

COMMENTARY

THRIVING ON LITIGATION

by Bernard Dixon

Social scientists, though occasionally mocked by Proxmire Awards for silly research, can offer a disinterested clarity of thought that is of great value in our handling of social problems. However, social science deficient in this quality is not only misleading, it is also potentially harmful, through consequences flowing from uncritical acceptance of its simplistic conclusions.

Consider the paper by Isaac Rabino of the State University of New York, Empire State College, which appears in the current issue of *Science, Technology and Human Values* (16.1:70, 1991). "The Impact of Activist Pressures on Recombinant DNA Research" describes a unique and in some ways well-conducted investigation into the views of genetic engineers concerning the social milieu in which they now work. Several of its findings are highly significant, unambiguous and likely to be of great interest to readers of *Bio/Technology*. Yet this same study is seriously flawed. One of its chief conclusions is not only founded on disquieting imprecision, it is also capable of being deployed, for all its shaky foundations, against the interests of biotechnology in industry and academe.

Rabino set out to obtain quantitative soundings on the "intense public interest" that has enveloped biotechnology and genetic engineering over the past 15 years, and on the litigious climate that has developed more recently. He points out that continuous legal actions against research workers can cost employers large sums of money—close on a million dollars in the case of one university which, in the course of courtroom battles, had to call on its board of regents, president's office, and division of natural and agricultural sciences, plus state-wide agricultural experimental stations, various campus officials and department chairs, the office of vice president for budget and university relations, the university government and public relations office, the office of the general counsel, and a Washington D.C. firm hired to represent the university. Cash aside, that amounts to a massive diversion of time and precious skills.

A meticulous aspect of Rabino's work was the way in which he secured a large sample of scientists currently working with recombinant DNA. This came originally from a mailing to 160 biologists at the University of California at Davis and a second mailing of 2,648 questionnaires to all members of three divisions of the American Society for Microbiology not solicited in the earlier trawl. Following a 74 percent response to both waves, only the 430 completed questionnaires which met the eligibility criteria were used in the study.

So far, so good. But what of the results?

"The findings show that most researchers feel they have benefited from public attention to the field," Rabino asserts in the summary at the head of his paper. Turning to the data, however, we find that although other questions mention "controversy and litigation," this assertion can be supported

only by answers to questions that are much more vague and ambiguous. We can, for example, add together those respondents (43 percent) who agreed that "widespread public attention to recombinant DNA research has been beneficial to progress in the field" and those (27 percent) who felt that it had been equally beneficial and harmful. Yet given the title of Rabino's paper, and coming after an introduction devoted predominantly to litigation and activist campaigning, the heavy implication is that the majority of researchers believe *those* sorts of pressures to have been helpful. This may be quite untrue.

What, after all, is "public attention?" Rather than being synonymous with opposition by lobbyists (which is, to say the least, not the immediate meaning that comes to mind) the phrase is surely more likely to suggest simply public interest in genetic engineering as reported in the media, or indeed perceived public enthusiasm for the products of biotechnology. But these distinctions, which can hardly be described as subtle, are not discussed in Rabino's paper and seem to have been overlooked in the design of his questionnaire. In consequence, it is quite impossible to fathom the significance of other outcomes—for example, that more academics (47 percent) than industrial scientists (39 percent) felt that "public attention" had been beneficial.

In those instances where Rabino used more sensitively crafted queries, he has undoubtedly generated more meaningful and discussable verdicts. One such is a question about Gary Strobel, who in 1987 released a genetically altered *Pseudomonas syringae* in an attempt to protect plants against Dutch elm disease, without first obtaining permission from the U.S. Environmental Protection Agency. In a question allowing multiple responses, 65 percent of participants agreed that "Strobel was irresponsible to other scientists" and 63 percent felt that he had set back his own case. Seven percent agreed that "Strobel was right in doing what he did," while seven percent affirmed that he "showed courage."

There were explicit replies to other explicit questions. As many as 82 percent of respondents agreed that the United States may lose its competitive edge because of delays and setbacks caused by controversy and litigation. On the other hand, there was a predictable lack of consensus on the question of whether the transfer of human genes into sheep and pigs will "interfere with evolution." This was flawed by ambiguity. Did Rabino mean terrestrial evolution generally? Or evolution within domesticated populations, which are already subject to artificial rather than natural selection? Over what period of time? Not surprisingly, 23 percent of respondents agreed with the proposition and 12 percent neither agreed nor disagreed.

I sincerely hope that the outstanding implication of this study—that biotechnology and biotechnologists thrive on litigation—has not yet entered the folklore of activism. But I don't say this with any great confidence.