

Jack Kloppenburg

GRAIN: Nearly 20 years ago you wrote "First the Seed". What did you see emerging in plant bio-tech that led you to write a book about it?

JK: I'd been in the Peace Corps in Botswana for a few years in the late 1970s working with peasant farming communities. I'm a city boy, and it was there that I learned that I enjoyed working with farmers and liked growing my own food. I came back to the US and went to graduate school at Cornell University and kept working on my own garden and found that the issues that I'd engaged in the Peace Corps, regarding inequality and the problematic situation that farmers were faced with, appeared in the US as well. In particular, there was the concentration of power in agribusiness. A friend at Cornell suggested that I look at seeds for my thesis. It turned out to be great advice. Biotechnology was just emerging at that point and there was a controversy at Cornell over bovine growth hormone. When I started looking at what was happening in the seed industry I found biotechnology was important there as well. Small seed companies were being purchased by big companies like Shell Oil and even the Greyhound Bus Company. Obviously something strange was going on and it had to do with the promise of the new biotechnologies.

The best way to anticipate the future is to try and understand what's already happened. So in trying to understand where biotechnology might take agriculture, I needed to know where the seed industry had already been and what trajectory it was on. Pat Mooney's book *Seeds of the Earth* was an initial frame of reference for me. But, when it came to the seed industry in the US, there wasn't

much information available. Most of the history dealing with seed was on the Green Revolution in Asia. We'd had a Green Revolution in the US too, but there was very little information available about what shape that revolution had taken and what its effects had been.

In looking at the history of plant breeding in the US, I was able to identify three features that have informed the direction that the political economy of plant breeding has taken from 1850 onwards in the US. The first is "commodification". It's hard to own the seed as property because it's a biological organism that wants to reproduce under all kinds of different circumstances. So industry pursued two routes of commodification – the social route, which has to do with legislation making the seed ownable, and the technological route, which is hybridisation.

The second feature is the division of labour between public science and private science. Public labs generated much of the basic knowledge that was needed to develop plant breeding as an applied discipline, and public breeding programmes offered new varieties for farmers at low cost, sometimes free, and farmers regularly reproduced seed for themselves. This left no room for private industry to get involved. To build a seed industry, public breeders had to be moved out of the way in an interesting *coup d'état*, in which industry said, "You do one thing and we'll do another. You do the basic science, the developmental science. We'll take care of the product end; we'll be the ones selling the seeds to farmers."

The third feature has to do with germplasm, the genetic raw material of plant breeding. Most agricultural diversity exists in the geopolitical South and there is a long history of asymmetrical flow of this material from South to North.

These three features provided the historical trajectories along which it looked to me like biotechnology was going to be deployed. And unless there are some real shifts in social organisation, it's very likely that biotechnology is going to continue to be deployed along those trajectories.

How have these trajectories played out since the publication of your book?

Farmers have continued to lose power. In the US, most are trapped on a technological treadmill and embedded in inputs and commodities markets over which they have less and less control. They often find themselves with few opportunities but

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Benny
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to purchase the seeds offered by the corporate gene merchants. Plant breeding has continued to show an intensifying division of labour. Public breeders continue to be emasculated. The centre of gravity in breeding is certainly within the private companies now. The public has lost its role in determining the kind of varieties available to farmers, and farmers have few choices but to go to the industry for seed. This set up just reinforces existing, unsustainable patterns of monoculture production.

The genetic resource issue has not moved very far since the book was published almost twenty years ago. Companies maintain pretty much free access. Generally speaking they get what they want at the price that they want, even though a number of restrictions have been put in by national governments and a variety of communities and indigenous peoples have tried to introduce various forms of farmers' or traditional resource rights. What we have seen over the past 18 years is an intensification of problematic patterns established much earlier.

But at the same time there has been tremendous growth of popular resistance. Is this resistance being effective?

When "First the Seed" came out there was relatively little organised public opposition. Today there is substantial public opposition that is globally distributed. "Biopiracy" and "Terminator technology" were not in the lexicon. "Bio-pollution" was not discussed. Now people are familiar with these phrases. There has been an exciting emergence of opposition – not just to biotechnology or genetic engineering *per se*, but to the whole range of corporate activity in agriculture. Biotechnology is recognised as just one piece in the whole fabric of corporate globalisation. And that's a very hopeful sign indeed.

