

## Microwave Engineering Radmanesh

Reference/Business/Management/Philosophy/Science The Modern Philosophy & Science of Investment An indispensable tool for the average investor desiring to climb to a higher plateau of affluence and abundance! "This book is one's ultimate weapon in the modern world to become a superior investor with an unusually high investment IQ to confront and conquer all of the doom and gloom of the economic and political upheavals in our society with relative ease." Dr. Matthew M. Radmanesh From "The Modern Philosophy & Science of Investment " You will discover: ? The Pyramid of life ? The Scientific Methodology in Investment ? The General Certainty Principle ? The Entropy Principle ? Unification of Life and Business ? The New Unified Theory ? Reward to Risk Ratio ? The PE Index ? The Postulates and Axioms of Investment ? The Pyramid of Knowledge in Investment ? The F7 Investment System ? The Golden Goose Principle ? The Growth-Share Matrix ? Cash Cow Figures of Merit ? The Logarithmic Investor ? The Margin of Safety " This book is the road map leading to the recovery of great mental abilities and the discovery of physical treasures that would guarantee enormous success in life or business." Dr. Matthew M. Radmanesh From "The Modern Philosophy & Science of Investment" Other Books by Dr. Matthew M. Radmanesh ? The Gateway to Prosperity System, 2015, 751 Pages. ? Advanced Principles of Success & Prosperity, 2012, 622 Pages. ? The Ultimate Keys to Success

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in Business and Science, 2008, 464 Pages. ? Cracking the Code of Our Physical Universe, 2006, 416 Pages. ? The Gateway to Understanding: Electrons to Waves and Beyond, 2005, 678 Pages. Matthew M. Radmanesh, Ph.D., is currently a faculty member in the Electrical and Computer Engineering (ECE) department at California State University, Northridge, CA. Dr. Radmanesh is a member of Tau Beta Pi and Eta Kappa Nu Honor societies, and holds two patents for his pioneering works in Microwaves and Millimeter waves. [WWW.KRCbooks.com](http://WWW.KRCbooks.com)

The book discusses the recent research trends in various sub-domains of computing, communication and control. It includes research papers presented at the First International Conference on Emerging Trends in Engineering and Science. Focusing on areas such as optimization techniques, game theory, supply chain, green computing, 5g networks, Internet of Things, social networks, power electronics and robotics, it is a useful resource for academics and researchers alike.

Advanced RF & Microwave Circuit Design  
The Ultimate Guide to Superior Design  
AuthorHouse

What sets this book apart is the fact that it is not just another science book describing scientific facts and phenomena! It would surely be redundant since that task has been done many times over with much more elegant prose and brighter narrators. In this book, for the first time we have undertaken the task of breaking the code of any piece of matter or natural phenomena; whether it is an atom, a quantum occurrence, a planet, a

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galaxy, or any other perceivable thing. It covers any natural phenomena ever discovered or one that will be unravelled by the future pioneers in their respective fields. This book provides the trail map of any and all things that man has discovered and shows how their codes were cracked. The list of discoveries is endless but prominent amongst them are the discovery of fire, electricity, magnetism, laws of motion, the solar system and planets, so on and so forth. This book goes beyond just pure science since it fuses philosophy with science. It actually makes science a subset of philosophy, or more precisely, applied philosophy. Just like the light phenomenon, which was made to be a subset of the field of electricity by James Clerk Maxwell, revolutionizing our technical world, so does this book by bringing a new era of incredible developments for mankind!

324 Pages. Learning the subject of electricity and electronics through the study of this workbook is tremendously more beneficial than simply purchasing and reading the book on your own. The workbook provides many advantages including: a) A step by step approach presenting a series of lessons, which are bite-sized pieces of information taken from the book. b) The lessons act like a trail or a road to knowledge with a definite beginning and a finite end. This prevents possible frustration of the reader from aimlessly reading the book or getting overwhelmed by the enormity of the subject. c) Solutions to many of the end of chapter quizzes provide an excellent check-out to the readers comprehension of the material. d) A streamlined approach to learning

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electricity/electronics, which takes irrelevant materials off the direct path of achieving the final goal of total comprehension. e) Authors numerous comments, exercises and summary adds clarity and understanding and brings simplification to a very complicated subject.

