

FOR YOUR BUDDING SCIENTIST

Even though each Christmas season brings a deluge of new books on science for young readers, some of the best are still the old classics that have been with us for nearly a generation. Here is a list of some favorite science books for adolescent readers and recommended reading levels for each. These books can still be found on bookstore shelves.

THE WAY THINGS WORK: FROM LEVERS TO USERS, CARS TO COMPUTERS, A VISUAL GUIDE TO THE WORLD OF MACHINES, by David Macaulay (Houghton Mifflin, 384 pp., \$29.95 cloth, ages 8 to 13). Observed fact: Children love to take things apart to see how they work. Observed problem: Repairing the damage can be expensive. No longer. David Macaulay's 1988 book "The Way Things Work" brings inquisitive kids into the world of technology, showing them how color photography works; the secrets of the printing press; the secrets of computers and digital electronics; and even a bit of rocket science.

Younger children will quickly gravitate to the big, bold drawings, which seem to cover every page. As kids grow older, they'll learn more from the concise but technically accurate descriptions that accompany each diagram. Get this book for the kids, and keep your cameras, stereo equipment, and TV in one piece.

NEVER CRY WOLF, by Farley Mowat (Bantam, 164 pp., \$4.99 paper, ages 10 to 16). Iked of technology? Then follow Farley Mowat as he ventures into Canada's Keewatin Barrens, a few miles south of the Arctic Circle on assignment for the Canadian Wildlife Service to study the Arctic wolves. According to Canada's sportsmen, wolves were decimating Canada's Arctic caribou. In order to protect the caribou, the Wildlife Service planned to eradicate the predators. Mowat, in his 1963 book, eventually concludes that the real bloodthirsty killers are not the wolves, but Canada's "sportsmen." It is a lost cause, however: The eradication effort goes ahead as planned.

THE CUCKOO'S EGG: TRACKING A SPY THROUGH THE MAZE OF COMPUTER ESPIONAGE, by Cliff Stoll (Pocket Books, 354 pages, \$5.99 paper, ages 14 and up). Cliff Stoll was an astronomer who was making ends meet by managing the computer system of the University of California's Lawrence Berkeley Laboratory. One day, he discovered that a hacker had broken into his system. What to do?

Whereas most system managers would simply have found the hole that the hacker used and lock him out, Stoll went a different route: He traced the hacker, following him back through the telephone system, the Internet, a European data network, and eventually to Hamburg, Germany, where he discovered that

the hacker was selling information stolen from United States military computers to the former Soviet Union's KGB.

This exciting story, published in 1989, is one of the best introductions available to computer networks and the importance of information security.

SILENT SPRING, by Rachel Carson, with an introduction by Vice President Al Gore Jr. (Houghton Mifflin, 368 pp., \$10.95 paper, ages 14 and up). Rachel Carson's "Silent Spring," the 1962 work that probably started the modern American environmental movement, is a strong and opinionated attack on men's destruction of nature.

Using language that is scientific, but never too technical for young readers, Carson explains the tragic cycle of the insecticide DDT, shows convincingly how streams have become "rivers of death," and reflects upon the human cost of our 20th-century obsession with chemicals. Clear, compelling, and haunting, this book never ceases to arm young environmentalists with facts, knowledge, and passion.

THE CONTROL OF NATURE, by John McPhee (Noonday Press, 272 pp., \$10 paper, ages 75 and up). Few writers of nonfiction can match John McPhee's descriptions of technology and the people who would use it. In his book, "The Control of Nature," McPhee shows the adolescent reader the other side of mankind's constant struggle to control the environment.

The book contains three extended stories of struggle against the elements. In "Atchafalaya," McPhee describes efforts of the those who live along the banks of the Mississippi to prevent the river from overflowing its

banks - and to keep it running down its present course to the Gulf of Mexico, despite the fact that the river wants to move to the west.

The two other stories, "Cooling the Lava," and "Los Angeles Against the Mountains," give similar glimpses of humanity's ancient struggle.

THE DANCING WU LI MASTERS: AN OVERVIEW OF THE NEW PHYSICS, by Gary Zukav (Bantam, 337 pp., \$5.95 paper, ages 16 and up). Although nearly 15 years have past since Zukav published "The Dancing Wu Li Masters," the science that it describes is still the dominant theory. Moreover, Zukav's description of physics is uncluttered by recent perplexing advances, from chaos to superstring theory.

Instead, Zukav gives the reader a good understanding of modern physics' "particle zoo." He explains what a particle accelerator does and the facts behind nuclear physics. But he also dabbles a bit in the relations between modern physics and Eastern philosophy (although not to the same extent as Fritjof Capra's "The Tao of Physics").

~ Simson Garfinkel

