The Unfinished Game Pascal Fermat And Seventeenth Century Letter That Made World Modern Keith J Devlin

Previous editions published under title: Drugs and human behavior.

Examines a letter written by Blaise Pascal to Pierre de Fermat in 1654 that speaks of probability and numerical values that have had an impact on the modern world with regard to calculating insurance rates, the housing markets, and car safety.

In the sixteenth and seventeenth centuries, gamblers and mathematicians transformed the idea of chance from a mystery into the discipline of probability, setting the stage for a series of breakthroughs that enabled or transformed innumerable fields, from gambling, mathematics, statistics, economics, and finance to physics and computer science. This book tells the story of ten great ideas about chance and the thinkers who developed them, tracing the philosophical implications of these ideas as well as their mathematical impact.

The hazards of feeling lucky in gambling Why do so many gamblers risk it all when they know the odds of winning are against them? Why do they believe dice are "hot" in a winning streak? Why do we expect heads on a coin toss after several flips have turned up tails? What's Luck Got to Do with It? takes a lively and eye-opening look at the mathematics, history, and psychology of gambling to reveal the most widely held misconceptions

about luck. It exposes the hazards of feeling lucky, and uses the mathematics of predictable outcomes to show when our chances of winning are actually good. Mathematician Joseph Mazur traces the history of gambling from the earliest known archaeological evidence of dice playing among Neolithic peoples to the first systematic mathematical studies of games of chance during the Renaissance, from government-administered lotteries to the glittering seductions of grand casinos, and on to the global economic crisis brought on by financiers' trillion-dollar bets. Using plenty of engaging anecdotes, Mazur explains the mathematics behind gambling—including the laws of probability, statistics, betting against expectations, and the law of large numbers—and describes the psychological and emotional factors that entice people to put their faith in winning that ever-elusive jackpot despite its mathematical improbability. As entertaining as it is informative, What's Luck Got to Do with It? demonstrates the pervasive nature of our belief in luck and the deceptive psychology of winning and losing. Some images inside the book are unavailable due to digital copyright restrictions.

An original account of willful ignorance and how this principle relates to modern probability and statistical methods Through a series of colorful stories about great thinkers and the problems they chose to solve, the author traces the historical evolution of probability and explains how statistical methods have helped to propel scientific research. However, the past success of statistics has depended on vast, deliberate simplifications amounting to willful ignorance, and this

very success now threatens future advances in medicine, the social sciences, and other fields. Limitations of existing methods result in frequent reversals of scientific findings and recommendations, to the consternation of both scientists and the lay public. Willful Ignorance: The Mismeasure of Uncertainty exposes the fallacy of regarding probability as the full measure of our uncertainty. The book explains how statistical methodology, though enormously productive and influential over the past century, is approaching a crisis. The deep and troubling divide between qualitative and quantitative modes of research, and between research and practice, are reflections of this underlying problem. The author outlines a path toward the re-engineering of data analysis to help close these gaps and accelerate scientific discovery. Willful Ignorance: The Mismeasure of Uncertainty presents essential information and novel ideas that should be of interest to anyone concerned about the future of scientific research. The book is especially pertinent for professionals in statistics and related fields, including practicing and research clinicians, biomedical and social science researchers, business leaders, and policy-makers.
"Part I reprints and reworks Huygens's On Reckoning in Games of Chance. Part II offers a thorough treatment of the mathematics of combinations and permutations, including the numbers since known as "Bernoulli numbers." In Part III, Bernoulli solves more complicated problems of games of chance using that mathematics. In the final part, Bernoulli's crowning achievement in mathematical probability becomes manifest he applies

the mathematics of games of chance to the problems of epistemic probability in civil, moral, and economic matters, proving what we now know as the weak law of large numbers."

