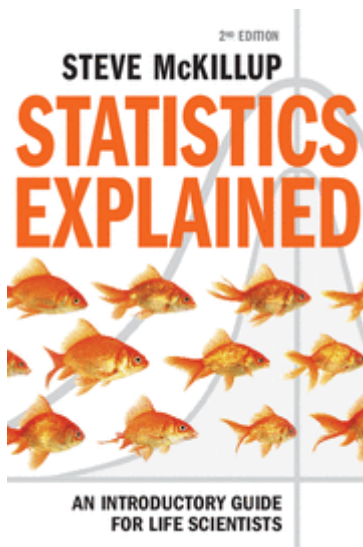


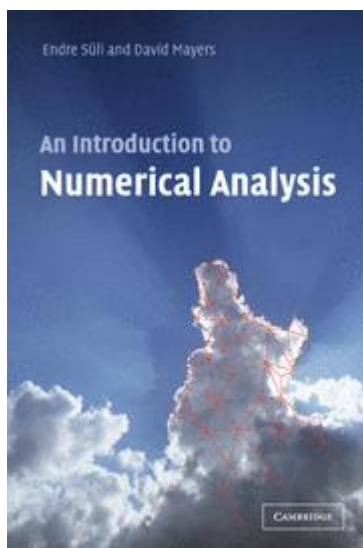
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MATHEMATICS



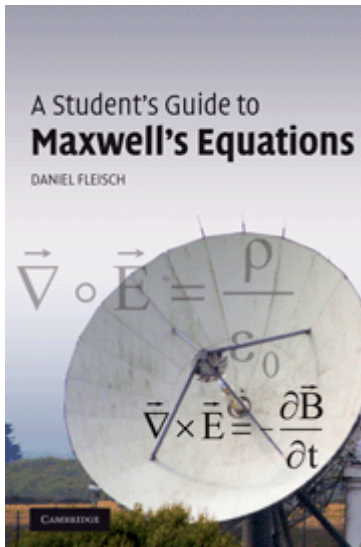
An understanding of statistics and experimental design is essential for life science studies, but many students lack a mathematical background and some even dread taking an introductory statistics course. Using a refreshingly clear and encouraging reader-friendly approach, this book helps students understand how to choose, carry out, interpret and report the results of complex statistical analyses, critically evaluate the design of experiments and proceed to more advanced material. Taking a straightforward conceptual approach, it is specifically designed to foster understanding, demystify difficult concepts and encourage the unsure. Even complex topics are explained clearly, using a pictorial approach with a minimum of formulae and terminology. Examples of

tests included throughout are kept simple by using small data sets. In addition, end-of-chapter exercises, new to this edition, allow self-testing. Handy diagnostic tables help students choose the right test for their work and remain a useful refresher tool for postgraduates.



Numerical analysis provides the theoretical foundation for the numerical algorithms we rely on to solve a multitude of computational problems in science. Based on a successful course at Oxford University, this book covers a wide range of such problems ranging from the approximation of functions and integrals to the approximate solution of algebraic, transcendental, differential and integral equations. Throughout the book, particular attention is paid to the essential qualities of a numerical algorithm - stability, accuracy, reliability and efficiency. The authors go further than simply providing recipes for solving computational problems. They carefully analyse the reasons why methods might fail to give accurate answers, or why one method might return an answer in seconds while

another would take billions of years. This book is ideal as a text for students in the second year of a university mathematics course. It combines practicality regarding applications with consistently high standards of rigour.



Gauss's law for electric fields, Gauss's law for magnetic fields, Faraday's law, and the Ampere–Maxwell law are four of the most influential equations in science. In this guide for students, each equation is the subject of an entire chapter, with detailed, plain-language explanations of the physical meaning of each symbol in the equation, for both the integral and differential forms. The final chapter shows how Maxwell's equations may be combined to produce the wave equation, the basis for the electromagnetic theory of light. This book is a wonderful resource for undergraduate and graduate courses in electromagnetism and electromagnetics. A website hosted by the author at

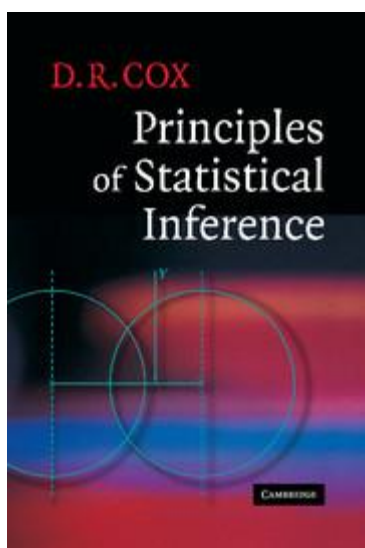
www.cambridge.org/9780521701471 contains

interactive solutions to every problem in the text as well as audio podcasts to walk students through each chapter.