General in nature, "Applied Electronic Design" covers various design projects in the areas of analog electronics, digital electronics, and telecommunications. The text applies the theoretical information taught during the first two years of most electronics technology/electrical engineering technology programs and examines the design process as it relates to many common electric circuits. Topics include the design process from inception to completion, creativity, circuit board layout, and testing. This text provides very practical material that is unavailable from any other single source. "Applied Electronic Design" will be an invaluable tool for preparing students for future employment.

You will discover: The Business World in a Nutshell Who Do You Have to Be to Succeed Scientific Fundamentals of Business The Relativity of Business Knowledge Timeless Principles of Business Advanced Business Principles Understanding Time Masters Economics As a Subset of Life The Seven Levers of Leverage Principles of Lifelong Selling Unlimited Income Strategies Creating Streams of Income The Five Echelons to Climb The Fifty Genius Traits Selling as a Way of Life The Essence of Money





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The multi-billion-dollar microsystem packaging business continues to play an increasingly important technical role in today's information industry. The packaging process—including design and manufacturing technologies—is the technical foundation upon which function chips are updated for use in application systems, and it is an important guarantee of the continued growth of technical content and value of information systems. Introduction to Microsystem Packaging Technology details the latest advances in this vital area, which involves microelectronics, optoelectronics, RF and wireless, MEMS, and related packaging and assembling technologies. It is purposefully written so that each chapter is relatively independent and the book systematically presents the widest possible overview of packaging knowledge. Elucidates the evolving world of packaging technologies for manufacturing The authors begin by introducing the fundamentals, history, and technical challenges of microsystems. Addressing an array of design techniques for packaging and integration, they cover substrate and interconnection technologies, examples of device- and system-level packaging, and various MEMS packaging techniques. The book also discusses module assembly and optoelectronic packaging, reliability methodologies and analysis, and prospects for the evolution and future applications of microsystems packaging and associated environmental protection. With its research examples and targeted reference questions and answers to reinforce understanding, this text is ideal for researchers, engineers, and students involved in microelectronics and MEMS. It is also

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useful to those who are not directly engaged in packaging but require a solid understanding of the field and its associated technologies.

**Ku-Band Microwave Power Amplifier** By Chinmay Joshi Master of Science in Electrical Engineering The aim of the graduate project is to design a Ku-band microwave power amplifier that operates at 14.5 GHz frequency. A high-power GaAs FET, TIM1314-8UL BY TOSHIBA ELECTRIC has been used to design a power amplifier. Distributed elements are utilized to realize the input and output matching networks. The device is designed to achieve a linear power gain of 7.50dB and an output power up to 7.30dBm. As the design is two-stage, Lange Coupler is used to couple both stages. Lange Coupler is designed by using microstrip-line technology based on RO3006C substrate. NI-AWR is used for circuit simulations. It is one of the leading softwares used in RF & Microwave industries. Analytical calculations and results are verified using softwares like MATLAB, RF/Microwave E-Book by Dr. Matthew Radmanesh.

This newly and thoroughly revised edition of the 1988 Artech House classic offers you a comprehensive, up-to-date treatment of nonlinear microwave and RF circuits. It gives you a current, in-depth understanding of the theory of nonlinear circuit analysis with a focus on Volterra-series and harmonic-balance methods. You get practical guidance in designing nonlinear circuits and modeling solid-state devices for nonlinear circuit analysis by computer. Moreover, you learn how characteristics of such models affect the analysis of these circuits. Critical new topics include microwave heterojunction



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bipolar transistors (HBTs), heterojunction FETs (HEMTs), silicon MOSFETs, modern IC design approaches, new methods of harmonic-balance analysis, multitone analysis methods, Fourier methods for multitone problems, and artificial frequency mapping. What's more, the second edition has been updated to include discussions on nonlinear analysis of oscillators and design issues relating to RF and wireless technology. More than 120 illustrations support key topics throughout the book.