John Walsh, one of the great masters of the subject, has written a superb book on probability. It covers at a leisurely pace all the important topics that students need to know, and provides excellent examples. I regret his book was not available when I taught such a course myself, a few years ago. --Ioannis Karatzas, Columbia University In this wonderful book, John Walsh presents a panoramic view of Probability Theory, starting from basic facts on mean, median and mode, continuing with an excellent account of Markov chains and martingales, and culminating with Brownian motion. Throughout, the author's personal style is apparent; he manages to combine rigor with an emphasis on the key ideas so the reader never loses sight of the forest by being surrounded by too many trees. As noted in the preface, ``To teach a course with pleasure, one should learn at the same time.'' Indeed, almost all instructors will learn something new from the book (e.g. the potential-theoretic proof of Skorokhod embedding) and at the same time, it is attractive and approachable for students. --Yuval Peres, Microsoft With many examples in each section that enhance the presentation, this book is a welcome addition to the collection of books that serve the needs of advanced undergraduate as well as first year graduate students. The pace is leisurely which makes it more attractive as a text. --Srinivasa Varadhan, Courant Institute, New York This book covers in a leisurely

manner all the standard material that one would want in a full year probability course with a slant towards applications in financial analysis at the graduate or senior undergraduate honors level. It contains a fair amount of measure theory and real analysis built in but it introduces sigma-fields, measure theory, and expectation in an especially elementary and intuitive way. A large variety of examples and exercises in each chapter enrich the presentation in the text.

This highly accessible, manageable program is user-friendly for instructors, teaching assistants, and students. Known for its succinct and precise grammar explanations, its presentation of high-frequency and practical vocabulary, and its overall flexibility, HOLA, AMIGOS! continues to maintain its appeal with instructors regardless of their preferred methodology. The program is designed to develop students' ability to communicate effectively in Spanish in a variety of situations as well as to strengthen cultural awareness and competence. It offers a full scope and sequence, yet is brief enough to be used effectively for a two-semester course. The eighth edition features an enhanced integration and presentation of culture and new and exciting technology components. All components are fully integrated with the flexibility to accommodate a range of scheduling factors, contact hours, course objectives, and ability levels. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Game-theoretic probability and finance come of age Glenn Shafer and Vladimir Vovk's Probability and

Finance, published in 2001, showed that perfect-information games can be used to define mathematical probability. Based on fifteen years of further research, Game-Theoretic Foundations for Probability and Finance presents a mature view of the foundational role game theory can play. Its account of probability theory opens the way to new methods of prediction and testing and makes many statistical methods more transparent and widely usable. Its contributions to finance theory include purely game-theoretic accounts of Ito's stochastic calculus, the capital asset pricing model, the equity premium, and portfolio theory. Game-Theoretic Foundations for Probability and Finance is a book of research. It is also a teaching resource. Each chapter is supplemented with carefully designed exercises and notes relating the new theory to its historical context. Praise from early readers "Ever since Kolmogorov's Grundbegriffe, the standard mathematical treatment of probability theory has been measure-theoretic. In this ground-breaking work, Shafer and Vovk give a game-theoretic foundation instead. While being just as rigorous, the game-theoretic approach allows for vast and useful generalizations of classical measure-theoretic results, while also giving rise to new, radical ideas for prediction, statistics and mathematical finance without stochastic assumptions. The authors set out their theory in great detail, resulting in what is definitely one of the most important books on the foundations of probability to have appeared in the last few decades." – Peter Grünwald, CWI and University of Leiden "Shafer and Vovk have thoroughly re-written their 2001 book on the

game-theoretic foundations for probability and for finance. They have included an account of the tremendous growth that has occurred since, in the game-theoretic and pathwise approaches to stochastic analysis and in their applications to continuous-time finance. This new book will undoubtedly spur a better understanding of the foundations of these very important fields, and we should all be grateful to its authors." – Ioannis Karatzas, Columbia University

This revised and greatly expanded edition of the Russian classic contains a wealth of new information about the lives of many great mathematicians and scientists, past and present. Written by a distinguished mathematician and featuring a unique mix of mathematics, physics, and history, this text combines original source material and provides careful explanations for some of the most significant discoveries in mathematics and physics. What emerges are intriguing, multifaceted biographies that will interest readers at all levels.

