

/THE LAST WORD

A Word or Two from the Wise

COMPILED AND EDITED
BY JOHN HODGSON

As part of our ongoing tenth anniversary celebration, we present a sampler of prescient, curmudgeonly, or simply clever quotes about the state of biotechnology from our back issues.

"I'm very bullish on biotechnology—what I'm somewhat skeptical about is biotech stocks."

Steven Zimmer, senior research analyst for Eberstadt Asset Management (New York, NY). Bio/Technology, April 1983.

"'Managing biosystems' is a smooth phrase to summarize the entropy-reducing activities which on this planet range across 20 orders of magnitude: from enzymes catalyzing their chosen substrates to governments seeking to catalyze the energies of their citizenry."

Mark F. Cantley and Ken Sargeant, of the Directorate for Research, Science, and Education of the European Commission and later the founding forces of CUBE (the Concertation Unit for Biotechnology in Europe). Bio/Technology, "Final Word," August 1983.

"As a global example of biotechnology, consider the elimination of smallpox; as an example of investment surely too long term, uncertain and unprofitable on economic criteria, take the education (or indeed the creation) of children. . . ."

Mark F. Cantley and Ken Sargeant, arguing a role for organized government input into biotechnology. Bio/Technology, "Final Word," August 1983.

"We could probably make enough interferon to cover the lower half of Manhattan if we really wanted to. Its going to take us a lot longer to figure out how to use it than it took us to figure out how to make it."

Clarence Colby, who directed IFN program at Cetus and then went to Triton Biosciences (Berkeley, CA) as director of technology development. Bio/Technology, March 1984.

"It's time to stop straining gnats. Let's get us a case we can sink our teeth into."

Noninsectivore RAC member L. Albert Daloz expressing frustration at the September 1985 institution of NIH RAC's "Points to Consider in the Design and Submission of Human Somatic Gene Therapy Protocols" in advance of the submission of any experimental protocols. The first protocols were submitted in July 1990. Bio/Technology, November 1985.

"The other interesting trend in biotechnology is that nobody dies. They just recycle."

George Kidd, analyst with William Teweles (Milwaukee, WI), on the absence of a biotechnology company shakeout. Bio/Technology, October 1985.

"If God wanted scientists to run businesses, he would have given them green eye shades."

James R. Murray, president of Policy Research Corporation International (Chicago, IL). Bio/Technology, "Last Word," May 1986.

"My [computerized reader and advisor], called TOPSY, is picking up on more human habits as it learns about what goes on in biotechnology. Most intriguing is its response when queried about "what will happen next." It has uncontrollable laughing fits,

only stopped when the plug is pulled."

James R. Murray. Bio/Technology, "Last Word," May 1986.

"They don't do any biotechnology."

Julian Davies, then newly ex-President of Biogen SA (Geneva) who had recently moved to Institut Pasteur (Paris), speaking of the three chemical/pharmaceutical giants in Basel, Hoffmann-La Roche, Sandoz and Ciba-Geigy. They do now.

"There's no question about it: they have great science. They have a lot of things going for them. The one thing they don't have going for them is humility. And that may one day shoot them in the hip."

Steven Zimmer, an analyst for F. Eberstadt (New York, NY) on Genentech. Bio/Technology, July 1986.

"Total seed and agchem markets approach \$50 billion. So maybe we should have 150 companies running after agricultural applications and 10 doing pharmaceuticals, instead of the other way around."

George Kidd. Bio/Technology, February 1987.

"Biotechnology isn't going to affect Angola for a while, but you could look at some specific areas like Southeast Asia or the Caribbean basin. . . ."

Sam Dryden (Plant Biological Systems). Bio/Technology, February 1987.

"Biotechnology cannot proceed without public consent. And public consent is impossible in the face of public ignorance. Eliminating this ignorance does not require training the entire population in molecular biology; people may have a poor grasp of immunology, for instance, yet they don't fear vaccinations."

Jerry Caulder, president and CEO, Mycogen (San Diego, CA). Bio/Technology, "Last Word," August 1988.

"... unfortunately biotechnology is not an earnings-related growth story."

Linda Miller, Paine Webber analyst. Bio/Technology, November 1988.

"Biotechnology does not require capital investment, special skill, or new distribution channels to deliver the technologies to those who can most utilize its benefits."

Monsanto CEO, Earle Harbison, Jr., speaking at a 1990 international forum on biotechnology organized by the European Community. Bio/Technology, July 1990.

"If I were a pharmaceutical company, I'd be sweating bullets. If we're right about RNA's potential through selection and amplifications, drug companies as we know them could go the way of buggy whip manufacturers."

Mike Yarus (University of Colorado, Boulder, CO) on the prospects for RNA technology. Bio/Technology, March 1992.