RF and Microwaves is currently in the forefront as a fundamental technology in numerous industrial and commercial applications. As applications of RF and microwaves continue to evolve and as this technology becomes a common factor in the scientific and engineering communities it is imperative that university students and practicing scientists and engineers become thoroughly familiar with the measurement principles, electronics, and design fundamentals underlying this technology. RF and Microwaves is currently in the forefront as a fundamental technology in numerous industrial and commercial applications. As applications of RF and microwaves continue to evolve and as this technology becomes a common factor in the scientific and engineering communities it is imperative that university students and practicing scientists and engineers become thoroughly familiar with the measurement principles, electronics, and design fundamentals underlying this technology. Advanced RF & Microwave Circuit Design is the quickest way to master this powerful subject, and information contained within the pages of this book will make every key electronic, measurement, and design principle you need a simple task. The book introduces concepts on a wide range of materials and has several advantages over existing texts, including: 1. The presentation of a

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series of scientific postulates and axioms, which lays the foundation for any of the engineering sciences and is unique to this book compared with similar RF and Microwave texts. 2. The presentation of classical laws and principles of electricity and magnetism, all inter-related, conceptually and graphically. 3. There is a shift of emphasis from rigorous mathematical solutions of Maxwell's equations, and instead has been aptly placed on simple yet fundamental concepts that underlie these equations. This shift of emphasis will promote a deeper understanding of the electronics, particularly at RF/Microwave frequencies. 4. Fundamentals of electronics have been amply treated, which makes an easy transition to RF/Microwave principles and prevents a gap of knowledge in the reader's mind.

This package comprises a study guide, Radio Frequency and Microwave Electronics by M.M. Radmanesh, a CD-ROM, and final exam.

This book is intended for senior undergraduate and graduate students as well as practicing engineers who are involved in design and analysis of radio frequency (RF) circuits. Fully-solved, tutorial-like examples are used to put into practice major topics and to understand the underlying principles of the main sub-circuits required to design an RF transceiver and the whole communication system. Starting with review of principles in electromagnetic (EM) transmission and signal propagation, through detailed practical analysis of RF amplifier, mixer, modulator, demodulator, and oscillator circuit topologies, as well as basics of the system communication theory, this book systematically covers most relevant aspects in a way that is suitable for a single semester university level course. Readers will benefit from the authors sharp focus on radio receiver design, demonstrated through hundreds of fully-solved, realistic examples, as opposed to texts that cover many aspects of electronics and electromagnetic

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without making the required connection to wireless communication circuit design. Offers readers a complete, self-sufficient tutorial style textbook; Includes all relevant topics required to study and design an RF receiver in a consistent, coherent way with appropriate depth for a one-semester course; Uses hundreds of fully-solved, realistic examples of radio design technology to demonstrate concepts; Explains necessary physical/mathematical concepts and their interrelationship.

The CD-ROM Download that accompanies this book, will provide a powerful interactive software program, which will enable the reader to analyze or design any RF/Microwave circuit with relative ease. This volume deals with the technical aspects of wave propagation in circuits using an engineering perspective. It is rather important to note that waves of all types, shapes, and frequencies abound all around us, and are very commonplace in our daily existence; radio waves, sound waves, sunlight, heat waves, lasers, microwaves, are just a few examples. In this book, we are laying down the essential foundation as a minimum requirement for professional engineers to understand the subject of electromagnetism and its subset "RF & Microwaves." Moreover, this book provides the technical fundamentals that should be utilized by all professional engineers for the design of all high frequency circuits with confidence and composure. This would prove to be the cornerstone of all future inventions and developments in this arena. This book simplifies the subject of electricity and electronics, particularly the high frequency electronics and RF/Microwaves, making it accessible to the general reader by bringing the fundamentals to the forefront, thus ushering in a new era of incredible developments for mankind!