A Business Week, New York Times Business, and USA Today Bestseller "Ambitious and readable . . . an engaging introduction to the oddsmakers, whom Bernstein regards as true humanists helping to release mankind from the choke holds of superstition and fatalism." —The New York Times "An extraordinarily entertaining and informative book." —The Wall Street Journal "A lively panoramic book . . . Against the Gods sets up an ambitious premise and then delivers on it." —Business Week "Deserves to be, and surely will be, widely read." —The Economist "[A] challenging book, one that may change forever the way people think about the

world." —Worth "No one else could have written a book of such central importance with so much charm and excitement." —Robert Heilbroner author, The Worldly Philosophers "With his wonderful knowledge of the history and current manifestations of risk, Peter Bernstein brings us Against the Gods. Nothing like it will come out of the financial world this year or ever. I speak carefully: no one should miss it." —John Kenneth Galbraith Professor of Economics Emeritus, Harvard University In this unique exploration of the role of risk in our society, Peter Bernstein argues that the notion of bringing risk under control is one of the central ideas that distinguishes modern times from the distant past. Against the Gods chronicles the remarkable intellectual adventure that liberated humanity from oracles and soothsayers by means of the powerful tools of risk management that are available to us today. "An extremely readable history of risk." —Barron's "Fascinating . . . this challenging volume will help you understand the uncertainties that every investor must face." —Money "A singular achievement." —Times Literary Supplement "There's a growing market for savants who can render the recondite intelligibly-witness Stephen Jay Gould (natural history), Oliver Sacks (disease), Richard Dawkins (heredity), James Gleick (physics), Paul Krugman (economics)-and Bernstein would mingle well in their company." —The Australian

An examination of the cognitive tools that the mind uses to grapple with uncertainty in the real world. How do humans navigate uncertainty, continuously making near-effortless decisions and predictions even under

conditions of imperfect knowledge, high complexity, and extreme time pressure? Taming Uncertainty argues that the human mind has developed tools to grapple with uncertainty. Unlike much previous scholarship in psychology and economics, this approach is rooted in what is known about what real minds can do. Rather than reducing the human response to uncertainty to an act of juggling probabilities, the authors propose that the human cognitive system has specific tools for dealing with different forms of uncertainty. They identify three types of tools: simple heuristics, tools for information search, and tools for harnessing the wisdom of others. This set of strategies for making predictions, inferences, and decisions constitute the mind's adaptive toolbox. The authors show how these three dimensions of human decision making are integrated and they argue that the toolbox, its cognitive foundation, and the environment are in constant flux and subject to developmental change. They demonstrate that each cognitive tool can be analyzed through the concept of ecological rationality—that is, the fit between specific tools and specific environments. Chapters deal with such specific instances of decision making as food choice architecture, intertemporal choice, financial uncertainty, pedestrian navigation, and adolescent behavior.

More than three centuries after its creation, calculus remains a dazzling intellectual achievement and the gateway to higher mathematics. This book charts its growth and development by sampling from the work of some of its foremost practitioners, beginning with Isaac Newton and Gottfried Wilhelm Leibniz in the late

seventeenth century and continuing to Henri Lebesgue at the dawn of the twentieth. Now with a new preface by the author, this book documents the evolution of calculus from a powerful but logically chaotic subject into one whose foundations are thorough, rigorous, and unflinching—a story of genius triumphing over some of the toughest, subtlest problems imaginable. In touring The Calculus Gallery, we can see how it all came to be.
Blaise Pascal, the precociously brilliant contemporary of Descartes, was a gifted mathematician and physicist, but it is his unfinished apologia for the Christian religion upon which his reputation now rests. The Penseés is a collection of philosohical fragments, notes and essays in which Pascal explores the contradictions of human nature in pscyhological, social, metaphysical and - above all - theological terms. Mankind emerges from Pascal's analysis as a wretched and desolate creature within an impersonal universe, but who can be transformed through faith in God's grace.
The story of the medieval genius whose 1202 book changed the course of mathematics in the West and helped bring on the modern era.
Mathematics was only one area of interest for Gerolamo Cardano ? the sixteenth-century astrologer, philosopher, and physician was also a prolific author and inveterate gambler. Gambling led Cardano to the study of probability, and he was the first writer to recognize that random events are governed by mathematical laws. Published posthumously in 1663, Cardano's Liber de ludo aleae (Book on Games of Chance) is often considered the major starting point of the study of

mathematical probability. The Italian scholar formulated some of the field's basic ideas more than a century before the better-known correspondence of Pascal and Fermat. Although his book had no direct influence on other early thinkers about probability, it remains an important antecedent to later expressions of the science's tenets.

