

Vexing Nature? On the Ethical Case against Agricultural Biotechnology

Gary L. Comstock

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Conversions among philosophers are not unknown, and in one or two cases conversions occur so repeatedly that a philosopher may seem to be a multiple personality. Bertrand Russell fits this profile; there are few positions in philosophy that Russell did not at one time share. In his important study, *The Varieties of Religious Experience*, William James spoke of conversion in terms of an unhappy, divided self becoming happy and united. In *Vexing Nature?* Gary Comstock chronicles and explores a profound shift in his own thinking about nature and technology. Comstock has been an important opponent of the recent use of agricultural biotechnology and an outspoken advocate of family farming and the agrarianism of Wendell Berry and Wes Jackson. This book indicates a partial reversal. Comstock is still loyal to the ideals of family farming *à la* Berry, though he has retreated from his earlier advocacy. 'I have, alas, come to believe that we have already lost the family farm' (p. 179). And Comstock has now reconciled himself to controlled, responsible use of biotechnology. The conversion in Comstock's thinking is not, like Russell's, one among a whole series of rapid changes, nor is it a transition from an unhappy to a happy soul. The result is a fascinating narrative and series of arguments and counter-arguments as Comstock gradually and reluctantly modifies his views.

The first four essays mount a case against biotechnology. The previously published papers sport titles that are self-explanatory: 'The case against bGH [bovine growth hormone, a genetically modified protein farmers inject into dairy cattle to increase milk production]', 'Against herbicide resistance', 'Against transgenic animals' and 'Against ag biotech [agricultural biotechnology]'. Comstock's opposition is built around concern for the value and integrity of non-human life, the inequitable consequence of the technology, as it tends to discriminate against small and medium-sized farms, and the harm that such technology can create or make likely to humans, animals and crops. A large part of Comstock's early opposition to biotechnology is rooted in his passion for land as conceived of by Leopold. 'Not all biotechnologies are acceptable. We do not want those that are destabilizing, inhumane, or ugly; we only want those that will preserve the beauty, integrity, and diversity of the creation' (p. 29; see also p. 49). Comstock is also outraged about the folly of much agricultural government policy. 'Awash in excess dairy products, our government dumps milk in the ocean, hands out surplus cheese to farmers, and pays operators \$1.2 billion to slaughter their cows: all of this while publicly funded institutions quietly spend taxpayer's monies on schemes to increase milk production' (p. 30). Still, it is interesting to note that in his early essays Comstock's opposition is not always expressed in terms that are overwhelmingly hard or incorrigible. 'It is my intuition that ... something about b.GH's social and economic effects is objectionable' (p. 19). And he admits that the intuition is not easily backed up. 'On examination, however, I have found it very difficult to say exactly what that [objection to bGH] is' (p. 19).

Comstock is well acquainted both with the theories and canons of philosophical reflection and with the details of biotechnology: gene-splicing, the risks of specific herbicides and so on. 'Vexing' from the title stems from a proposal by Francis Bacon that it is by disturbing or vexing nature that one discovers how nature works and can be controlled. Modern agriculture, according to Comstock's early views, vexes nature on many fronts. 'MA [modern agriculture] vexes trees ... MA vexes land and what lies beneath it ... MA vexes water ... MA vexes soil' (chapter 4). The details of this

unjustified vexing are laid out with care. This care makes the shift in the last sections of the book dramatic. 'I continue to believe that ag biotech will vex small and medium sized farms. But this worry no longer carries the significance for me that it once did' (p. 178).

Chapter 5 lays out 14 arguments against biotech in principle (biotech is wrong, *per se*) and chapter 6 analyses eight arguments opposing biotech on the grounds of its real or probable harms. I believe that Comstock effectively counters these arguments, paving the way to some modest, highly regulated biotechnology. Comstock also shifts from his earlier, more stringent protection of non-human animals. He now holds these positions: 'No slaughter of animals with futures for meat in developed countries', a position which remains radical (p. 277), and he allows for 'carefully circumscribed use of animals when research can save determinate human lives' (p. 277).

Comstock writes with great clarity and rigor. He mixes into his arguments anecdotes and some (welcome, not precious) autobiography. There is a wonderful section in chapter 2, 'A brief history of weeds' (pp. 40–47). This book will be of interest not just to those keen about applied ethics but to those with broader concerns about our understanding of land and work. It also takes issues in the history of ideas (e.g. Francis Bacon) and shows how they intersect with policy making. Speaking of Bacon, I was sorry that Comstock did not revise his own practice of vexing Bacon. Yes, Bacon did write about nature in ways that read (out of context) as vile and misogynist. But I close this review with the suggestion that, taken as a whole, Bacon's views about virtue and charity are totally at odds with his misogynist image. I wager that Bacon would have welcomed just the kind of balanced, charitable, judicious use of biotechnology that Comstock has effectively articulated and defended. I realize, of course, that an endorsement by Bacon would be reason enough for many to shun a text. That is a pity, because I suggest that there was something brave about what Bacon proposed in his *Novum Organum* and something brave about what Comstock has done in his case against and then in favor of the new tools that are so much a part of our contemporary agriculture.

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Vexing Nature? can be read with interest for two reasons: to gain a grasp of the strengths and weaknesses of arguments against new forms of biotechnology in agriculture, especially the use of genetically modified organisms; and to follow Gary Comstock's self-questioning journey to find a defensible stance towards agricultural biotechnology.

