



WH Freeman, 1998, 266 pages
6 1/2" x 9 1/2", paperback, \$14.95

From SCIENCE NEWS

Math Writer Ivars Peterson

Celebrate the 10th Anniversary of the *The Mathematical Tourist*
With This Brand-New Updated Edition!

The Mathematical Tourist

New and Updated Snapshots of Modern Mathematics. In the first edition of the *Mathematical Tourist*, renowned science journalist Ivars Peterson took readers on an unforgettable tour through the sometimes bizarre, but always fascinating, landscape of modern mathematics. Now the journey continues in a new, updated edition that includes the latest information on mathematical proofs, fractals, prime numbers, and chaos, as well as new material:

- The relationship between mathematical knots and DNA
- How computers based on quantum logic can significantly speed up the factoring of large composite numbers
- The relationship between four-dimensional geometry and physical theories of the nature of matter
- The application of cellular automata models to social questions and the peregrinations of virtual ants
- A novel mathematical model of quasicrystals based on decagon-shaped tiles

Blazing a trail through rows of austere symbols and dense lines of formulae, Peterson explores the central ideas behind the work of professional mathematicians—how and where their pieces of the mathematical puzzle fit in, the sources of their ideas, their fountains of inspiration, and the images that carry them from one discovery to another. —WH Freeman

Also available, Peterson's four other bestselling books:

Newton's Clock In the late 1600's, Sir Isaac Newton provided a seemingly reliable way of calculating planetary orbits and positions. Newton's law of motion and his mathematical view of the universe dominated scientific discourse for centuries.

Today, scientists use supercomputers to simulate the dynamics of the solar system. Nonetheless, the long-term stability of the solar system remains a perplexing, unsolved issue.

To show how our view of the solar system has changed from clocklike precision to chaos and complexity, *Newton's Clock* describes the development of celestial mechanics through the ages—from the star charts of ancient navigators to the seminal discoveries of the 17th century; from the crucial work of Poincaré to the startling, sometimes controversial findings and theories made possible by modern mathematics and computer simulations. —from W.H. Freeman

W.H. Freeman, 1993, 317 pages, 6 1/2" x 9 1/2", paperback, \$15.95

The Jungles of Randomness Join Peterson on an adventurous trek through an exotic world of weird dice, fractal drums, firefly rhythms and chaotic amusement park rides, as he explores the wilds of randomness. A tricky, intriguing, even elusive concept, randomness affects our lives in an astonishing range of ways—from the fun of games we play and the noise that spoils the music we hear to the ways viruses grow and atoms combine.

An eye-opening discovery awaits at every turn, from the simple secret behind winning a game of Chutes and Ladders, to why any group of six people must include at least three acquaintances or three strangers, and why you can scratch a compact disk and still get flawless sound. We learn how a game of darts can provide a remarkably good estimate of the value of π , how pacemaker cells in the heart begin to beat in synchrony, and how carefully designed chaos translates into the thrilling ride of a Tilt-A-Whirl. —from John Wiley & Sons

John Wiley & Sons, 1998, 239 pages, 6 1/2" x 9 1/2", hardcover, \$24.95

Fatal Defect A plane crashes, killing all passengers aboard. The telephone system goes down, cutting off millions of customers. A hotly promoted new computer chip fails, sending consumers into a tailspin.

More than ever, our society depends on the reliable—if not always correct—functioning of computers. Computers amplify not only our genius but our flaws, sometimes to intolerable extremes. Peterson traces the lurching history of software development and describes how misconceptions and mistakes have become an inextricable part of computer programs and systems. He creates fascinating and colorful profiles of the people who hunt down these elusive computer bugs and struggle to make an inherently fallible system less treacherous. He also offers dozens of detailed examples of how computer failures occur—some amusing, some annoying, others terrifying, even fatal. —from Times Books

Times Books, 1995, 260 pages, 6 1/2" x 9 1/2", paperback, \$13.00

Islands of Truth Do you know of a mathematical formula that can transform circles into squares? Can you turn a beach ball inside out without letting out the air? Do you want to know how a rubber band may help a traveling salesman? Peterson introduces you to strange vibrations in the shadows of chaos, new twists in knot physics, and the straight side of circles. From astonishing applications of number theory to new developments in fractal geometry and the power of computer graphics, *Islands of Truth* is an interesting investigation into the dynamic world of modern mathematics. —from W.H. Freeman

W.H. Freeman, 1990, 325 pages, 5 1/2" x 9", paperback, \$14.95

BooksNow The Virtual Bookstore™
348 East 6400 Street, Suite 220, Salt Lake City, UT 84107

Please send me the book(s) marked below. I enclose a check payable to Books Now for the price of the book(s) plus \$4.95 postage and handling for the first book and \$2.50 postage and handling for each additional book.

The Mathematical Tourist, \$14.95
 Fatal Defect, \$13.00
 Newton's Clock, \$15.95
 The Jungles of Randomness, \$24.95
 Islands of Truth, \$14.95

Name _____

Address _____

City _____

State _____ Zip _____

Daytime Phone _____

(used only for problems with order)

TO ORDER BY PHONE, CALL:
1-800-266-5766 ext.1494
(Visa, MasterCard, or American Express)

A Service of Science News Service

See our website at
www.sciencenewsbooks.org