None the less, as Pfeffer has argued, while statesmen and medical experts have continually diminished the issue of infertility, it is a problem for thousands of women and men, who have not borne their plight in silence. Throughout the century doctors' surgeries and hospitals have been filled with people desperate for a cure. In her fascinating and detailed account of the different techniques for treating infertile women and men, Pfeffer unravels a disturbing story of the ways in which these were determined by particular notions of women's and men's bodies. Treatments for women tended to be much more invasive and interventionist than those for men. Not only were there gender biases in the remedies carried out, but particular notions of the nuclear family unit and the need to preserve it at all costs also determined the types of people provided with treatment. Unmarried mothers and lesbians, for instance, were seen as undeserving of such help. Similarly, the continual lack of state sponsorship of medical services for infertile men and women, has confined such treatments to the private sector making it a service which is available only to those who can afford to pay. Even those fortunate to get such help, Pfeffer warns, were never guaranteed treatment that was effective and free of hazards.

Pfeffer's book is not only timely and invaluable for the current debates on the morality and efficacy of reproductive technology, but also provides a stimulating and provocative account for anyone interested in the wider history of the interaction between medicine, economics, politics and gender.

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ROBERT BUD, *The uses of life: a history of biotechnology*, Cambridge University Press, 1993, pp. xiii, 299, illus., £30.00, $49.95 (0-521-38240-8).

Biotechnology is not a discipline, field, or set of practices. Rather it is a way to describe relationships between bodies and machines, between biology and engineering, and between nature and the state. In this clearly written, accessible text, Robert Bud presents the first serious historical survey of this large, complicated phenomenon. He sets forth a mildly eccentric challenge to the biotech mainstream, in which the history of biotechnology begins with Asilomar and occurs mostly in the United States and Western Europe, and proposes instead that biotechnology begins early in human history and includes efficient pig farming and lactic acid fermentation. While he is not always successful in this omnivorous reconstruction of biotechnology and its past, I admire his intent. The book is ambitious, quixotic and much needed in a field overflowing with political, economic and moral analyses of something called "biotechnology" that is usually defined as manipulating DNA. As Bud shows, the story is much larger.

He begins with seventeenth-century zymotechnology—G. E. Stahl's term for practical fermentation—and its ramifications in the development of organic chemistry, agriculture, brewing, and the biological sciences. Bud is very interested in the origins of words—particularly the origins of the word "biotechnology"—and there is a theme running through the earlier chapters about its coining (in 1919 by Hungarian agricultural engineer and pig farmer Karl Ereky) and its varied uses in different contexts. He explores the American chemurgic ("chemistry at work") movement, the rise of industrial fermentation processes in the American chemical industry, scientific and industrial microbiology, chemical engineering (penicillin); the green revolution, and so on.

Bud must expend a great deal of energy to establish that all these things going on all over the world count as a history of some single thing and it is not until his later chapters that he begins to convince. Ironically his thesis begins to make sense just at the point at which his book takes on the character of a more traditional history of biotechnology. When he begins to deal with Asilomar, recombinant DNA, the public controversy over genetic manipulation, and the commercialization of biotech in the 1980s, his pig farms fall into place and much of his eclecticism seems justified.

This is an excellent book to use in courses on the history of biotechnology, molecular biology, chemical engineering or scientific agriculture. It is not fine-grained, but grand and sometimes superficial. It does, however, tell a rousing story and raise some wonderful questions.

Susan Lindee, University of Pennsylvania