

Abby Kinchy. *Seeds, Science, and Struggle: The Global Politics of Transgenic Crops*. Cambridge, MA: MIT Press, 2012. \$44.00 (hardcover), \$21.34 (paper).

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Wouldn't you like to know what you are eating? If you are sitting down to a bowl of Multi Grain Cheerios and are reading the front of the box you'll learn that you are about to experience the pleasure of eating "five lightly sweetened whole grains" with only 110 calories per serving. Sounds good! If you are bored, turn the box around and read the list of ingredients contained in your one-cup serving, assuming you've limited yourself to just one cup. There is a remarkable amount of information, but what you will *not* find is information about the genetically modified ingredients in your bowl. Among the cereal's ingredients are corn, sugar, and canola oil, three of the most common genetically engineered (GE) crops in the world—the other two being cotton and soybeans. If you really wanted to avoid eating food that contained genetically modified organisms (GMOs) then you need to buy only those certified as organic and you would need to avoid virtually all processed foods. Even your "all-natural" chicken was probably likely fed on genetically engineered corn or soybeans. Is this a good thing or a bad thing? It depends.

Those engaged in industrial agriculture tout the economic benefits of GMOs, arguing that they have led to increased yields and lower food prices. If you want to eat cheap, so the argument goes, you need to plant crops that are engineered to be pest resistant and Roundup ready, because weeding is time consuming and expensive. Crops can also be engineered to be drought tolerant in response to climate change. A GMO strain of "golden" rice has been developed that provides vitamin A, essential for sight, which is not present in most varieties of rice consumed in developing countries.

These all seem like good things, from lower food prices to enhanced nutrition and improved health, but there is significant opposition to GMOs. One reason is they can harm other organisms. For example, B.t. genes in GE corn make it toxic to insect larvae that feed on corn; however, the gene is also toxic to other larvae, such as those of the monarch butterfly. The pollen which drifts from one field to another carries with it the genes of the GMO, and like every other living organism, does its best to insure the survival

of its "selfish" genes. Kinchy refers to this process—which is beyond human control—as "genes out of place." This process could be devastating and the consequences are unknown. A second reason is economic. Patented seeds come with a price tag that can be ill-afforded by small farmers and farmers in developing countries. Patented and expensive seeds thus have the potential for widening the gaps between the rich and the poor.

So, how do we decide what to do? Kinchy does an exceptional job of sorting out many of the issues surrounding the development and regulation of GMOs and the role science plays in the debates. She quotes a *Wall Street Journal* article that took up the question of whether a new GE strain of alfalfa should be commercialized. The *WSJ* said that the *only* reason for denying its commercialization would be scientific proof that it was harmful. But as Kinchy shows, the use of science to settle the debate about GMOs leaves out the complex social consequences of releasing GMOs into the environment. For example, the introduction of GE corn into Mexico threatened not only the species of corn adapted to grow there but the entire social system that surrounded the production of the crop. The other example she focuses on was the well-known legal case of the Canadian farmer whose field of soybeans was contaminated with GMOs. He was successfully sued for the "theft" of intellectual property because he saved the seeds from his fields to plant the next year, as he had always done. She details how, in each case, opposition to engineered crops drew activists connected to "struggles for social change, including movements for the environment, global justice, genetic resources, organic farming, and indigenous rights" (p. 3). She argues convincingly that conflicts over "genes out of place" are at heart a "political struggle over the social order" (p. 20).

She explores the variety of strategies that activists adopted in order to challenge the growth of an agroindustrial complex that marginalizes small farmers, including organic farmers whose livelihood is threatened not only by cheap food but from contamination by genes gone wild. One intriguing strategy, at least for me, was the use of science to challenge science. She draws upon the concept of "epistemic boomerang" to describe the process by which activists, frustrated by the failure of government agencies to respond to their concerns, go outside of normal political channels to rally support for their social goals with scientists from the National Academy of Sciences, as well as Greenpeace and the World Wildlife Fund.