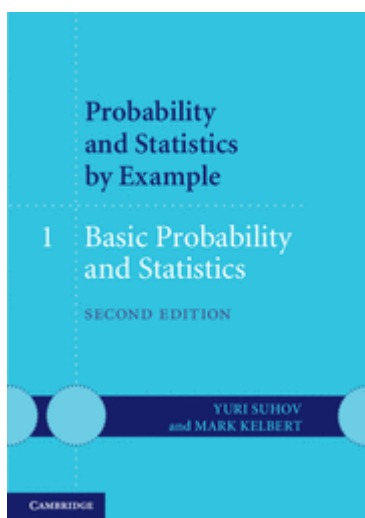
Fourier transform theory is of central importance in a vast range of applications in physical science, engineering and applied mathematics. Providing a concise introduction to the theory and practice of Fourier transforms, this book is invaluable to students of physics, electrical and electronic engineering, and computer science. After a brief description of the basic ideas and theorems, the power of the technique is illustrated through applications in optics, spectroscopy, electronics and telecommunications. The rarely discussed but important field of multi-dimensional Fourier theory is covered, including a description of Computer Axial Tomography (CAT scanning). The book concludes by discussing digital methods, with particular attention to the Fast Fourier Transform and

its implementation. This new edition has been revised to include new and interesting material, such as convolution with a sinusoid, coherence, the Michelson stellar interferometer and the van Cittert–Zernike theorem, Babinet's principle and dipole arrays.



In this definitive book, D. R. Cox gives a comprehensive and balanced appraisal of statistical inference. He develops the key concepts, describing and comparing the main ideas and controversies over foundational issues that have been keenly argued for more than two-hundred years. Continuing a sixty-year career of major contributions to statistical thought, no one is better placed to give this much-needed account of the field. An appendix gives a more personal assessment of the merits of different ideas. The content ranges from the traditional to the contemporary. While specific applications are not treated, the book is strongly motivated by applications across the sciences and associated technologies. The mathematics is kept as elementary as feasible, though

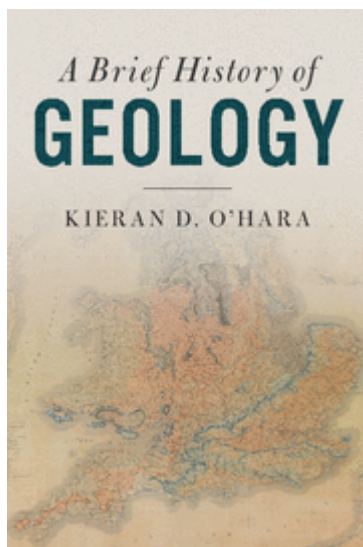
previous knowledge of statistics is assumed. The book will be valued by every user or student of statistics who is serious about understanding the uncertainty inherent in conclusions from statistical analyses.



Probability and statistics are as much about intuition and problem solving as they are about theorem proving. Consequently, students can find it very difficult to make a successful transition from lectures to examinations to practice because the problems involved can vary so much in nature. Since the subject is critical in so many applications from insurance to telecommunications to bioinformatics, the authors have collected more than 200 worked examples and examination questions with complete solutions to help students develop a deep understanding of the subject rather than a superficial knowledge of sophisticated theories. With amusing stories and historical asides sprinkled throughout, this enjoyable book will leave

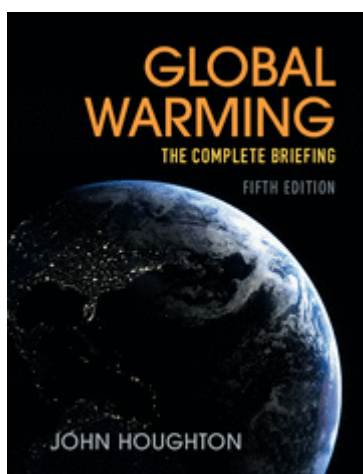
students better equipped to solve problems in practice and under exam conditions.

