ed as source material for the ongoing tobacco wars, as ready compilations of ammunition for anti-smoking activists, the many lawyers now suing the tobacco companies, and policy-makers and others seeking more effective tobacco-control measures. As reference treasures, however, they would be most useful if available in well-indexed, electronic form. In fact, the UCSF group early on arranged for all of the leaked Brown and Williamson documents to appear on the World Wide Web (http://www.library.ucsf.edu/tobacco/). Moreover, through the same web site one can obtain a CD-ROM version of the documents, an electronic version of *The Cigarette Papers*, and access to the 19 June 1995 issue of the *Journal of the American Medical Association* (vol. 274, pp. 219–253), which featured key UCSF analyses of the documents. What Hilts provides us with was also more or less already available electronically (on NEXIS, for example), because his book largely weaves together stories he earlier published on the tobacco industry in the *New York Times*. Perhaps Kluger will be able to convince his publisher to provide *Ashes to Ashes* in searchable CD-ROM form. Electronic availability is important because new revelations about the cigarette companies are now regularly emerging, some even since these books have been released. One useful electronic source of nearly up-to-the-minute information is the SCARCNet Daily Bulletin, produced by the Smoking Control Advocacy Resource Center of the Advocacy Institute in Washington, D.C. (Gopher://gopher.igc.apc.org:7003/11/news/tob).

Informative as these three new books are in their own right, readers of the combined 1600 pages will search in vain for sustained inquiry into what public policy toward smoking should be. Kluger sketches a few ideas at the end of his 800 pages; but those interested in policy would be far better served by reading his recent short essay in the *New York Times Magazine* (7 April 1996, p. 28). Hilts and the UCSF group don't really address the policy question. Establishing wise tobacco-control policy is both an important and a difficult job. High cigarette taxes, for example, are appealing as a way to discourage youthful initiation, but rather unattractive as a regressive financial burden on addicted adult smokers who are increasingly poorer than the average American. Before the Food and Drug Administration or Congress steps in with new controls, we need serious analysis of what they should be.

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Vignettes: Scientific Debate

Simply because scientists sometimes claim . . . to leave their extra-professional lives at the laboratory door, analysts of scientific debate should not ignore the highly improbable psychology implied by such a claim.

—*Elisabeth S. Clemens*, in *Mass Extinction Debates: How Science Works in a Crisis* (William Glen, Ed.; Stanford University Press)

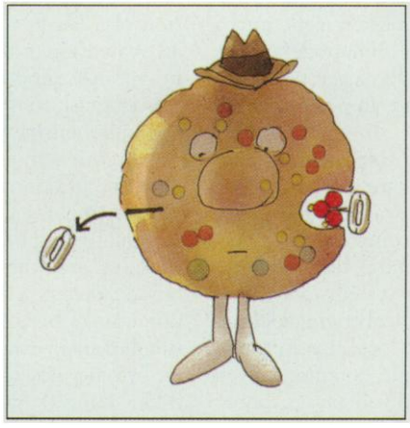
If orthodoxy treats the budding genius as it treated Semmelweiss, we should not be surprised if the genius hits back, and if the weapons used against him are unfair, arbitrary, inequitable, dishonest, unscrupulous and unprincipled, then we should expect the genius to retaliate in kind.

—*Hans Eysenck*, in *Genius: The Natural History of Creativity* (Cambridge University Press)

Pictorial Primer

The Way Life Works. MAHLON HOAGLAND and BERT DODSON. Times Books, New York, 1995. xxii, 233 pp., illus. $35.

Every introductory course is a language course, according to one of my undergraduate professors, and for those not schooled in modern biology, the late-breaking developments in biotechnology, medicine, and genetics may be as impenetrable as a foreign language. Often the names of the players in modern biology—DNA, enzymes, membranes, adenosine triphosphate (ATP), and the like—are introduced without a clue as to their function in cells and organisms. *The Way Life Works*, a collaboration by a molecular biologist and an illustrator, has taken a different approach to explaining biology and relies heavily on cartoons and drawings, some quite whimsical, to explain many of the key processes of molecular, cellular, and organismal biology. The focus is on the steps that occur rather than on exquisite detail—thus DNA is portrayed by four color-coded squares on coils, and the enzymes and proteins that operate on DNA have feet and faces as in a children's book and grab hold of the DNA, rip it apart, build new strands, and so forth. Even the most casual reader will get the idea that nothing just happens in a cell, but that an array of players are at work in processes such as translation and sugar metabolism.



Behavior of a regulatory protein. "When a signal molecule enters one site it changes the function of another site." [From *The Way Life Works*]

The treatment of molecular biology is not just descriptive but emphasizes basic principles—for example, the idea that organization overcomes entropy at the expense of solar energy flowing into living systems is stressed, as is the idea that energy is exchanged by the breaking and forming of chemical bonds. Similarly, evolution is explained in terms of "mistakes" and mutations that lead in some cases to favorable adaptions, and ecological systems are one example used to illustrate feedback cycles. Important historical developments are highlighted as well, to show how critical experiments have shaped the course of biology.

The book is heavy on biochemistry and molecular biology, and topics such as photosynthesis and protein folding are treated in more depth than one might expect from an introductory overview. Cell biology, represented mainly by signaling and development, is treated more briefly, and neuroscience is mentioned in passing; disease, medicine, and immunology are not a focus of this book. Nonetheless, it is an easy-to-read introduction to many of the basics of modern biology for those who would prefer a less formal introduction to the subject.

Phil Szuromi