In the early seventeenth century, the outcome of something as simple as a dice roll was consigned to the realm of unknowable chance. Mathematicians largely agreed that it was impossible to predict the probability of an occurrence. Then, in 1654, Blaise Pascal wrote to Pierre de Fermat explaining that he had discovered how to calculate risk. The two collaborated to develop what is now known as probability theory—a concept that allows us to think rationally about decisions and events. In The Unfinished Game, Keith Devlin masterfully chronicles Pascal and Fermat's mathematical breakthrough, connecting a centuries-old discovery with its remarkable impact on the modern world.

In simple, non-technical language, this volume explores the fundamentals governing chance and applies them to sports, government, and business. Topics includenbsp;the theory of probability in relation to superstitions, betting odds, warfare,nbsp;social problems, stocks, and other areas. "Clear and lively ...nbsp;remarkably accurate." —Scientific Monthly.

Möbius bagels, Euclid's flourless chocolate cake and apple pi - this is maths, but not as you know it.In How to Bake Pi, mathematical crusader and star baker Eugenia Cheng has rustled up a batch of delicious culinary insights into everything from simple numeracy to category theory ('the mathematics of mathematics'), via Fermat, Poincaré and Riemann.Maths is much more than simultaneous equations and pr2 : it is an incredibly powerful tool for thinking about the world around

us. And once you learn how to think mathematically, you'll never think about anything - cakes, custard, bagels or doughnuts; not to mention fruit crumble, kitchen clutter and Yorkshire puddings - the same way again.Stuffed with moreish puzzles and topped with a generous dusting of wit and charm, How to Bake Pi is a foolproof recipe for a mathematical feast.

A pair of friends from Harvard embark on a road trip to see 30 baseball games in 30 different stadiums over 30 days and describe their misadventures in this book about sports fans, loyalty, hot dogs and friendship. 20,000 first printing.

This volume contains eight papers written by Adam Brandenburger and his co-authors over a period of 25 years. These papers are part of a program to reconstruct game theory in order to make how players reason about a game a central feature of the theory. The program OCo now called epistemic game theory OCo extends the classical definition of a game model to include not only the game matrix or game tree, but also a description of how the players reason about one another (including their reasoning about other players' reasoning). With this richer mathematical framework, it becomes possible to determine the implications of how players reason for how a game is played. Epistemic game theory includes traditional equilibrium-based theory as a special case, but allows for a wide range of non-equilibrium behavior. Sample Chapter(s). Foreword (39 KB). Introduction (132 KB). Chapter 1: An Impossibility Theorem on Beliefs in Games (299 KB). Contents: An Impossibility Theorem on Beliefs in Games (Adam Brandenburger and H Jerome Keisler); Hierarchies of Beliefs and Common Knowledge (Adam Brandenburger and Eddie Dekel); Rationalizability and Correlated Equilibria (Adam Brandenburger and Eddie Dekel); Intrinsic Correlation in Games (Adam Brandenburger and Amanda Friedenberg); Epistemic Conditions for Nash

Equilibrium (Robert Aumann and Adam Brandenburger); Lexicographic Probabilities and Choice Under Uncertainty (Lawrence Blume, Adam Brandenburger, and Eddie Dekel); Admissibility in Games (Adam Brandenburger, Amanda Friedenberg and H Jerome Keisler); Self-Admissible Sets (Adam Brandenburger and Amanda Friedenberg). Readership: Graduate students and researchers in the fields of game theory, theoretical computer science, mathematical logic and social neuroscience."

Why is math so hard? And why, despite this difficulty, are some people so good at it? If there's some inborn capacity for mathematical thinking—which there must be, otherwise no one could do it —why can't we all do it well? Keith Devlin has answers to all these difficult questions, and in giving them shows us how mathematical ability evolved, why it's a part of language ability, and how we can make better use of this innate talent.He also offers a breathtakingly new theory of language development—that language evolved in two stages, and its main purpose was not communication—to show that the ability to think mathematically arose out of the same symbol-manipulating ability that was so crucial to the emergence of true language. Why, then, can't we do math as well as we can speak? The answer, says Devlin, is that we can and do—we just don't recognize when we're using mathematical reasoning.

