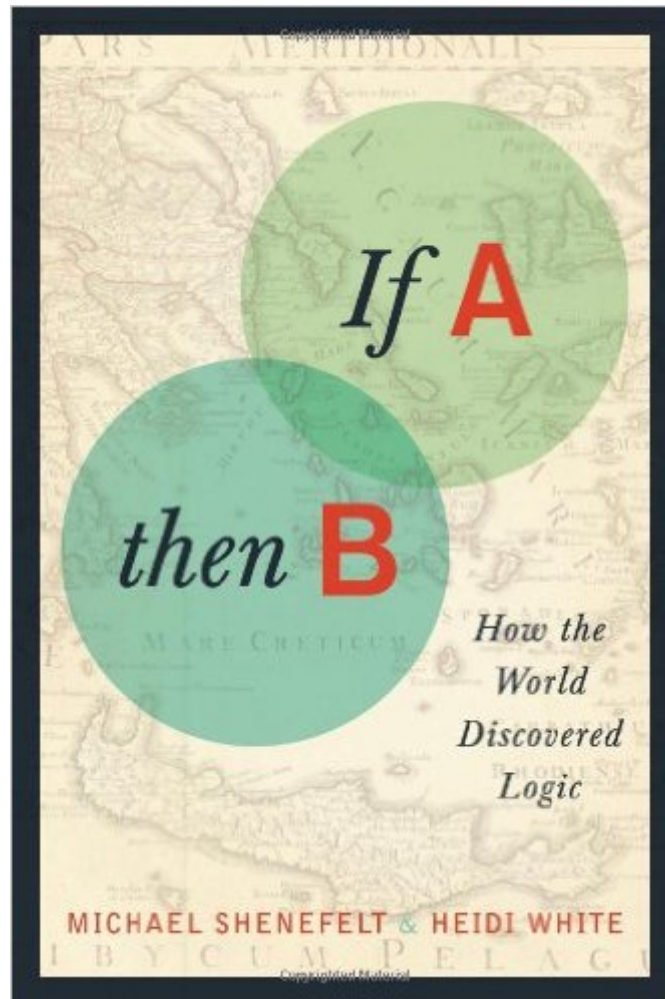


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# If A, Then B: How The World Discovered Logic



## Synopsis

While logical principles seem timeless, placeless, and eternal, their discovery is a story of personal accidents, political tragedies, and broad social change. *If A, Then B* begins with logic's emergence twenty-three centuries ago and tracks its expansion as a discipline ever since. It explores where our sense of logic comes from and what it really is a sense of. It also explains what drove human beings to start studying logic in the first place. Logic is more than the work of logicians alone. Its discoveries have survived only because logicians have also been able to find a willing audience, and audiences are a consequence of social forces affecting large numbers of people, quite apart from individual will. This study therefore treats politics, economics, technology, and geography as fundamental factors in generating an audience for logic—grounding the discipline's abstract principles in a compelling material narrative. The authors explain the turbulent times of the enigmatic Aristotle, the ancient Stoic Chrysippus, the medieval theologian Peter Abelard, and the modern thinkers René Descartes, David Hume, Jeremy Bentham, George Boole, Augustus De Morgan, John Stuart Mill, Gottlob Frege, Bertrand Russell, and Alan Turing. Examining a variety of mysteries, such as why so many branches of logic (syllogistic, Stoic, inductive, and symbolic) have arisen only in particular places and periods, *If A, Then B* is the first book to situate the history of logic within the movements of a larger social world. *If A, Then B* is the 2013 Gold Medal winner of Foreword Reviews' IndieFab Book of the Year Award for Philosophy.

## Book Information

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## Customer Reviews

Michael Shenefelt and Heidi White's book, *If A then B: How the World Discovered Logic*, ignites our curiosity and imagination by inviting us to chart the evolution of Logic, the practice of clear and structured thinking. Their account is engaging and compelling, beginning in ancient Greece with the great peripatetic, Aristotle, and extending into the 21st century with its ongoing revolutionary innovations in computer-based logic. Interwoven throughout are arresting accounts of historical events powerfully shaped by politics, religion, economics, and science ---as well as dramatic accounts of triumph and tragedy in the search for truth, knowledge, and power. The authors offer a rich tapestry of overlapping narratives, all of which help explain how Logic was discovered and how it has been harnessed throughout the ages to profoundly change the world ---and our place in it.