EARTH AND ENVIRONMENTAL SCIENCES



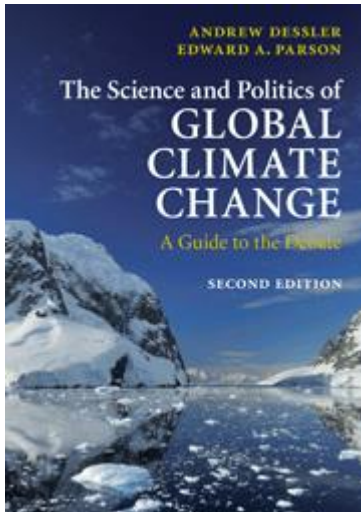
Geology as a science has a fascinating and controversial history. Kieran D. O'Hara's book provides a brief and accessible account of the major events in the history of geology over the last two hundred years, from early theories of Earth structure during the Reformation, through major controversies over the age of the Earth during the Industrial Revolution, to the more recent twentieth-century development of plate tectonic theory, and on to current ideas concerning the Anthropocene. Most chapters include a short 'text box' providing more technical and detailed elaborations on selected topics. The book also includes a history of the geology of the Moon, a topic not normally included in books on the history of geology. The book will appeal

to students of Earth science, researchers in geology who wish to learn more about the history of their subject, and general readers interested in the history of science.

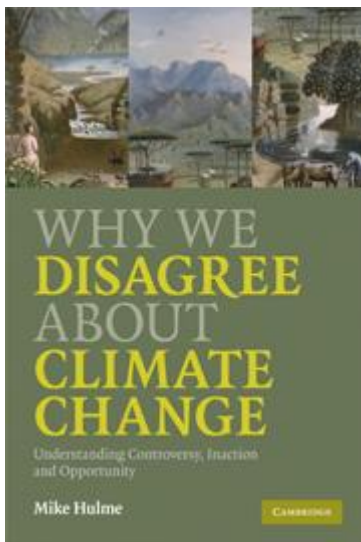


How much of global warming is due to human activities? How far will it be possible to adapt to changes of climate? Sir John Houghton's definitive, full colour guide to climate change answers these questions and more by providing the best and latest information available, including the latest IPCC findings. The simple, logical flow of ideas gives an invaluable grounding in the science, as well as the physical and human impacts of climate change, for undergraduate students across a wide range of disciplines. Accessible to both scientists and non-scientists, the text avoids mathematical equations and includes more technical material in boxes, while simple

figures help students to understand the conclusions the science leads to without being overwhelmed by vast amounts of data. Questions for students to consider and test their understanding are included in each chapter, along with carefully selected further reading to expand their knowledge.

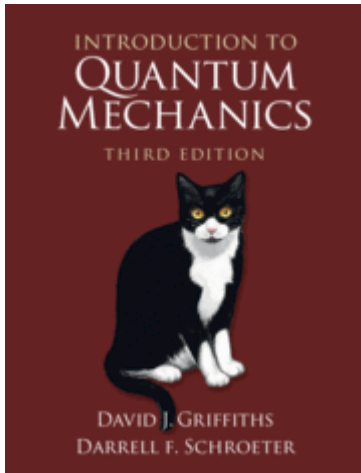


The second edition of Dessler and Parson's acclaimed book provides an integrated treatment of the science, technology, economics, policy, and politics of climate change. Aimed at the educated non-specialist, and at courses in environmental policy or climate change, the book clearly lays out the scientific foundations of climate change, the issues in current policy debates, and the interactions between science and politics that make the climate change debate so contentious and confusing. This new edition is brought completely up to date to reflect the rapid movement of events related to climate change. In addition, all sections have been improved, in particular a more thorough primer on the basic science of climate change is included. The book also now integrates the discussion of contrarian claims with the discussion of current scientific knowledge; extends the discussion of cost and benefit estimates; and provides an improved glossary.