In the twenty-first century, everyone can benefit from being able to think mathematically. This is not the same as "doing math." The latter usually involves the application of formulas, procedures, and symbolic manipulations; mathematical thinking is a powerful way of thinking about things in the world -- logically, analytically, quantitatively, and with precision. It is not a natural way of thinking, but it can be learned.Mathematicians, scientists, and engineers need to "do math," and it takes many years of college-level education

to learn all that is required. Mathematical thinking is valuable to everyone, and can be mastered in about six weeks by anyone who has completed high school mathematics. Mathematical thinking does not have to be about mathematics at all, but parts of mathematics provide the ideal target domain to learn how to think that way, and that is the approach taken by this short but valuable book.The book is written primarily for first and second year students of science, technology, engineering, and mathematics (STEM) at colleges and universities, and for high school students intending to study a STEM subject at university. Many students encounter difficulty going from high school math to college-level mathematics. Even if they did well at math in school, most are knocked off course for a while by the shift in emphasis, from the K-12 focus on mastering procedures to the "mathematical thinking" characteristic of much university mathematics. Though the majority survive the transition, many do not. To help them make the shift, colleges and universities often have a "transition course." This book could serve as a textbook or a supplementary source for such a course.Because of the widespread applicability of mathematical thinking, however, the book has been kept short and written in an engaging style, to make it accessible to anyone who seeks to extend and improve their analytic thinking skills. Going beyond a basic grasp of analytic thinking that everyone can benefit from, the STEM student who truly masters mathematical thinking will find that college-level mathematics goes from being confusing, frustrating, and at times seemingly impossible, to making sense and being hard but doable.Dr. Keith Devlin is a professional mathematician at Stanford University and the author of 31 previous books and over 80 research papers. His books have earned him many awards, including the Pythagoras Prize, the Carl Sagan Award, and the Joint Policy Board for Mathematics

Communications Award. He is known to millions of NPR listeners as "the Math Guy" on Weekend Edition with Scott Simon. He writes a popular monthly blog "Devlin's Angle" for the Mathematical Association of America, another blog under the name "profkeithdevlin", and also blogs on various topics for the Huffington Post.

Heavenly Intrigue is the fascinating, true account of the seventeenth-century collaboration between Johannes Kepler and Tycho Brahe that revolutionized our understanding of the universe–and ended in murder.One of history's greatest geniuses, Kepler laid the foundations of modern physics with his revolutionary laws of planetary motion. But his beautiful mind was beset by demons. Born into poverty and abuse, half-blinded by smallpox, he festered with rage, resentment, and a longing for worldly fame. Brahe, his mentor, was a flamboyant aristocrat who had spent forty years mapping the heavens with unprecedented accuracy–but he refused to share his data with Kepler. With Brahe's untimely death in Prague in 1601, rumors flew across Europe that he had been murdered. But it took twentieth-century forensics to uncover the poison in his remains, and the detective work of Joshua and Anne-Lee Gilder to identify the prime suspect–the ambitious, envy-ridden Kepler himself. A fast-paced, true-life account that reads like a thriller, Heavenly Intrigue is a remarkable feat of historical re-creation.

In this light-hearted yet ultimately serious book, Jason Rosenhouse explores the history of this fascinating puzzle. Using a minimum of mathematics (and none at all for much of the book), he shows how the problem has fascinated philosophers, psychologists, and many others, and examines the many variations that have appeared over the years.