Kinchy concludes that mobilization against GMOs is more than about just the science, it is about how we want to live our lives. Not everybody has the luxury of choosing, but for those of us who do, Kinchy makes us aware of what our choice implies when we decide we want the “lightly sweetened whole-grain” cereal for breakfast. She does an excellent job of explaining how the seeds we plant can and are leading to a complete restructuring of local and world food systems, and ultimately how they affect our relationship with one another.

The title of the book belies just how interesting the story she has to tell really is. I recommend this book for scholars in social movements, for those in environmental sciences, and for those in colleges of agriculture who want to understand the link between social systems and the food we eat.

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Sharon Erickson Nepstad. *Nonviolent Revolutions: Civil Resistance in the Late 20th Century*, New York: Oxford University Press, 2011. \$99.00 (hardback). \$23.70 (paper).

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The dramatic growth in recent decades of nonviolent civil insurrections against autocratic regimes has led to a dramatic growth in academic literature examining the phenomenon. And, just as the outcomes of these unarmed revolutions have been mixed, so has been the quality of the research. Fortunately, Sharon Erickson Nepstad’s *Nonviolent Revolutions: Civil Resistance in the Late 20th Century* is one of the more successful pieces of scholarship on the topic.

One problem with some of the current work has been the tendency to focus primarily on structural factors (such as the political, economic and social conditions within a given society), social divisions, government repression, and political opportunities that contribute to the emergence of popular uprisings. More salient are studies that examine the strategies, tactics and related skills employed by the antigovernment movements to achieve their goals.

Nepstad takes the study of these largely nonviolent civil insurrections a step further by recognizing that—whether it is in an armed struggle, a nonviolent struggle, or a game of chess—it is important to take into account the counter-strategies of the other side. Indeed, as the study suggests, the ability to think ahead and anticipate the regime’s responses can be a critical factor in the success or failure of a movement.

Another strength in Nepstad’s highly readable volume is in her choice of case studies. She pairs successful and unsuccessful struggles in communist regimes (East Germany and China), military regimes (Chile and Panama), and personalist dictatorships (the Philippines and Kenya.) I do question her decision to categorize Kenya as a case of a failed revolt. This view is only partially correct. While the dictatorship of Daniel arap Moi was able to maintain power—largely as a result of a divided opposition—nonviolent protest opened up the Kenyan political system and laid a democratic foundation for the country. It certainly was not as categorical a defeat as the 1989 uprising in China, which resulted in the bloodbath at Tiananmen Square, or the aborted nonviolent campaign against the Panamanian dictator Manuel Noriega. The Kenyan case, however, did indeed fall well enough short of its goals to work within Nepstad’s framework.

Though all six case studies took place in the mid- to late-1980s, most of the key findings have relevance today. For example, she presents strong evidence suggesting that generalized sanctions, such as those most recently imposed on Iran, do more harm than good in supporting pro-democracy struggles. Indeed, she makes a powerful case that the inappropriate use of sanctions, along with whether or not security forces defect, are the two most important factors in determining the outcome of a nonviolent uprising against autocratic regimes. In terms of encouraging mutinies among security force personnel, Nepstad underscores the importance of the resistance maintaining a nonviolent discipline. It is no surprise that a regime’s forces will be far more likely to refuse orders to shoot nonviolent demonstrators than they are those who are shooting at them.

Her findings shed light on contemporary cases such as Syria and Libya—both of which began as nonviolent uprisings and deteriorated into bloody civil wars. Of particular significance, Nepstad shows that a dictator’s willingness to order his troops to massacre unarmed protesters does not necessarily lead to the defeat of a nonviolent insurrection, nor does it provide evidence that “nonviolence doesn’t work.” Indeed, as Nepstad points out, Ferdinand Marcos in the Philippines and Erich Honecker in Germany, like the communist leaders in China (and, more recently, Gadhafi and Assad), ordered their troops to massacre protesters. In the former cases, their troops refused. Severe repression alone does not result in a movement’s failure.

Other important questions Nepstad addresses include, what strategies does the regime employ to defeat nonviolent movements and maintain power? What types of nonviolent action are most