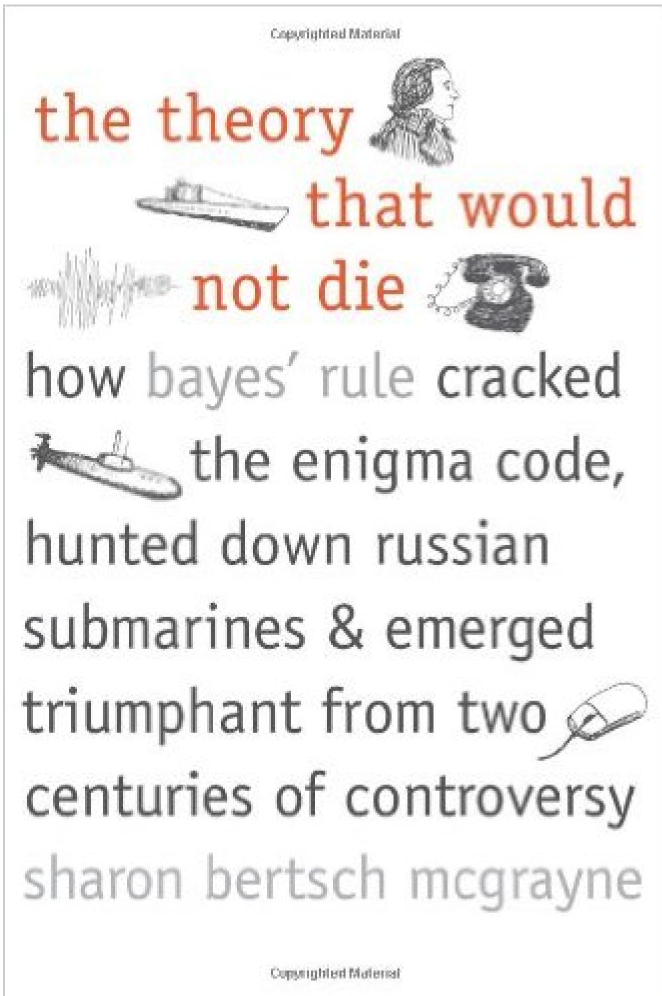
The Theory That Would Not Die: How Bayes' Rule Cracked The Enigma Code, Hunted Down Russian Submarines, And Emerged Triumphant From Two Centuries Of Controversy



Synopsis

Bayes’ rule appears to be a straightforward, one-line theorem: by updating our initial beliefs with objective new information, we get a new and improved belief. This is an account of Bayes’ rule for general readers, exploring this theorem and the human obsessions surrounding it.

Book Information

Paperback: 360 pages

Publisher: Yale University Press; Reprint edition (September 25, 2012)

Language: English

ISBN-10: 0300188226

ISBN-13: 978-0300188226

Product Dimensions: 1 x 6.2 x 9.2 inches

Shipping Weight: 1.2 pounds (View shipping rates and policies)

Average Customer Review: 3.7 out of 5 starsÂ Â See all reviewsÂ (129 customer reviews)

Best Sellers Rank: #89,903 in Books (See Top 100 in Books)   #79 inÂ Books > Science & Math > Mathematics > History   #363 inÂ Books > Science & Math > Mathematics > Applied > Probability & Statistics   #526 inÂ Books > Science & Math > History & Philosophy

Customer Reviews

"The Theory That Would Not Die" is an enjoyable account of the history of Bayesian statistics from Thomas Bayes’s first idea to the ultimate (near-)triumph of Bayesian methods in modern statistics. As a statistically-oriented researcher and avowed Bayesian myself, I found that the book fills in details about the personalities, battles, and tempestuous history of the concepts.If you are generally familiar with the concept of Bayes’ rule and the fundamental technical debate with frequentist theory, then I can wholeheartedly recommend the book because it will deepen your understanding of the history. The main limitation occurs if you are *not* familiar with the statistical side of the debate but are a general popular science reader: the book refers obliquely to the fundamental problems but does not delve into enough technical depth to communicate the central elements of the debate.I think McGrayne should have used a chapter very early in the book to illustrate the technical difference between the two theories -- not in terms of mathematics or detailed equations, but in terms of a practical question that would show how the Bayesian approach can answer questions that traditional statistics cannot. In many cases in McGrayne’s book, we find assertions that the Bayesian methods yielded better answers in one situation or another, but the underlying intuition about *why* or *how* is missing. The Bayesian literature is full of such examples that could be easily explained.A good example occurs on p. 1 of ET Jaynes's Probability Theory: I observe someone climbing out a window in the middle of the night carrying a bag over the shoulder and running away. Question: is it likely that this person is a burgler?

Sharon Bertsch Mcgrayne is a talented science writer whose portraits of great scientists of the past are incisive and entertaining. However, she evidently believes that one must studiously avoid dealing with any serious scientific issues in entertaining a popular audience. For this reason, this book is a total failure. Why should a reader care about the history of an idea of which he or she has zero understanding? Mcgrayne turns the history of Bayes rule into a pitched battle between intransigent opponents, but we never find out what the real issue are.In fact, Bayes rule is a mathematical tautology, being the definition of conditional probability. Suppose A is an event with probability P(A) and B is an event with probability P(B). Let C be the event "both A and B occur." Then the conditional probability P(A|B) of event A, given that we know that B has occurred, just P(C)/P(B). Moreover, if a decision-maker knows P(A), P(B), and P(C), and discovers that B occurred, then he should revise the probability that A occurred to P(A|B) = P(C)/P(B). Why? Well, suppose we have a population of 1000 individuals, where the probability that an event E is true of an individual is P(E), where E is any one of A, B, and C. Then the expected number of individuals for which B is true is 1000*P(B). Of these, the number for which A is also true is 1000*P(A). Therefore, the probability that an individual satisfies A, given that he satisfies B, is 1000*P(A)/1000*P(B) = P(A|B).For instance, suppose 5% of the population uses drugs, and there is a drug test that is correct 95% of the time: it tests positive on a drug user 95% of the time, and it tests negative on a drug nonuser 95% of the time.

African Forest The Queen of Katwe: One Girl's Triumphant Path to Becoming a Chess Champion Palmistry: Are You A Rule Maker or A Rule Breaker? Leaders and Followers.: Self-Help Books by Hassan Jaffer MADAS medieval and dark age skirmish rule book: Rule book No Contact Rule: 17 Best Tips on How To Get Your Ex Back + Free Gift Inside (The no contact rule - No contact - Dating) Take-Down Archery: A Do-It-Yourself Guide to Building PVC Take-Down Bows, Take-Down Arrows, Strings and More Two Vocal Works, Op. 52, 53: Russian, English Language Edition (Kalmus Edition) (Russian Edition) Ten Russian Folk Song, Two Russian Folk Song Op. 104 Vocal Score (Shostakovich Complete Edition) Significant Changes to the International Plumbing Code, International Mechanical Code and International Fuel Gas Code, 2012 Edition 21st Century Essential Guide to Navy Submarines: Past, Present, and Future of the Sub Fleet, History, Technology, Ship Information, Pioneers, Cold War, Nuclear Attack, Ballistic, Guided Missile The Forbes Collection: Toy Boats - A Century of Treasures from Sailboats to Submarines