SOME RUMINATIONS ON ANTI-BIOTECHNOLOGY ACTIVISTS, ACADEMICS, AND SCIENCE[1]

Rachel Schurman, University of Minnesota-Twin Cities
William Munro, Illinois Wesleyan University

Prepared for the Workshop on Biotech Contentions
Cornell University
Ithaca, New York
April 25th–26th, 2008

[1] Our original title was 'Contentious Lifeworlds' and the Enduring Struggle over Agricultural Biotechnology.' As we sat down to write this, however, this alternative title seemed more apt.

In preparation for this workshop, we've been ruminating on this question of contentious politics, and in particular, on the relationship between the anti-biotech movement, which we have been studying for the last half decade, and scientific evidence. We've also been reflecting on the growing criticisms and frustrations that many have with social activists, and in particular, with their positions on the "hard scientific data" that have been generated and analyzed for over a decade now. This critique used to be confined largely to the strong proponents of biotechnology located mainly in industry, but it is now also recognizable in the writings of many academics, including some of the people sitting in this conference room. I think it is fair to say that the position of both groups (even though it is articulated more carefully by academics, in most cases), goes something like this: "All right, enough is enough. Biotechnology companies and research scientists have been doing genetic engineering for over twenty years now, and they've have come up with some pretty nifty stuff — technologies that have been proven to enhance farmer productivity and to solve a host of real agricultural problems. Biotechnology critics may have had grounds for worry in the beginning, when the science was still new and unknown, but they don't have them anymore. Farmers like it and want it — many so much that they will pay a high price for it, and go great lengths to get it, legally or illegally. But more importantly, these new technologies have been carefully and thoroughly studied not only by the industry but by scores of independent researchers. The weight of the evidence shows that agricultural biotechnology is neither bad for human health or for the environment. (Indeed, it may actually have a positive environmental impact to the extent that it reduces the use of chemical pesticides.)

"So why are these activists simply refusing to believe the evidence? As far as we can see, there are only three possible explanations. The most charitable explanation is that they simply don't understand the science. As a result, they can't distinguish between good science and junk science, of which there is a lot floating around out there. Another possibility is that they are neo-Luddites, and anti-science. Basically, a lot of those who oppose the use of GMOs in agriculture are simply people who are against new technologies and want to stop scientific progress. The third possible reason is that these critics – most of whom are from rich countries, and are well off themselves -- are really only interested in advancing their political cause, which is to stop the technology from

being adopted, and they are willing to go to any lengths to do so. But this is getting ridiculous. These mainly rich, mainly first world, mainly urban activists are imposing their views on other people, including poor, third world farmers and hungry people, who really *could* benefit, and they are preventing them from gaining access to these perfectly good technologies and their benefits. And that is *not* okay."

In our talk today, we would like to advance an alternative interpretation of the behavior of the activists, one that does not focus on their scientific ignorance, their neo-Luddite character, or their utilitarian and manipulative motives, but that situates their behavior in social, cultural and historical context. We also want to present an argument we are making in our book manuscript, in the hopes of hearing your reactions to our ideas. The argument we want to put forth is that to *really* understand why those who are part of the "anti-biotech movement" think what they think, do what they do, and say what they say, in spite of the growing *scientific* consensus about agricultural biotechnology, we have to understand their "lifeworld." The concept of a "lifeworld" is generally associated with the philosophical tradition known as phenomenology.[2] However, we are using the term less abstractly, to connote *a local culture* and the *people who actively constitute it*.[3] A lifeworld, as we define it, is at once cognitive, normative, and social in character, and is collectively constituted in a particular space of interaction, or *milieu.* Like the local culture it encompasses, a lifeworld is characterized by a "shared mental world," or a set of beliefs, assumptions, images and value judgments about how the world works (and should work), as well as by particular ways of thinking and categorizing things.[4] Often these are so taken for granted that their bearers are not conscious of them, but they still serve to structure much of human behavior, even while people are not bound to act in

[2] The concept of "lifeworld" has quite a long and venerable history associated with the twentieth century philosophers Husserl, Schutz, and Dilthey, among others, who developed a theory of knowledge known as phenomenology. Jurgen Habermas has also developed related ideas.

[3] Rachel Einwohner's definition comes close to what we mean here; by local culture, she refers to the culture of particular communities that share certain behavioral practices, interests, work activities or concerns in common. Small groups, organizations, and institutions typically have local cultures, which sanction, normalize and reproduce particular types of behavior and ways of thinking. See (Einwohner 1999; Einwohner and Spencer 2005). Other scholars refers to these as "subcultures."

