are not provided. There is an instructor’s manual that includes solutions to these unanswered exercises and also features additional pedagogical aids, but that was not seen by the reviewer. The back cover of the review copy advertises a student web site with self-tests and a glossary, but several requests to the publisher did not result in obtaining access.

The in-depth discussion of flag terms and their relationships is not dependent on the conception of argument espoused in this text and should be valuable to all who are interested in having students locate arguments in ordinary discourse. Both the balloon diagrams and pictures of the internal structure of arguments seem to be useful devices for helping students organize their think-

ing about other possible conclusions consistent with the support provided or ways in which there might be a stronger alternative argument. These techniques should be adaptable by anyone who wants students to consider an argument in relationship to other arguments for the same conclusion or arguments for a rival conclusion.

Despite its length this exposition only provides a general overview of a text in which details are important. Although this is an introductory text it is a challenging and thought-provoking book. Irrespective of whether one would wish to adopt it as a text, this is a book valuable both as a reference for alternative techniques and for its provocativeness.

Because this text attempts to deal with the material in a novel manner it provokes numerous questions both theoretical and pedagogical. Some theoretical questions: What is the relationship between the interrogative model of arguments and the logic of questions? Is every question connected with an argument? If so, aren't there other sorts of questions besides those in the text that need to be considered? For example, the question "what are the implications of these claims?" This conception of argument is dialectical at least at the level of considering rival conclusions and context is explicitly taken as a relevant factor in the evaluation of arguments. How does the view in this text connect with discussions regarding the dialectical tier? Some pedagogical questions: How does the material work when students are asked to pick and analyze texts of their own choice? In particular, don't they find arguments that have (IQs) from other than the three possibilities considered in the text? Can these techniques be taught in a way that is generalizable to arguments that have an (IQ) of a type not previously encountered? Have assessments been done to compare the success of this way of instructing students in argument analysis and evaluation with more standard approaches?

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