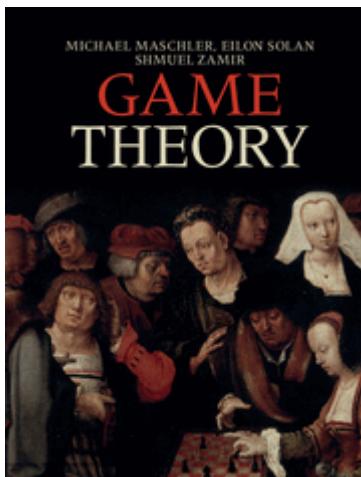
Climate change is not 'a problem' waiting for 'a solution'. It is an environmental, cultural and political phenomenon which is re-shaping the way we think about ourselves, our societies and humanity's place on Earth. Drawing upon twenty-five years of professional work as an international climate change scientist and public commentator, Mike Hulme provides a unique insider's account of the emergence of this phenomenon and the diverse ways in which it is understood. He uses different standpoints from science, economics, faith, psychology, communication, sociology, politics and development to explain why we disagree about climate change. In this way he shows that climate change, far from being simply an 'issue' or a 'threat', can act as a catalyst to revise our perception of our place in the world. Why We Disagree About Climate Change is an important contribution to the ongoing debate over climate change and its likely impact on our lives.

PHYSICS

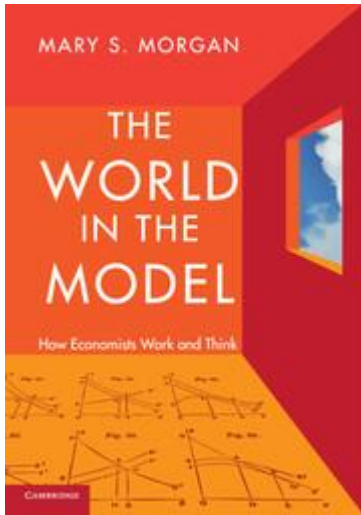


Changes and additions to the new edition of this classic textbook include: new chapter on Symmetries, new problems and examples, improved explanations, more numerical problems to be worked on a computer, new applications to solid state physics, consolidated treatment of time-dependent potentials.

ECONOMICS



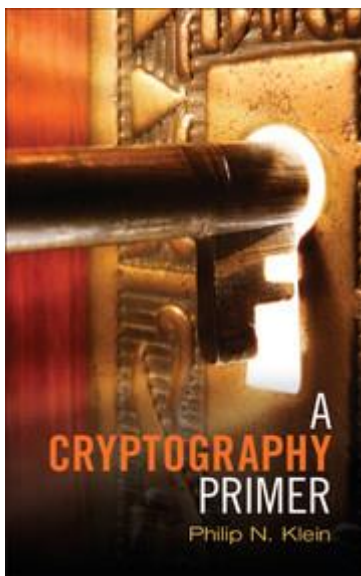
Covering both noncooperative and cooperative games, this comprehensive introduction to game theory also includes some advanced chapters on auctions, games with incomplete information, games with vector payoffs, stable matchings and the bargaining set. Mathematically oriented, the book presents every theorem alongside a proof. The material is presented clearly and every concept is illustrated with concrete examples from a broad range of disciplines. With numerous exercises the book is a thorough and extensive guide to game theory from undergraduate through graduate courses in economics, mathematics, computer science, engineering and life sciences to being an authoritative reference for researchers.



During the last two centuries, the way economic science is done has changed radically: it has become a social science based on mathematical models in place of words. This book describes and analyses that change - both historically and philosophically - using a series of case studies to illuminate the nature and the implications of these changes. It is not a technical book; it is written for the intelligent person who wants to understand how economics works from the inside out. This book will be of interest to economists and science studies scholars (historians, sociologists and philosophers of science). But it also aims at a wider readership in the public intellectual sphere, building on the current interest in all things economic and on the

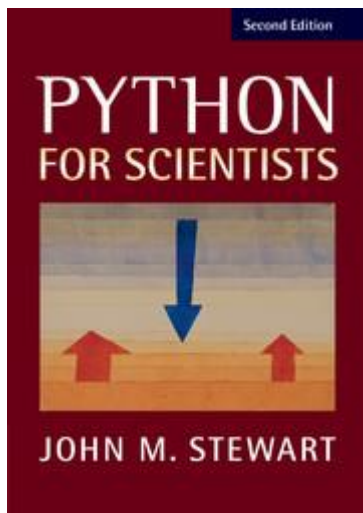
recent failure of the so-called economic model, which has shaped our beliefs and the world we live in.

