Is medicine fundamentally a thinking-based discipline? That doctors lack the capacity to reason well, at least according to criteria accepted by those concerned with the science of reasoning such as logicians and philosophers, has been documented. There is a small but instructive literature on the capacity of doctors to draw appropriate inferences either logically or factually from data, or detect incorrect or fallacious reasoning when present. Hence, there is reason to believe that a need exists to better improve reasoning skills as an important component of medical training. In broad concept, evidence-based medicine is one response to this need. Yet, as evidence-based medicine has evolved as a dominant paradigm within medicine, its more formulaic approach has led to an emphasis away from a critical approach both to argumentation and to data interpretation. These issues are well recognized by Professor Jenicek and so the goal of this book is to address and remediate this problem.

The book is intended to be a self-paced guide to learning critical thinking, and its major innovation is to look at the relationship between reasoning skills and clinical reasoning. This book draws heavily on a companion textbook, published with the philosopher David Hitchcock, called Evidence Based Practice: Logic and Critical Thinking. The author shares a view with Professor Hitchcock that health professionals require structured instruction in the fundamentals of informal logic and critical thinking. The point of departure in this textbook is the superb definition of critical thinking provided in Chapter 1 by Michael Scriven and Richard Paul which I think should be required reading by all involved in the task of modern education.

In spirit, I think, the necessity for the sort of book that Jenicek envisions is essential. I entered medicine from philosophy and in philosophy I taught critical thinking and argument analysis. When I moved to medical school, I saw a natural confluence between the goals of critical thinking and the goals of critical appraisal. However, critical appraisal was far too focused on the quantitative dimensions of study design and less on the integrative function of the role that data and research evidence play in constructing an argument. Jenicek is aware of this and uses throughout his textbook the concept of a Toulman diagram as a means of explicating the logic of arguments and the means of structuring them so that their relative strengths and weaknesses can be identified. I think this is one of the overarching strengths of this book.

However, I do not think I can recommend this textbook. For one, it has an eccentric feel to it. I think part of this relates to the way in which it has been formatted. As Professor Jenicek mentions early, this book could be seen as a set of PowerPoint slides used for presentation. However, the boxes and vignettes in slide format are difficult to link to skills, could be better explained and the definitions offered are by no means unproblematic. One good example would be Vignette 1.2.7 where probability is defined as ‘degrees of belief in hypothesis or statement, often expressed on a scale from 0 to 1’. This would warm the hearts of any Bayesian statistician or subjective probabilist, but would find rejection from anybody from the frequentist or logical school of probability who believe that probabilities are measures of events in a probability space or the long-term frequency of occurrence of events in space and time. Similarly, in Vignette 1.2.8 ethics is defined as the study of conduct and its values and on the next page in Vignette 1.2.9 medical ethics is defined as the study of values and conduct and guidance to morally...
acceptable decisions and actions in medicine, a term often blurred with bioethics that includes biology and life. These are slightly at variance but could be regarded as confusing.

Similarly, there is an over reliance upon his own work as evidenced by the table outlining the history of philosophy and medicine and logic which neglects important contributions. For example, table 1.2 entitled ‘Selected Moments and Firsts in the Development of Informal Logic and Critical Thinking in General in the Study of Medical Thought and Decision Making Within the Past Century’ has two columns – one related to informal logic and critical thinking in general arts and sciences and one to thinking and decisions in medicine and epidemiology. How they were selected and why some were included and others not are poorly explained. There is a complete absence of any of the work of Doug Walton and John Woods or of the original work in fallacies by Hamblin which are landmarks in the development of informal logic. Similarly, there is no mention of the inaugural issue of the Journal of Medicine and Philosophy which contained fundamental essays on some of the core concepts of modern philosophy of medicine. Interestingly enough, Professor Jenicek’s work is cited there in two cases whereas the work of others including the original textbook on Evidence Based Medicine is not included.

I find it difficult to conceive how somebody not already well-versed in argument analysis in the first place would use this textbook. I think one of the strengths of this book is the number of medical examples used to illustrate points. However, there are better structured books on reasoning such as that by Michael Scriven that would give a student, medical or otherwise, a solid grasp of the requisite nature of reasoning and argument analysis. As well, I find it salient that in a book devoted to concepts of reasoning that includes fuzzy logic as an integral part of modern informal logic, the complete absence of attention to abductive inference (as opposed inductive or deductive inference) and the newer research exploring defeasible reasoning schemes to be conspicuous absences. The book notably fails to discuss important concepts such as abductive inference and does not mention recent innovations in informal logic such as defeasible reasoning schemes, both of which are highly relevant to medical reasoning.

Thus, while I think there is much of value in Jenicek’s general insight that critical thinking is integral to modern medical practice and may in fact be a means of displacing evidence-based medicine as the dominant perspective as it would integrate both scientific and philosophical or moral means of reasoning into one package, I do not think this book achieves the goal it sets out to. I believe that a reader who read all of the references that are cited here would be well on the way to achieving the kind of facility and expertise that the author envisions. Thus, I commend Professor Jenicek for his initial foray into the highly innovative and interdisciplinary task of fusing informal logic techniques and reasoning skills into medicine. Works of this sort should be encouraged and this is a field of scholarly enquiry that should be open and fully explored. I hope that Professor Jenicek will also consider taking on a role in revising this textbook on the feedback received to improve it so that it does become a kind of standard text in the field.