

current research in evolutionary and human genetics. The text on data analysis is a bit disappointing though, perhaps because the authors' strengths are in the more theoretical aspects of coalescent theory. In the examples, parameter values are sometimes as much as five-fold smaller (or larger) than their commonly accepted values (e.g., scaled mutation and recombination rates in humans, or the generation time in *Drosophila melanogaster*). Although these errors make little difference to the authors' pedagogical points, they do make the text more confusing than it needs to be. It also would have been nice to see some discussion of strong directional selection (i.e., selective sweeps), as this has been a popular area of research for over a decade. These are minor quibbles, however, and I wholeheartedly recommend this book for anyone who generates or analyzes DNA sequence data.

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RECODING NATURE: CRITICAL PERSPECTIVES ON GENETIC ENGINEERING.

Edited by Richard Hindmarsh and Geoffrey Lawrence; Foreword by Mae-Wan Ho. Sydney (Australia): University of New South Wales Press; distributed by University of Washington Press, Seattle (Washington). \$26.95 (paper). 246 p; ill.; index. ISBN: 0-86840-741-0. 2004.

During the third week in June 2005, the International Biotechnology Convention and Exhibition (BIO 2005) was held in Philadelphia, drawing an estimated 18,000 participants from 60 countries. Public relations support for the annual meeting was the most extensive it has ever been with articles and advertisements appearing in magazines of major airlines, billboards pointing to the expected benefits of biotechnology, and an extensive print media response to papers delivered. Concurrent to the meeting, also held in Philadelphia, was a small grassroots conference/workshop of several hundred pro-Green, antiglobalization activists called "Biodemocracy 2005," which provided an alternative point of view to corporate biotechnology. With contributed essays from social and life scientists, *Recoding Nature*, quite serendipitously, provides the scholarly analysis and answers to the central question raised at "Biodemocracy 2005"—namely, in whose benefit is biotechnology?

The book is presented in four parts: genetically modified (GM) culture and politics; ecology, GM food, and organics; the future of human genetics; and biocolonization to activism. The regulatory

politics, consumer attitudes, and GM activism addressed in the volume focus mainly on Australia and New Zealand.

Several authors address the ecological risks of GM plant introductions, emphasizing the poverty of genetic reductionism concluding that the "models used by biotechnology proponents to release novel organisms do not take into proper account the complexity of the ecological system" (p 66). Referring to the large field trials in the United Kingdom, where it was established that "GM canola and sugar-beet were more harmful to plant and insect life than their conventional counterparts" (p 68), Hindmarsh and Hulsman dispute the widely cited position of the U.S. National Academies of Science that "the claim of bioscientists that GM crops are no more dangerous than conventional crops has been disproven" (p 68).

There are excellent discussions on whether GM crops are compatible with organic-based, sustainable, and community-supported agriculture. A chapter on grassroots movements in Asia (by Sara Hindmarsh) provides an insightful look at how farmers and consumers in poor agrarian societies are interpreting the second Green (genetic) Revolution: "loss of tenure and employment, increasing debt, malnutrition and hunger, pesticide poisonings, and other social and environmental dislocations" (p 211).

In a notable chapter entitled *Your_health@DNA-tailored.com*, Shirlene Badger analyzes a new trend of "direct to consumer genetic testing" where companies promote "the gene-abled body and mind" and advertise test kits for paternity and genealogy, susceptibility genes for certain cancers, and personalized diets based on functional genomics. With the public's high confidence in DNA from its forensic applications, companies see market opportunities in hand waving false claims that a DNA profile of an individual's mutations can provide information about ideal diet and food supplements to prevent disease and enhance the individual's well-being.

Recoding Nature is fundamentally about values and choices. It provides a view of biotechnology about which the average consumer is largely ignorant. The book's chapters lean toward a more precautionary, democratically informed, environmentally sustainable, scientifically honest, and economically just biotechnology. It is a valuable resource for anyone who wishes to understand how biotechnology conforms to the ideology of globalization.

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