The book consists of an introduction, six chapters and a conclusion. In the introduction Comstock explains that, as a moral philosopher, he felt that he should address the concerns of those around him, and as an assistant professor at Iowa State University and the descendant of a long line of Iowa farmers, this meant the ethical issues raised by the crisis enveloping the American family farm. He concluded that there are good reasons to try to preserve medium-sized, owner-operated farms and the way of life that goes with them, but that agricultural biotechnology posed a threat to these farms. The first chapter,

based on an essay originally published in 1988, takes up one of the first of these perceived threats, the use of bovine growth hormone (often abbreviated to BGH, but also known as bovine somatotropin or BST), a serum containing a genetically modified protein that, when injected into dairy cattle, increases milk production by up to 15%.

Comstock quotes studies suggesting that this will drive many dairy farmers out of business, especially the smaller family farmers who do not have the access to capital or expertise to administer BGH. Although other factors are also pushing family farmers off their land, Comstock argues that BGH provides yet more impetus to that movement. It is neither just, nor—because it puts cows under additional stress—humane, and it does not conduce to the common good.

The second chapter, dating from 1990, makes a qualified case against modifying useful plants to make them resistant to herbicides, thus making it easier to spray the entire crop, but kill only the weeds. Comstock does not argue that such genetic modification is intrinsically wrong, but he thinks that, like BGH, it is inconsistent with his ideal of good farming and the agricultural communities in which that ideal is practised.

Given Comstock's support for traditional family farms in the first two chapters, it comes as a surprise to read the third chapter, based on essays published in 1992, and find that he has become convinced of the validity of arguments for animal rights, especially those advanced by Tom Regan (1983) in *The Case for Animal Rights*, and become a vegetarian. He does not shy away from the paradox: 'How could someone who loved family farms reject the central practice on which they are based?' Yet at the same time his own observations on his uncle's farm convinced him that pigs are individuals and that we are not justified in treating them merely as things to use for our own ends.

The fourth chapter, written in 1994, employs the title metaphor of the book to argue that modern agriculture, and its use of agricultural biotechnology, 'vexes nature': more specifically, that it vexes ecosystems, animals and humans. The first part of the chapter is based on an account of the consequences of agricultural biotechnology, and the second argues that even apart from its consequences, the application of biotechnology to agriculture is intrinsically objectionable, an attempt to make nature do what we want. Instead we should seek 'a morally justifiable vision we can live by', a more harmonious, ecologically sustainable form of farming that respects animal life, the family farm and local communities.

After this strong statement of outright opposition to agricultural biotechnology, the fifth and sixth chapters, representing the most recent material in the book, mark a sudden shift. Small things, like the use of a genetically engineered nasal spray to cure one of his children's ailments, and his diabetic friends' positive experiences with genetically modified insulin, led him to ask himself how he could accept medical biotechnology but oppose all agricultural biotechnology. He met scientists working with biotechnology to make agriculture more sustainable, and to help subsistence farmers in developing countries grow plants that better resist common plant diseases. He recognized that the 'precautionary principle', often used to oppose biotechnology because of its risks to the environment and to human health, cuts both ways: we are also taking risks in not developing biotechnology, because climate change could make it the only way in which we can continue to feed ourselves. He even saw that while we can vex humans or animals, it does not really make sense to talk of 'vexing nature'. Hence Comstock now concludes that none of the grounds so far offered for finding agricultural biotechnology intrinsically wrong is really compelling. Then in the final chapter he goes on to examine extrinsic, that is, consequentialist, objections, and emerges with a more nuanced view that falls short of the global opposition he expressed earlier. He also re-examines the implications of an animal rights ethic, and finds that he can defend the carefully

circumscribed use of animals for research, where this can save human lives. He remains opposed to the slaughter of animals for food in developed countries, where it is totally unnecessary and even wasteful of food resources, but he imagines a dairy farm in which biotechnology is used to ensure that only female fetuses are born, and in which the cows can live out their natural life-span.

Comstock's openness in showing us how he has changed his views makes this book almost a kind of 'for and against' debate, except that in this case the author is debating with his former self. I think the current Comstock is right to reject arguments that personalize 'Nature', and find biotechnology intrinsically objectionable, irrespective of its consequences. I also agree that the 'precautionary principle' is often invoked in too sweeping a manner that effectively rules out anything new without considering the risks of the *status quo*. But Comstock's vision of a dairy farm in which cows are treated well and allowed to live even after they have ceased to give milk seemed like fantasy to me, while in reading Comstock's discussion, in chapter 6, of the regulatory system that the United States government has set up to check which genetically modified organisms can safely be released, I wondered if he has not now become too sanguine about the ability of public servants, working for an aggressively pro-business administration, to stand up to pressure from a large number of well-funded corporations, all pushing to get their product onto the market. In theory, the idea of separating good agricultural biotechnology from bad agricultural biotechnology makes sense. Comstock seems to think it can also work in practice. I hope that he is right, but I still have serious doubts.

Reference

Regan, Tom (1983) *The Case for Animal Rights*, Berkeley and Los Angeles: University of California Press.

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Power, Ethics, and Human Rights: Anthropological Studies of Refugee Research and Action

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Power, Ethics, and Human Rights is a well-documented analysis of the structures of power involved in refugee research and in the formulation of policies for refugees' legal and social assistance. As the editors state in their introduction, forcibly displaced populations are 'an ever more urgent concern of our era' (p. 16). The need for survival forces millions of people to be 'on the move'. We have only to look at the images of refugee camps, at those uprooted women, men and children, to understand the conditions they are enduring and how their human rights have been violated. The stories their eyes tell us are compelling and heartbreaking. But their ordeal does not end when they leave the tents. What comes next is a new place to settle where they usually need to confront an increasing anti-immigrant sentiment.

The seven case studies in this volume examine this last step in the resettlement process and are about a relatively privileged group of refugees: those having legal resident status in the USA. (The exception is Warren's essay on Guatemalan women in Mexico.) The