

THE LAST WORD

by Nelson M. Schneider

THE EXPLOSIVE GROWTH OF BIOTECH

Watching grass grow, watching children mature before your eyes, watching the days grow longer or shorter, or watching a building be constructed. We say we "watch" these things, but it is quite obvious that the human attention span or concentration span cannot discern such progress on a moment-by-moment basis. In fact, we only realize that these events occurred if, in fact, we specifically did not watch them—but rather saw them exist at a specific time, then went away and returned considerably later.

Now I'd like to add one other entry to the "watching grass grow" list enumerated above. Watching an industry grow up before our very eyes; biotechnology, of course.

I recently had occasion to read for the first time an extremely well researched and documented book on biotechnology titled *The Business of Biotechnology*, written by David Fishlock of London's *Financial Times*. I know Mr. Fishlock to be a careful, incisive, accurate, and complete journalist, and one with a great deal of experience in covering the developments of this industry. Imagine my surprise upon reading one of the early chapters in the book, titled "The Entrepreneurs," and finding an analysis of merely four companies—Genex Corp., Genentech, Inc., Biogen SA and Celltech. Furthermore, the referenced Appendix, which lists known startup biotechnology companies, includes some 29 U.S. entities. Since there are at least 40 biotechnology companies already publicly owned and traded in the U.S. stock markets, and another 120–150 identified and publicized by investments or research contracts with other publicly owned companies, I found this effort by Mr. Fishlock notably incomplete.

A very small bit of research effort discerned the answer immediately: the book was published not in late 1983, as I had originally assumed, but the summer of 1982.

In just 14 months or so an industry, which in 1982 was promising much, was now delivering some—and along the track to move into the mainstream of the world economy, which trades not on promise for the future, but on delivery of goods and services in return for payments in dollars, pounds sterling, marks, francs, yen, or anything else of value. In short, in the twinkling of the time between Mr. Fishlock researching and writing his book and my reading it, I had been living as an observer of the biotechnology industry for an investment firm and had lost sight of the difference in the industry over the last year-and-a-half.

For this reorientation I would like to express my gratitude to David Fishlock, for his effort has done more to crystallize my thinking as to where this industry has gone than any other single development. I strongly recommend that

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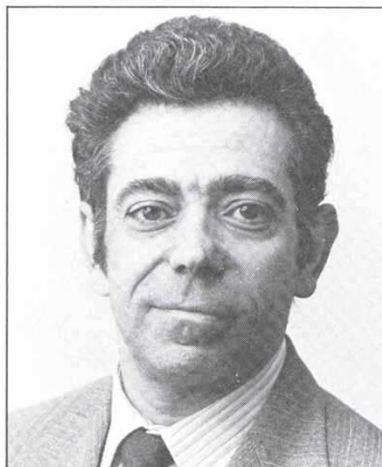
those of you working within the industry compare your thoughts of where biotech is today with where you think it is relative to your thoughts of the ancient history of biotechnology, which apparently took place in 1981.

This industry is now \$2.5 billion old, according to *Business Week*, and its member companies have a net worth larger than many industries hundreds of years old. The biotechnology industry has been noteworthy for its striking scientific achievements and its incredibly innovative scientific personnel. But re-reading some of the 1980 and 1981 commentaries on the industry in my files as the result of reading Mr. Fishlock's book, I would pin the true Academy Award of the biotechnology industry on the financial officers within the industry.

For more than any other industry that I am familiar with, I think the point of departure for biotechnology is that the axiomatic "shakeout" of a new technology industry, which says nine out of every ten companies formed will fail, will simply not take place in biotech. Why will this not take place? The answer is simple. Every company, major or minor, that I am familiar with in that list of nearly 200 is just loaded with cash, and can probably spend at current levels of R&D and administrative overhead for five years without producing a single dollar of revenue—and still be solvent. A shakeout only occurs when a financial disaster occurs and company after company fails to pay its bills. I submit that if the financial genius exhibited in the biotechnology industry to date is kept up, then this shakeout may actually be delayed for us as far as the eye can see.

Wall Street, in its conventional terms, is being very patient with biotechnology, accepting the industry's plaint that "R&D has to be spent with abandon and we promise you we will deliver the profits in the future." So far, it is the only industry I am familiar with where investment analysts have been willing to forego the quarterly profit demands my profession vigorously insists upon from every other sector of the economy. Robert Swanson, president of Genentech, probably should be given most of the credit for forcing Wall Street to accept the "unnatural act", as it were, and he has been the most forceful in stating right up front that he will not be stampeded into earning profits until he is ready.

If we come back and visit biotech in another year-and-a-half, I suspect we will see another transformation. Companies in the industry will still have plenty of money, but sales and earnings from products will be king, not the promise of great science. The industry will thus be faced with the challenge of manufacturing and marketing and financial controls, not "mere" scientific miracles. Will it meet the challenge? I, for one, would have to say yes. That challenge has got to be easier than the one it has already faced and met over the past two years: it can now pick up its head and actually be called an industry!



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