I enjoyed and learned a great deal from this book. In a lively and nuanced manner, the authors discuss the evolution of logic as a discipline from Aristotle's categorical syllogisms to Chrysippus's propositional logic, to symbolic logic of John Boole and Gottlob Frege, to fuzzy logic of Lotfi Zadeh--making the case that each juncture in the evolution was informed by socio-historical and even environmental factors, such as the geography of Greece that, according to the authors, gave rise to Athenian democracy (which in turn gave rise to logic) or the Industrial Revolution of the mid-nineteenth century that spawned symbolic logic. This historicized approach adds a human component that is often missing in the usual history-of-idea approach to the development of logic. Their discussion shows that authors' own epistemological leaning is foundationalist.

The number of books available on the history of logic appears to be quite small, so one does not really have much luxury in choosing which ones to read. In any case, I bought this book hoping for an in depth coverage of the history of logic, which this book partially fulfilled. The quality of the writing is high and the book is easy to read. There isn't any overcomplicated technical jargon to be found in the book anywhere. The word choice is simple and clear and mercifully isn't like the pretentious diction of certain more academic sources. I did learn some interesting things about the history of logic that I didn't know, such as the role of the Stoics in early logic just to name one example. The coverage of the meat of logic itself is quite light and requires no technical knowledge from the reader whatsoever basically. In all these respects the book was good and worth while. However, there are three essential problems with the book that detract from the good rating I would have otherwise have given it. They are as follows:(1) One of the core marks of distinction of the book (one of its core selling points supposedly) is how it tries to connect the broader social conditions of the various times and places with why logic developed in that time period. The problem

is it doesn't actually do a convincing job. The vast majority of the authors' claims in this regard are essentially little more than "correlation is not causation" fallacies and historian fallacies and are not sufficiently justified. It may or may not be true that these social conditions caused logic to develop, but except for insofar as a higher quality of life gives society more free time, the connection felt weak and I was not convinced.(2) While the breadth of the book is good, it's depth is shallow in some respects. It covers the ancient logics well, but while it does mention the non-classical logics it does so only briefly. It would have been interesting to see more coverage of the lesser known branches of logic. If you're looking for in depth history of the less popular branches of logic you will not find it here. The mainstream logics are well covered though.(3) This book sometimes contains some light religious overtones (specifically Christian) that I found quite irritating in a book that is supposed to be about logic and history. For example, within the very first paragraph of the 1st chapter the authors say "The apostle Paul says three things last (faith, hope, and love)..." and by doing so implicitly assumes that the reader is a Christian (or at least the writing has that tone), as if somehow being Christian is the default assumption for all human beings. If you pay close attention to the text and the reference notes you will notice a subtle pro-Christian bias in numerous places, even though the authors try to sound unbiased. None of it is in your face, but I still found it annoying. Religious pandering has no relevance to a book on logic nor any rightful place in it. I found the final chapter (titled "Faith and the Limits of Logic") to be particularly cringeworthy. In it they basically try to argue in favor of the tired old epistemological "How can we know? Therefore blind faith" nonsense popular among many philosophers. They imply that logic, math, and science somehow rest ultimately on faith assumptions with respect to their axioms and premises. That is inaccurate. Axioms and premises in the logical and scientific disciplines are based primarily on blatantly obvious empirical observation in the real world. For example, the axioms defining addition are defined as what they are because that is how addition empirically works. Contrary to the authors' assertions, there is virtually no "circularity" or "faith" in logic or science. Modern logic and science simply refuse to deal with absurd epistemological questions like "Are we all a part of a computer simulation?" because such questions are unfalsifiable and hence always worthless to ask. No logic could ever answer impossible questions, but that is not the fault of logic but rather it is the fault of us flawed human beings for choosing to ask such pointless questions in the first place. Furthermore, be aware that the authors are both philosophers. Neither are historians. Neither are mathematical logicians. As such, their authority on the subject matter is questionable. The book reads half like a history book and half like arbitrary arm chair philosophizing. Since there aren't many books on this subject however, and the book still has redeeming value, you might still want to read it

anyway. I would not advise taking everything the authors' say at face value though, however well intended they may be.

The authors attempt to review the history of logic in a social context. They fail because their social history is so simplistic to be embarrassing: as if there are single social causes for complex intellectual trends. They do seem to know their logic, but readers should be aware that if they already do not know the concepts this is not the place to learn sophisticated logic for the first time. When the authors (who are trained philosophers) get to their discussion of philosophers I can only assume their confused analyses of such as Wittgenstein and Kuhn reflect some arcane minority views. The philosophy is certainly not for the beginner "to the mid level reader such as myself it just seems wrong. I am a book hoarder, but even I could not justify keeping my copy of this book from ending in my town recycling dump, so off it went.

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