COMPUTER SCIENCE



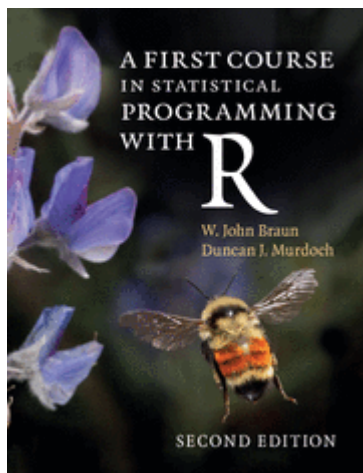
Cryptography has been employed in war and diplomacy from the time of Julius Caesar. In our Internet age, cryptography's most widespread application may be for commerce, from protecting the security of electronic transfers to guarding communication from industrial espionage. This accessible introduction for undergraduates explains the cryptographic protocols for achieving privacy of communication and the use of digital signatures for certifying the validity, integrity, and origin of a message, document, or program. Rather than offering a how-to on configuring web browsers and e-mail programs, the author provides a guide to the principles and elementary mathematics underlying modern cryptography, giving readers a look under the hood for

security techniques and the reasons they are thought to be secure.



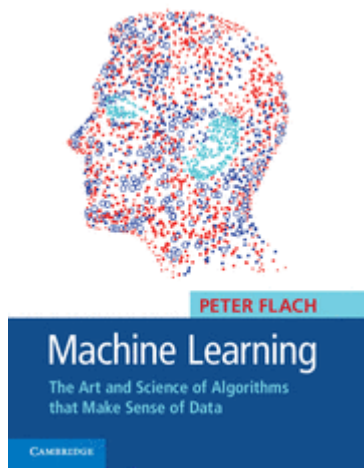
Scientific Python is a significant public domain alternative to expensive proprietary software packages. This book teaches from scratch everything the working scientist needs to know using copious, downloadable, useful and adaptable code snippets. Readers will discover how easy it is to implement and test non-trivial mathematical algorithms and will be guided through the many freely available add-on modules. A range of examples, relevant to many different fields, illustrate the language's capabilities. The author also shows how to use pre-existing legacy code (usually in Fortran77) within the Python

environment, thus avoiding the need to master the original code. In this new edition, several chapters have been re-written to reflect the IPython notebook style. With an extended index, an entirely new chapter discussing SymPy and a substantial increase in the number of code snippets, researchers and research students will be able to quickly acquire all the skills needed for using Python effectively.



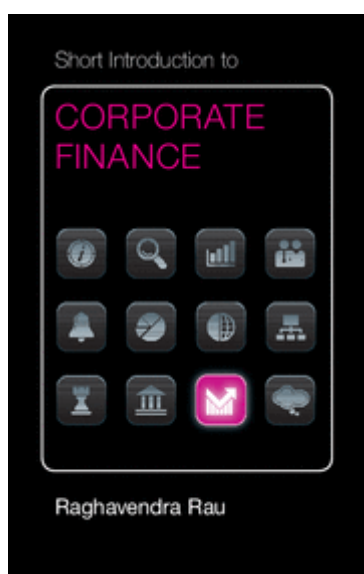
This new color edition of Braun and Murdoch's bestselling textbook integrates use of the RStudio platform and adds discussion of newer graphics systems, extensive exploration of Markov chain Monte Carlo, expert advice on common error messages, motivating applications of matrix decompositions, and numerous new examples and exercises. This is the only introduction needed to start programming in R, the computing standard for analyzing data. Co-written by an R core team member and an established R author, this book comes with real R code that complies with the standards of the language. Unlike other introductory books on the R system, this book

emphasizes programming, including the principles that apply to most computing languages, and techniques used to develop more complex projects. Solutions, datasets, and any errata are available from the book's website. The many examples, all from real applications, make it particularly useful for anyone working in practical data analysis.



As one of the most comprehensive machine learning texts around, this book does justice to the field's incredible richness, but without losing sight of the unifying principles. Peter Flach's clear, example-based approach begins by discussing how a spam filter works, which gives an immediate introduction to machine learning in action, with a minimum of technical fuss. Flach provides case studies of increasing complexity and variety with well-chosen examples and illustrations throughout. He covers a wide range of logical, geometric and statistical models and state-of-the-art topics such as matrix factorisation and ROC analysis. Particular attention is paid to the central role played by features. The use of established terminology is balanced with the introduction of new and useful concepts, and summaries of relevant background material are provided with pointers for revision if necessary. These features ensure Machine Learning will set a new standard as an introductory textbook.

