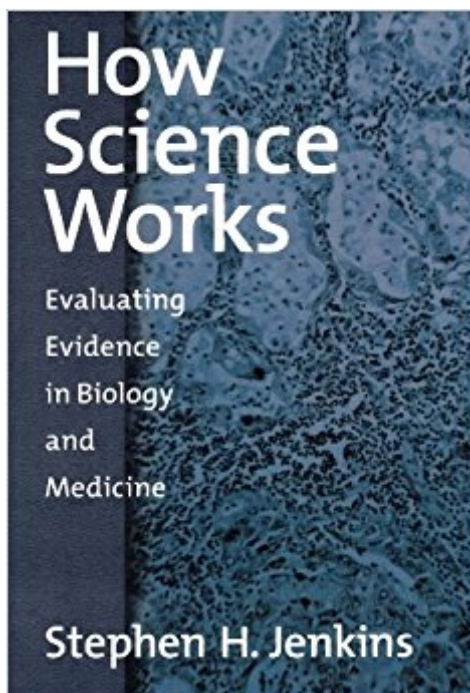


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# How Science Works: Evaluating Evidence In Biology And Medicine



## Synopsis

One week, red wine is good for the heart. The next week, new reports say it's bad for the health. So which is true? Anyone who's ever read science news with fascination, or who's ever been confounded by conflicting stories will appreciate this book. Taking a look at some true to life contemporary news stories, the author assesses recent studies on topics ranging from vitamin C and caffeine to pollution and cancer. With straight talk and a passion for the whole project of science, he demystifies the cult of the expert and sheds light on the nitty-gritty details of scientific processes. Any scientist loves a challenge, but the biggest challenge of all, observes Jenkins, is shared by scientists and nonscientists alike: how to make practical decisions in light of ambiguous evidence. Promising no simple answers, this book does offer excellent food for thought for people pondering that next glass of wine.

## Book Information

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## Customer Reviews

"This book is a straight-forward, well-written, concise piece that skillfully covers...the methodologies of science in relationship to the life sciences. I highly recommend it to anyone who teaches these courses and places an emphasis, where it belongs, on 'how science works.'" --The Quarterly Review of Biology  
"Though it might seem impossible to compress such a range of topics into about 200 very readable pages, Jenkins succeeds in providing a survey that might be of equal interest both for the curious reader in search for a popular state of the art discussion of the nine mentioned topics and for the methodologically-minded scholar looking for an introduction to the beauty and

perplexities of biomedical research." --Metapsychology --This text refers to the Hardcover edition.

Stephen H. Jenkins is at University of Nevada, Reno.

The great value of this book is that there is real, close attention to decisive detail but without the inclusion of needless and intimidating technicalities. The result is that it is never superficial and yet never inaccessible either. I know of no other book that achieves this combination so well. I have taught undergraduate courses--in the US and UK-- on reasoning in science and would certainly use material from this book if I were planning such a course in future. Justice is done to some sophisticated complexities in extremely lucid ways. I think especially of the discussion of different kinds of causes in the biology of aging, and of genotype /environment interactions in development. This book deserves a very wide readership among students at all levels and among the general public as well. University and public libraries should certainly be getting it.

Jenkins' book is a very coherent and straightforward account of the complexities of doing science. Using interesting case-studies, he lucidly describes the proper formulation of scientific hypotheses, the elements of a good experimental or survey design, and the limitations of inference from data. That is, how do scientists discover facts about the natural world, and how do they determine how much confidence to place on such facts. Each chapter is a case-study and a point to be made about the scientific process; thus each can stand alone. But, they also tie together nicely. Given that the case-studies are topical and not overly technical, the general reader lacking a scientific background can still obtain a lot of entertainment and insight from the book. I'd also recommend this book to students in the natural and social sciences, philosophy, medical school, law school, because it is an informative description of what can be considered good sound science versus what is not.

This is a very interesting and illuminating study of how evidence and theory can be brought together to make understanding in the life sciences. Each of the eight case studies - e.g. on aging, population crash of amphibians, the causes of cancer - are discussed in a way that is both detailed and fast moving. In most life science problems the explanations are multi-leveled and inherently complex. Uncertainty is the rule, and yet so is progress. This is a great little book; I hope it gets the recognition it deserves.

The book has interesting case studies

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