

## CONFRONTING THE GENETIC ERA

***Biofuture: Confronting the Genetic Era.* By Burke K. Zimmerman. Pp 305. ISBN 0-306-41315-9. (Plenum Press, New York and London: 1984) \$16.95.**

**B***iofuture* is the best book yet on the scientific, moral, and policy implications of the new genetics. This is largely because Burke Zimmerman has a rich and sophisticated understanding of his subject, having been an academic biophysicist, an environmental activist, a Congressional staffer, and, most recently, an employee of one of the Big Four biotechnology specialty firms.

Zimmerman is commendably careful, accurate, and thorough—if anything, perhaps a bit too thorough. He ranges widely, covering topics as diverse as the history of cell biology, prospects for biochips and the control of aging, a how-to manual on genetic engineering, and an insider's account of Congressional jousting over gene splicing. This approach suffers slightly from the defects of its virtues. His discussions occasionally meander, and some—those on genetic determinism and nuclear power, for example—might have been condensed or even jettisoned.

The book is not, however, simply a conscientious survey. It is also personal, idiosyncratic, and occasionally even ornery; for example, he argues emphatically for the primacy of nature over nurture. Although Zimmerman is opinionated, he is also scholarly in his attempt at comprehensiveness. A book that combines the two approaches successfully is unusual, and on the whole he makes it work pretty well. The book derives special strength from the anecdotes that spring from Zimmerman's own involvement in many of the last decade's controversies over the directions of modern biology; see, for example, p. 47 for an account of how Congress almost held hearings on human cloning.

Intended for those elusive beasts, the educated laity, *Biofuture* can safely be recommended to your nontechnical friends as a comprehensive guide to advances in biological research and what they will mean. It even contains

a clearly written appendix describing the intricacies of gene-splicing, and the rest of the text is sprinkled with explanations where appropriate.

But there is much in the book for you as well. Zimmerman explores a great many moral questions and the policy disputes they have engendered; often he is content simply to raise the questions without attempting answers. He also expatiates on the biotechnology industry and its role, and ventures predictions, some of which are provocative. Interferon will be biotechnology's big flop, he declares, and "...the Japanese will sur-

prise the world commercial industry by being first with the basic science leading to a number of revolutionary and lucrative products, establishing themselves as leaders in innovation" (p. 241). Sentiments such as these make *Biofuture* interesting reading even for of us those who think we know this field well.

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## PATENTING BIOTECHNOLOGY

***Biotechnology and the Law.* By Iver P. Cooper. Pp. 575. ISBN 0-87632-311-5 (Clark Boardman Company, Ltd, New York: 1983). \$75.00.**

**I**ncreased awareness of the existing and potential value of biotechnology has directed attention to strategies for obtaining effective proprietary protection of new developments in the field. There are several types of intellectual property protection potentially available, including utility patents, plant patents, plant variety protection certificates and trade secrets. Obtaining optimal protection can be highly complex and generally requires specialists versed in the relevant area of law and in the appropriate scientific discipline.

Mr. Cooper's text represents a successful integration of the principles of intellectual property law and biotechnology. It is neither a source book for biotechnology nor a general intellectual property treatise. The book focuses on the application of existing legal concepts to new sets of facts presented by developing biotechnologies. Since this focus is primarily legal, the text is not intended for research scientists or technical people. It is probably most useful as a reference work to persons having responsibility for obtaining patent protection on inventions in biotechnology,

particularly patent lawyers. However, seasoned businessmen or scientists may profit by reviewing certain chapters (such as Chapter Four), and executives in charge of intellectual property matters may find the text useful in understanding the comments and actions of patent attorneys.

Chapter One presents a brief, simplified overview of several areas of biotechnology, for those unfamiliar with certain "newer" terms and concepts, followed by a discussion of trade secrets and the fundamentals of patent law. Chapter Two is a rather ambitious attempt to discuss the history of the patentability of biological inventions, and includes a lengthy discussion and analysis of the course of the *Chakrabarty* and *Bergy* cases through the Patent Office, the Court of Customs and Patent Appeals and the Supreme Court. Much of this lengthy discussion is of historical interest only, though these decisions will be the basis for future legal developments.

Chapter Three concerns several controversial areas of patent law, namely, the "product of nature" and "law of nature" doctrines, which Mr. Cooper feels may someday be raised against patents on microorganisms, or plant or animal varieties. (Under these doctrines something which