[4] James Jasper uses this term "shared mental worlds" to refer to culture (Jasper 1997). Our conceptualization of lifeworlds draws on Jasper's rich work on social movements and culture.

accordance with them.[5] Lifeworlds come into being through a process of regular or ongoing social interaction among small groups of people, typically in a particular physical space. As groups of people use and express their ideas, values, and 'common sense' meanings in regular or on-going interactions with friends, colleagues, co-workers, and other associates, they develop certain shared accounts of the world and "normal" ways of acting that are, as Kate Crehan has put it, "so firmly embedded within individuals' consciousnesses as to seem to those individuals part of the very texture of their own subjective being." (Crehan 1997).[6] It is in the process of interacting socially, swapping ideas, and creating shared meanings that people come to consolidate a lifeworld. Stated somewhat differently, a lifeworld incorporates *both these shared accounts of the world and the community of people who share them.*[7]

The significance of a lifeworld for understanding social action (and here we refer not just to the activist lifeworld, but to other groups' lifeworlds, as well) is that it generates—and naturalizes—certain broad visions of the world as well as interpretations of specific phenomena. These, in turn, predispose people to particular types of action.[8]

---

[5] In this sense, a lifeworld incorporates what Kristin Luker (1984) has called a 'world view.' On her account, a worldview is value-driven, rooted in values "so deep and so dear to us that we find it hard to imagine that we even have a 'world view' – to us it is just reality – or that anyone else could not share it. By definition, those areas covered by a 'world view' are those parts of life we take for granted, never imagine questioning, and cannot envision decent, moral people not sharing." Where our concepts differ is that lifeworlds also incorporate the real (and virtual) communities, spaces, and social processes through which these commonsense ideas and perspectives are constituted.

[6] By "normal" ways of acting we are referring to the social construction of a shared sense of what behaviors are 'appropriate' and right in a given situation. This is what sociologists refer to as "normalized" behavior.

[7] It is in this sense that the lifeworld idea goes beyond the concepts of culture (as 'shared mental maps') or 'worldviews'. Our notion of lifeworld includes the more textured social fabric of the interactive (and local) *community* itself – including the shared mental maps, social networks, and individual members. In this sense, we come close to Thomas Rochon's concept of 'critical communities'. However, Rochon's concept only applies to communities of oppositional or critical thinkers, and does not capture the aspects of culture that are constituitive of the lifeworlds we discuss.

[8] Readers familiar with the political science literature will recognize a similarity between our concept of a lifeworld, and the notion of an "epistemic community." Peter Haas, one of that concept's chief architects, defines an *epistemic community* as "a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area." (Haas 1992), p. 3). For Haas, members of an epistemic community share a set of normative beliefs, "which provide a value-based rationale for the social action;" they share beliefs about causality pertinent to their expert domain; they share ideas about what constitutes valid knowledge within their area of expertise; and they are engaged in a common policy enterprise—or "a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence." (Haas 1992: p. 3) As Haas's definition suggests, epistemic communities comprise communities of people who possess specialized knowledge that is highly valued by society (or at least by elite decisionmakers), which gives them a widespread credibility and legitimacy to promote their views. (For a detailed discussion, see Haas 1992: 17). While the lifeworld

As we discuss momentarily, for example, for those who are part of the activist lifeworld, it makes absolute sense to apprehend the technology in terms of who owns and controls it. For industry actors, on the other hand, it makes sense to regard biotechnology in terms of the commodities, or goods it can produce, for example, insect-resistant corn, herbicide tolerant soy, or drought resistant sweet potatoes, as well as in terms of the growth it can generate for the firm. Scientists, who have their own lifeworld, generally have a third interpretation: to them, doing genetic engineering represents an opportunity to do cutting edge science and to do something good for the world at the same time. These alternative interpretations, as we have seen as we've watched this controversy unfold over time, have prompted very different behaviors on the part of each group actors. While activists have fought patents, organized demonstrations, and criticized what they see as "industry science," industry officials have sought to convince regulators that the technology is safe, courts that their products are patentable, and the public that ag biotech will increase agricultural productivity and reduce world hunger. Scientists, for their part, have focused on doing science, and pushing the discovery process forward. The point here is that no one is acting nefariously, or *simply* strategically; rather, they are doing things and thinking thoughts that make sense within their own interpretative frameworks and their own subcultures, and that are consistent with their own value systems. The reason that biotechnology has turned into a thirty year controversy, in our view, is that it has served as a lightening rod for a fundamental clash of lifeworlds between and among these groups: that is, what makes "common sense" to someone who runs a biotechnology firm or works in a molecular biology lab, for that matter, makes no sense at all to an anti-genetic engineering activist. And vice versa. And therein lies the rub.

---

concept also focuses on groups of people who share cognitive-normative frameworks which predispose their members toward certain kinds of action, it is not meant to refer exclusively to professional groups, or those who are considered 'experts' by the rest of society; indeed, those populating the activist lifeworld are often dismissed as ignorant of the facts in the central domain in which they are working, as we suggested in our introduction to this paper. Another difference is that as originally conceptualized, epistemic communities are assumed to be relevant because of the way they influence state behavior in the policy sphere; lifeworlds, by contrast, have a much broader relevance, and may influence action in a wide range of spheres, both public and private. Third, while the notion of epistemic community is used to refer to like-minded groups of individuals, EC theorists are not centrally concerned with how these communities are formed or *how the process of community formation* shapes the ideas, worldviews, and values of the people who constitute them, as well as their commitment to these ideas and worldviews. For us, however, these processes are critical to understanding the cognitive-normative content, significance, and role of a community's lifeworld.