An essential part of the resistance is the emergence of food sovereignty movements in the South and the local food movements in the North. People around the world increasingly understand that they are not locked into a single, capital- and energy-intensive trajectory of agricultural development and that one can eat well, pleasurably and sustainably by improving the technologies we already have and looking towards agro-ecology and organic agriculture. What people need is not simply something to oppose but also something to replace what you are opposing, and to find a new paradigm for agriculture and for eating. I think that the food sovereignty and local food movements are providing that kind of concrete alternative.

It's also positive to see that public breeders and public scientists in the US and elsewhere are getting, if not radicalised, then at least cognisant of the situation in which they find themselves. Their own freedom to operate, to do their own science, has been greatly constrained by the fact that the corporate Gene Giants own the enabling technologies that are used to do the work that they would like to be undertaking. There is an emerging movement among public breeders to get together and revitalise and rebuild public science and public plant breeding in our universities. In the US, two "Seeds and Breeds" summits have been held, in which public breeders came together with various NGOs for the first time to explore possibilities of collaboration.

Is there reason to be pessimistic about intergovernmental processes dealing with biodiversity?

The Seed Treaty (see p21) doesn't seem to provide much movement ahead or protection for biodiversity, nor does it really concretise farmers' rights. On the other hand, the biosafety protocol has helped slow down industry quite a bit. But



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these are all contested terrains. Industry knows what it would like to do and works very hard in public and private fora to reduce the impact of local, national, and international regulation. This is, of course, what we've seen in the history of the seed industry. For example, industry has been pushing patent right on plants since the 1890s. They didn't get what they wanted immediately, but they came back again and again until 1985 when plants became patentable subject matter in the US. And this is surely going to be true for whatever social or administrative arrangements are put in place for seeds or biosafety protocols or just about anything else. We need to have the same staying power that industry does.

A few years ago there were articles in *Seedling* by Camilla Montecinos¹ and Erna Bennett² questioning whether the whole farmers' rights orientation was the proper way to go and whether there simply weren't too many contradictions embedded in trying to use the master's tools to dismantle the master's house. I'm really sympathetic to that point of view. I think that the types of so-called alternative or community or traditional resource rights that have so far been developed are really derivatives of Western intellectual property. I haven't seen any frameworks or mechanisms that effectively protect the interests of indigenous peoples or of villages or regions from the depredations of biopirates from the North. That presents a fundamental contradiction. On the other hand, I don't know what else can be done. We must resist wherever we can, but I can hardly criticise the accommodations that get made.

In any case, it seems to me that it is impossible to predict precisely the particular constellation of actions or arrangements of actions that are going to best serve the larger global public interest. We have to participate on as many levels as we can and in as many places as we can. We have to try out just about anything, just about anywhere. What's exciting is that this creative opposition is occurring nearly everywhere and that we are doing as well as we are with far fewer resources, both political, economic and even cultural, than industry has available to it.

A new edition of "First the Seed" has come out with a new chapter. What's the main message, nearly 20 years later?

The new chapter called "Still the Seed" reviews what's happened over the last 18 years. What it says is that the trajectories I identified in the book are still operating powerfully. The commodification has continued and accelerated. The division of labour is more starkly defined than it was. Biodiversity is being used even more asymmetrically. That's not to say that there hasn't been the emergence of strong opposition, which has yet to come to full fruition. If we look ahead, it is the emergence of that opposition that is the great good news of the last 18 years. But what's most important, I think, is the placement of the issue of biotechnology and the seed industry in the larger context of resistance to corporate globalisation.

Seed is the alpha and the omega, the beginning and the end of the agricultural production process. The genetic characteristics that can be embedded in the seed shape the production process through which that seed is going to pass. The seed is a critical nexus for capital, but it's not the only one. We see corporate globalisation not just in the seed industry but in animal production, pesticide production, pharmaceuticals and health sciences, energy, and the media. The great social problem of our time is the increasing concentration of economic power, and therefore cultural power and political power, in the hands of an increasingly narrow set of companies. Seed is one piece of the puzzle. It's a particularly accessible piece because people can understand where their food is coming from and that makes it particularly powerful. But concentration is occurring right across the industry, not just in seeds.

Since the opposition has to be to corporate globalisation and not to one feature of it, it's going to take some time for the whole *gestalt* to mature. We have little choice but to do what we can and to pay attention to what is going on. The contradictions are going to make themselves manifest. Eventually we will have the opportunity to turn things around.



¹ Camilla Montecinos (1996), "Sui Generis – a dead end alley?", *Seedling*, December 1998, p 19, www.grain.org/seedling/?id=143

² Erna Bennett (2002), "The Summit-to-Summit Merry-go-Round", *Seedling*, July 2002, p 3, www.grain.org/seedling/?id=196