What sets this book apart is the fact that it is not just another microwave book describing

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scientific facts and phenomena. It would surely be redundant since that task has been done many times over with much more elegant prose and brighter narrators. Here is a book where, for the first time, we have undertaken the task of breaking the subject of RF and microwaves into its many components. Just like the light phenomenon, which was made to be a subset of electricity by James Clerk Maxwell, thus revolutionizing our world, so would this book by bringing about a new era of incredible design and applications in the microwave world! This book is the road map of circuit design for high frequency signals where it, through the use of numerous examples, presents detailed and yet powerful design techniques that anyone can learn! Moreover, the CD-ROM download provides a powerful interactive tool to learn and master the design methods provided in this book, and guides the reader toward a higher level of success by delivering quick answers for complicated designs. The Volume VI of the series, provides the advanced techniques for the design of active microwave circuits. The list of circuit applications contained in this volume consists of microwave amplifiers (both small-signal and large-signal), oscillators, rectifiers, detectors, mixers, control circuits, and integrated circuits (both monolithic and hybrid). It gradually dawns upon one that the knowledge contained within the confines of this book could be one's biggest asset in the design of sophisticated RF and Microwave active circuits.

This text describes the basic technical background necessary to understand how information is conveyed across such systems as the Internet and mobile phones. It is organised in five parts: fundamentals, theory, transmitting signals, transmission media and techniques. Appendices include modelling and simulation and electromagnetic waves.

Everyone, in today's society, is struggling with this mysterious thing called the business world

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and strives toward a higher understanding of its inner workings, and yet most books present the basic concepts with so much complexity and filled with so many arbitrary factors that the general public has given up on the subject and perforce has decided to retire to the sideline to be a spectator. In other words, his hope has been dashed aside and his dream of a higher understanding has not been fulfilled in any of the books. The present work is the culmination of many years of study, observation, and pondering on the dilemmas and enigmas of the business world. Within the confines of this book, one is given a chance to take an in-depth look and inspect first-hand, the code ombination of what makes a successful business. The basics are laid in simple terms and clear explanations express the powerful principles lucidly and dynamically, providing an unforgettable impression in the reader's mind. By avoiding undue complexities, the reader will achieve simplicity of thought and will be actually traveling in the direction of the actual why and thus be able to understand how to set up and manage any business. It is an interestingly uncommon book written primarily for the technical as well as the non-technical man. It is intended to serve several classes of our society The office workers and managers, The Business minded individuals, The business owners, The professional managaers. This book will surely serve also an important class of our societythe technical inventors who is looking for inspirations and new ideas to imbue him with enough understanding to finalize and materialize his thoughts into reality. The broad importance of this work could be summed up as laying the foundation for the business world on a scientific basis where arbitrary factors are removed and technical superiority is substituted.

### Electromagnetismo

This book is an attempt to make something unified of the accumulations of a lifetime of

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thoughts and impressions can be likened unto an archeologist piecing together random shards and bones in an effort to establish the culture of an ancient society.

Advances in computer technology and in the development of modern microwave test instruments over the past decade have given electrical engineers, researchers and university students a number of new approaches to study microwave components, devices and circuits. Vector network analyser (VNA) is a valuable tool for providing fast and accurate characterisation of microwave components and devices for other circuits working at high frequencies. This book together with associated software serves as an introduction to microwave network analysis, microwave components and devices, and microwave circuit design. Software VNA and Microwave Network Design and Characterisation also provides both device and circuit simulators powered by the analytical formulae presented in the book. The book consists of chapters on network analysis theory and network parameters, installation and functions of the software, built-in device models, circuit design and operation principles and design examples. The Software VNA provided with the book includes: a trainer for users to gain experience of how a VNA would operate in practice. Capability of accessing to the data on a commercial VNA test instrument. device simulator equipped with 35 device builders from which an unlimited number of devices can be defined and studied. circuit simulator that can be used to build circuits and study their properties. Software VNA and Microwave Network Design and Characterisation is a practical guide for senior

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undergraduate and MSc students as well as practising engineers and researchers in the field of microwave engineering.