Mathematics: The New Golden Age offers a glimpse of

the extraordinary vistas and bizarre universes opened up by contemporary mathematicians: Hilbert's tenth problem and the four-color theorem, Gaussian integers, chaotic dynamics and the Mandelbrot set, infinite numbers, and strange number systems. Why a "new golden age"? According to Keith Devlin, we are currently witnessing an astronomical amount of mathematical research. Charting the most significant developments that have taken place in mathematics since 1960, Devlin expertly describes these advances for the interested layperson and adroitly summarizes their significance as he leads the reader into the heart of the most interesting mathematical perplexities -- from the biggest known prime number to the Shimura-Taniyama conjecture for Fermat's Last Theorem. Revised and updated to take into account dramatic developments of the 1980s and 1990s, Mathematics: The New Golden Age includes, in addition to Fermat's Last Theorem, major new sections on knots and topology, and the mathematics of the physical universe. Devlin portrays mathematics not as a collection of procedures for solving problems, but as a unified part of human culture, as part of mankind's eternal quest to understand ourselves and the world in which we live. Though a genuine science, mathematics has strong artistic elements as well; this creativity is in evidence here as Devlin shows what mathematicians do -- and reveals that it has little to do with numbers and arithmetic. This book brilliantly captures the fascinating new age of mathematics.

Bestselling author and astrophysicist Mario Livio examines the lives and theories of history’s greatest

mathematicians to ask how—if mathematics is an abstract construction of the human mind—it can so perfectly explain the physical world. Nobel Laureate Eugene Wigner once wondered about “the unreasonable effectiveness of mathematics” in the formulation of the laws of nature. Is God a Mathematician? investigates why mathematics is as powerful as it is. From ancient times to the present, scientists and philosophers have marveled at how such a seemingly abstract discipline could so perfectly explain the natural world. More than that—mathematics has often made predictions, for example, about subatomic particles or cosmic phenomena that were unknown at the time, but later were proven to be true. Is mathematics ultimately invented or discovered? If, as Einstein insisted, mathematics is “a product of human thought that is independent of experience,” how can it so accurately describe and even predict the world around us? Physicist and author Mario Livio brilliantly explores mathematical ideas from Pythagoras to the present day as he shows us how intriguing questions and ingenious answers have led to ever deeper insights into our world. This fascinating book will interest anyone curious about the human mind, the scientific world, and the relationship between them.

New mathematical insights and rigorous results are often gained through extensive experimentation using numerical examples or graphical images and analyzing them. Today computer experiments are an integral part of doing mathematics. This allows for a more systematic approach to conducting and replicating experiments. The

authors address the role of
Probability Theory: A Historical Sketch covers the probability theory, mainly axiomatization problems. The book discusses the prehistory of the probability theory; the first stage in the development of probability theory; and the development of probability theory to the middle of the 19th century. The text also describes the probability theory in the second half of the 19th century; and the axiomatic foundations of the probability theory. Historians and mathematicians will find the book invaluable.
Now available in a fully revised and updated second edition, this well established textbook provides a straightforward introduction to the theory of probability. The presentation is entertaining without any sacrifice of rigour; important notions are covered with the clarity that the subject demands. Topics covered include conditional probability, independence, discrete and continuous random variables, basic combinatorics, generating functions and limit theorems, and an introduction to Markov chains. The text is accessible to undergraduate students and provides numerous worked examples and exercises to help build the important skills necessary for problem solving.
Were it not for the calculus, mathematicians would have no way to describe the acceleration of a motorcycle or the effect of gravity on thrown balls and distant planets, or to prove that a man could cross a room and eventually touch the opposite wall. Just how calculus makes these things possible and in doing so finds a correspondence between real numbers and the real world is the subject

of this dazzling book by a writer of extraordinary clarity and stylistic brio. Even as he initiates us into the mysteries of real numbers, functions, and limits, Berlinski explores the furthest implications of his subject, revealing how the calculus reconciles the precision of numbers with the fluidity of the changing universe. "An odd and tantalizing book by a writer who takes immense pleasure in this great mathematical tool, and tries to create it in others."--New York Times Book Review

A mathematician’s ten-year quest to tell Fibonacci’s story In 2000, Keith Devlin set out to research the life and legacy of the medieval mathematician Leonardo of Pisa, popularly known as Fibonacci, whose book Liber abbaci, or the “Book of Calculation,” introduced modern arithmetic to the Western world. Although most famous for the Fibonacci numbers—which, it so happens, he didn’t discover—Fibonacci’s greatest contribution was as an expositor of mathematical ideas at a level ordinary people could understand. Yet Fibonacci was forgotten after his death, and it was not until the 1960s that his true achievements were finally recognized. Drawing on the diary he kept of his quest, Devlin describes the false starts and disappointments, the unexpected turns, and the occasional lucky breaks he encountered in his search. Fibonacci helped to revive the West as the cradle of science, technology, and commerce, yet he vanished from the pages of history. This is Devlin’s search to find him.