BUSINESS AND MANAGEMENT STUDIES



The Short Introduction to Corporate Finance provides an accessibly written guide to contemporary financial institutional practice. Rau deploys both his professional expertise and experience of teaching MBA and graduate-level courses to produce a lively discussion of the key concepts of finance, liberally illustrated with real-world examples. Built around six essential paradigms, he builds an integrated framework covering all the major ideas in finance over the past half-century. Ideal for students and practitioners alike, it will become core reading for anyone aspiring to become an effective manager.



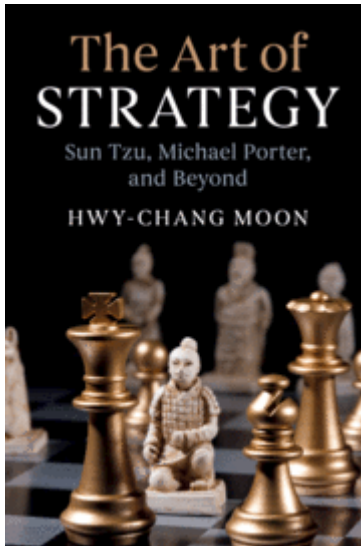
The Short Introduction to Strategic Management provides an authoritative yet accessible account of strategic management and its contemporary challenges. It explains the roots and key rationales of the strategy field, discussing common models, tools and practices, to provide a complete overview of conventional analytical techniques in strategic management. Andersen extends the discussion to consider dynamic strategy making and how it can enable organizations to respond effectively to turbulent and unpredictable global business environments. There is a specific focus on multinational corporate strategy issues relevant to organizations operating across multiple international markets. Written in a clear and

direct style, it will appeal to students and practising managers and executives alike.



This Short Introduction to Strategic Human Resource Management provides a concise treatment of the key elements of strategic HRM using an innovative risk-management approach. It emphasizes the importance of the decisions, processes and choices organizations make about managing people and shows how workforce management directly affects strategic organizational outcomes. It provides guidance for managers on how to make better human capital decisions in order to achieve strategic success more effectively. Reflecting an increasing uncertainty in global business, Cascio and Boudreau consider ways of dealing with risk in managing human capital. Numerous examples in every chapter illustrate key

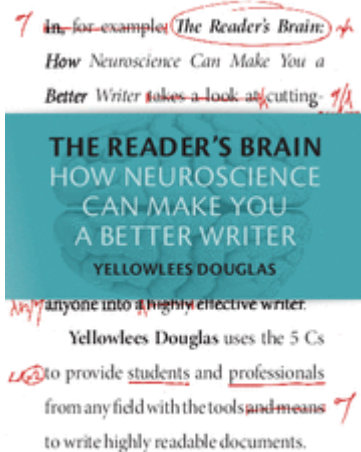
points with real business cases from around the world.



When it comes to strategy, how should we define victory? For centuries, Eastern and Western thinkers have grappled with this question, offering different answers. What can we learn from this difference? In *The Art of Strategy*, Moon provides a novel and systematic integration of the two dominant frameworks of the East and West: Sun Tzu's military strategy and Michael Porter's business strategy. This unlikely combination of thinking suggests an innovative extension of our understanding and practice of strategy, which will appeal to scholars, students, practitioners and general readers with an interest in strategy. By aligning the perspectives of these two great thinkers, Moon argues that true winning is about maximizing and optimizing overall value for all

engaged stakeholders, and this requires a more efficient approach to strategy.

PSYCHOLOGY



Have you ever found yourself re-reading the same sentence four or five times and thought 'I should get more sleep'? Are you clueless as to why one paragraph just seems to 'flow' while you simply can't recall the contents of another? Guess what: you are not alone. Even the best writers fail to grasp why their writing works. *The Reader's Brain* is the first science-based guide to writing, employing cutting-edge research on how our minds process written language, to ensure your writing can be read quickly, assimilated easily, and recalled precisely - exactly what we need to transform anyone into a highly effective writer. Using the 5Cs - clarity, continuity, coherence, concision, and

cadence - this book combines irreverent humour with easy-to-follow principles that will make readers perceive your sentences, paragraphs, and documents to be clear, concise, and effective.