This book is intended for senior undergraduate and graduate students as well as practicing engineers who are involved in design and analysis of radio frequency (RF) circuits. Detailed tutorials are included on all major topics required to understand fundamental principles behind both the main sub-circuits required to design an RF transceiver and the whole communication system. Starting with review of fundamental principles in electromagnetic (EM) transmission and signal propagation, through detailed practical analysis of RF amplifier, mixer, modulator, demodulator, and oscillator circuit topologies, all the way to the basic system communication theory behind the RF transceiver operation, this book systematically covers all relevant aspects in a way that is suitable for a single semester university level course. Offers readers a complete, self-sufficient tutorial style textbook; Includes all relevant topics required to study and design an RF receiver in a consistent, coherent way with appropriate depth for a one-semester course; The labs and the book chapters are synchronized throughout a 13-week semester so that the students first study each sub-circuit and the related theory in class, practice problems, work out design details and then build and test the sub-circuit in the lab, before moving onto the next chapter; Includes detailed derivations of all key equations related to new concepts.

**RF & Microwave Design Essentials** This book is an indispensable tool for the

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RF/Microwave engineer as well as the scientist in the field working on the high frequency circuit applications. You will discover: ] Electricity Fundamentals ] Wave propagation ] Amplifier Design ] Gain Equations ] CAD Examples ] S-Parameters ] Circuit Noise ] RF Design ] Circuit Stability ] Transmission Lines ] RF/Microwave Bands ] Matching Circuit Design ] Smith Chart Applications ] BJT and FET Circuit Design ] Advanced RF/Microwave Concepts The most realistic and inspiring book with invaluable practical insights. Dr. S. K. Ramesh, Dean of Engineering, California State University, Northridge A completely unique book that unlocks the mysteries of our microwave world. Paul Luong, Senior Microwave Engineer ATK Mission Systems, Inc. The CD-ROM provides design worksheets and menus as well as actual design examples in a Microsoft(r) Excel Environment, where the student can design or analyze RF/Microwave circuits easily and efficientl

A highly comprehensive summary on circuit related modeling techniques and parameter extraction methods for heterojunction bipolar transistors Heterojunction Bipolar Transistor (HBT) is one of the most important devices for microwave applications. The book details the accurate device modeling for HBTs and high level IC design using HBTs Provides a valuable reference to basic modeling issues and specific semiconductor device models encountered in circuit simulators, with a thorough reference list at the end of each chapter for onward learning Offers an overview on modeling techniques and parameter extraction methods for heterojunction bipolar



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transistors focusing on circuit simulation and design Presents electrical/RF engineering-related theory and tools and include equivalent circuits and their matrix descriptions, noise, small and large signal analysis methods

This book describes a full range of contemporary techniques for the design of transmitters and receivers for communications systems operating in the range from 1 through to 300 GHz. In this frequency range there is a wide range of technologies that need to be employed, with silicon ICs at the core but, compared with other electronics systems, a much greater use of more specialist devices and components for high performance – for example, high Q-factor/low loss and good power efficiency. Many text books do, of course, cover these topics but what makes this book timely is the rapid adoption of millimetre-waves (frequencies from 30 to 300 GHz) for a wide range of consumer applications such as wireless high definition TV, “5G” Gigabit mobile internet systems and automotive radars. It has taken many years to develop low-cost technologies for suitable transmitters and receivers, so previously these frequencies have been employed only in expensive military and space applications. The book will cover these modern technologies, with the follow topics covered; transmitters and receivers, lumped element filters, transmission lines and S-parameters, RF MEMS, RFICs and MMICs, and many others. In addition, the book includes extensive line diagrams to illustrate circuit diagrams and block diagrams of systems, including diagrams and photographs showing how circuits are implemented practically.

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Furthermore, case studies are also included to explain the salient features of a range of important wireless communications systems. The book is accompanied with suitable design examples and exercises based on the Advanced Design System – the industry leading CAD tool for wireless design. More importantly, the authors have been working with Keysight Technologies on a learning & teaching initiative which is designed to promote access to industry-standard EDA tools such as ADS. Through its University Educational Support Program, Keysight offers students the opportunity to request a student license, backed up with extensive classroom materials and support resources. This culminates with students having the chance to demonstrate their RF/MW design and measurement expertise through the Keysight RF & Microwave Industry-Ready Student Certification Program. [www.keysight.com/find/eesof-university](http://www.keysight.com/find/eesof-university)  
[www.keysight.com/find/eesof-student-certification](http://www.keysight.com/find/eesof-student-certification)