Geometry defines the world around us, helping us make sense of everything from architecture to military science to fashion. And for over two thousand years, geometry

has been equated with Euclid's Elements, arguably the most influential book in the history of mathematics In The King of Infinite Space, renowned mathematics writer David Berlinski provides a concise homage to this elusive mathematician and his staggering achievements. Berlinski shows that, for centuries, scientists and thinkers from Copernicus to Newton to Einstein have relied on Euclid's axiomatic system, a method of proof still taught in classrooms around the world. Euclid's use of elemental logic -- and the mathematical statements he and others built from it -- have dramatically expanded the frontiers of human knowledge. The King of Infinite Space presents a rich, accessible treatment of Euclid and his beautifully simple geometric system, which continues to shape the way we see the world.

Game Theory through Examples is a thorough introduction to elementary game theory, covering finite games with complete information. The core philosophy underlying this volume is that abstract concepts are best learned when encountered first (and repeatedly) in concrete settings. Thus, the essential ideas of game theory are here presented in the context of actual games, real games much more complex and rich than the typical toy examples. All the fundamental ideas are here: Nash equilibria, backward induction, elementary probability, imperfect information, extensive and normal form, mixed and behavioral strategies. The active-learning, example-driven approach makes the text suitable for a course taught through problem solving. Students will be thoroughly engaged by the extensive classroom exercises, compelling homework problems,

and nearly sixty projects in the text. Also available are approximately eighty Java applets and three dozen Excel spreadsheets in which students can play games and organize information in order to acquire a gut feeling to help in the analysis of the games. Mathematical exploration is a deep form of play; that maxim is embodied in this book. Game Theory through Examples is a lively introduction to this appealing theory. Assuming only high school prerequisites makes the volume especially suitable for a liberal arts or general education spirit-of-mathematics course. It could also serve as the active-learning supplement to a more abstract text in an upper-division game theory course.

What happens when a naive intern is granted unfettered access to people's most private thoughts and actions? Stephen Thorpe lands a coveted internship at Ubatoo, an Internet empire that provides its users with popular online services, from a search engine and e-mail, to social networking. When Stephen’s boss asks him to work on a project with the American Coalition for Civil Liberties, Stephen innocently obliges, believing he is mining Ubatoo’s vast databases to protect people unfairly targeted in the name of national security. But nothing is as it seems. Suspicious individuals surface, doing all they can to access Ubatoo’s wealth of confidential information. This need not require technical wizardry—simply knowing how to manipulate a well-intentioned intern may be enough. The Silicon Jungle is a cautionary fictional tale of data mining’s promise and peril. Baluja raises ethical questions about contemporary technological innovations, and how minute details can be

routinely pieced together into rich profiles that reveal our habits, goals, and secret desires—all ready to be exploited.

The idea of progress from the Enlightenment to postmodernism is still very much with us. In intellectual discourse, journals, popular magazines, and radio and talk shows, the debate between those who are "progressivists" and those who are "declinists" is as spirited as it was in the late seventeenth century. In History of the Idea of Progress, Robert Nisbet traces the idea of progress from its origins in Greek, Roman, and medieval civilizations to modern times. It is a masterful frame of reference for understanding the present world. Nisbet asserts there are two fundamental building blocks necessary to Western doctrines of human advancement: the idea of growth, and the idea of necessity. He sees Christianity as a key element in both secular and spiritual evolution, for it conveys all the ingredients of the modern idea of progress: the advancement of the human race in time, a single time frame for all the peoples and epochs of the past and present, the conception of time as linear, and the envisagement of the future as having a Utopian end. In his new introduction, Nisbet shows why the idea of progress remains of critical importance to studies of social evolution and natural history. He provides a contemporary basis for many disciplines, including sociology, economics, philosophy, religion, politics, and science. History of the Idea of Progress continues to be a major resource for scholars in all these areas.