Foreword by Dr. Asad Madni, C. Eng., Fellow IEEE, Fellow IEE Learn the fundamentals of RF and microwave electronics visually, using many thoroughly tested, practical examples RF and microwave technology are essential throughout industry and to a world of new applications-in wireless communications, in Direct Broadcast TV, in Global Positioning System (GPS), in healthcare, medical and many other sciences. Whether you're seeking to strengthen your skills or enter the field for the first time, Radio Frequency and

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Microwave Electronics Illustrated is the fastest way to master every key measurement, electronic, and design principle you need to be effective. Dr. Matthew Radmanesh uses easy mathematics and a highly graphical approach with scores of examples to bring about a total comprehension of the subject. Along the way, he clearly introduces everything from wave propagation to impedance matching in transmission line circuits, microwave linear amplifiers to hard-core nonlinear active circuit design in Microwave Integrated Circuits (MICs). Coverage includes: A scientific framework for learning RF and microwaves easily and effectively Fundamental RF and microwave concepts and their applications The characterization of two-port networks at RF and microwaves using S-parameters Use of the Smith Chart to simplify analysis of complex design problems Key design considerations for microwave amplifiers: stability, gain, and noise Workable considerations in the design of practical active circuits: amplifiers, oscillators, frequency converters, control circuits RF and Microwave Integrated Circuits (MICs) Novel use of "live math" in circuit analysis and design Dr. Radmanesh has drawn upon his many years of practical experience in the microwave industry and educational arena to introduce an exceptionally wide range of practical concepts and design methodology and techniques in the most comprehensible fashion. Applications include small-signal, narrow-band, low

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noise, broadband and multistage transistor amplifiers; large signal/high power amplifiers; microwave transistor oscillators, negative-resistance circuits, microwave mixers, rectifiers and detectors, switches, phase shifters and attenuators. The book is intended to provide a workable knowledge and intuitive understanding of RF and microwave electronic circuit design. Radio Frequency and Microwave Electronics Illustrated includes a comprehensive glossary, plus appendices covering key symbols, physical constants, mathematical identities/formulas, classical laws of electricity and magnetism, Computer-Aided-Design (CAD) examples and more. About the Web Site The accompanying web site has an "E-Book" containing actual design examples and methodology from the text, in Microsoft Excel environment, where files can easily be manipulated with fresh data for a new design.

If you're looking for a clear, comprehensive overview of basic electromagnetics principles and applications to antenna and microwave circuit design for communications, this authoritative book is your best choice. Including concise explanations of all required mathematical concepts needed to fully comprehend the material, the book is your complete resource for understanding electromagnetics in current, emerging and future broadband communication systems, as well as high-speed analogue and digital electronic circuits and

systems.

**MEET BENJAMIN FRANKLIN FRIDDLE** The hero of this narrative is a precocious schoolboy who was given a dictionary by his parents when he was very young. In spite of learning the meaning of many new words, he and Jamie conspired to speak like the young man they idolized who spoke with very bad grammar. This gradually became harder, but they both tried very hard not to sound like a girl. Frankie is persuaded to adopt a different imperative through his teacher, who had more understanding of the boys than they could have supposed. In 1987, the book was written to amuse my mother who seemed to enjoy hearing each episode as it developed. The narrative was rejected by several publishers, so I recorded it on an audio tape, which I gave to my grandchildren. And I made a hard copy, which stayed on a shelf until after I received word from 1stBooks. The interest of my grandchildren interested me. Several parts were extremely funny when read aloud to them. Although it is fiction, it might be useful in persuading readers that the uses of good grammar might be necessary for success in modern society. Recent gaps in SAT scores could easily be society's heritage from an erroneous assumption. No language is likely to equal proper English in the American job market. This book may help readers to realize that bad grammar could limit the perception of academic

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perfectionists who happen to hear job applicants speak. Please let me know whether I should develop another thing I regard as fact: true wisdom is often overlooked in persons who differ from ourselves.

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