Origins of Lifeworlds

Thus far, we have suggested that people's lifeworlds involve particular understandings of the world which are both cognitive and normative in nature. Like all cognitive-normative frameworks, these understandings "connect the dots" in ways that imply cause and effect, offer explanation, attribute blame, and reflect specific values.[9] But where do these ideas and worldviews come from? In the cases of industry actors and of scientists, the ideas that people in these communities tend to hold are readily available in society or in their disciplinary and professional circles. For industry officials, for example, dominant discourses about the roles and rights of corporations in the economy (e.g., to provide jobs, to engage in innovation, to compete in the marketplace, to introduce new products) provide a ready source of ideas, as do widely shared (though not always spoken) notions about acceptable and appropriate business behavior. Scientists, too, are able to draw upon certain taken-for-granted ideas and discourses in society, including discourses about the neutrality of science, its inherent value to society, and its status as an activity that stands above and outside of political interests.

The same availability of ideas is not the case for activists, however. Because the cognitive frameworks associated with activist lifeworlds are inherently *oppositional,* that is, at odds with the *status quo* and dominant discourses, they cannot draw on "common sense" discourses and worldviews that are already out there in society. (Put in Gramscian terms, activist lifeworlds are fundamentally "counter-hegemonic.") Stated differently, even as members of the anti-biotech activist lifeworld share a certain common sense amongst themselves, these same ideas, worldviews, and moral convictions are *not* shared by most members of the larger society. These activists thus have had to consciously construct the critical analytical framework that constituted the ideational dimension of their lifeworld. As we have illustrated elsewhere (Schurman and Munro 2006), this has required serious and sustained intellectual work, and involved a core group of activist-intellectuals located on multiple continents working together over several decades.[10] In

[9] The cognitive-normative aspect of a lifeworld is similar to a "frame" in the language of many social movement theorists. See the work of Gamsom, Snow, Benford and others on frames.

[10] In other words, what differentiates the activist lifeworld from the lifeworlds of industry and scientists is that the latter communities do not have to engage in this same sort of purposeful framework construction, since they are able to draw on taken-for-granted ideas and discourses that are already "out there" in society.

the process of analyzing the developments occurring in the biological sciences, the social relations surrounding the new biotechnologies, and the new legal frameworks governing these technologies' ownership and use, these biotechnology critics have forged an oppositional ideology and alternative discourse upon which a movement would ultimately be built.[11]

But even this does not fully capture the process by which these biotech critics came to hold the views they hold about biotechnology. The 'countercultural' worldview of anti-biotech activists was informed by the particular generation and historical moment in which they came of age, as well as by people's "personal biographies," or the events and experiences that occur in people's lives and that help make them into who they are.[12] Although we cannot go into detail here on the individuals who comprise the movement, it is worth noting that the earliest activists around genetic engineering came from two different communities, and were sparked by two sorts of concerns. The first community comprised critically minded scientists, environmentalists, and academics engaged in the field of science, technology and society studies, who were worried about the dangers this novel technology posed to human beings and the environment, and about the social, moral and ethical issues raised by such a powerful new set of genetic tools. A number of these individuals – Ruth Hubbard, Jonathan King, Liebe Cavalieri, Edward Yoxen, for instance -- were based in and around universities in the US and Europe, such as Harvard, MIT, the University of Manchester, and the like. The second community included what we might call "development critics" from the global North and South, who were primarily concerned with the "seeds issue," or the loss of genetic diversity in the global south and the growing corporate control over agriculture. This group includes people such Pat Mooney, Cary Fowler, and Hope Shand from RAFI in North America, Vandana Shiva from India, Nicanor Perlas and Martin Khor from the Philippines, and Anwar Fazal

---

We thank our colleague, Teresa Gowan, for calling our attention to this crucial feature of activist lifeworlds.

[11] As we have argued, without the intellectual work conducted by this "critical community" of activists (Rochon 1998) in the 1970s and 1980s, there would not have been an anti-genetic engineering movement in the 1990s and 2000s.

[12] James Jasper, from whom we borrow this term, defines personal biography as both the "idiosyncratic experiences an individual has lived through" as well as the unconscious mental states that serve to filter those experiences, which are part of personality. (Jasper 1997). Personal biography includes everything from growing up in a particular family, to the various events and situations one encounters throughout the course of one's life.

and Martin Abraham from Malaysia. Drawing on their experiences living through the sixties, being present at the birth of the environmental, feminist, anti-nuclear, and Non-Aligned movements, and observing the effects of the North's "development project" on the global South, these individuals were strongly predisposed to look upon these technological developments with a critical eye. Indeed, it was a short step for people who had developed a critique of the Green Revolution to extend this same critique to the 'gene revolution,' especially when they heard the same claims being made by large chemical and agribusiness companies that GE technologies were going to solve the problem of world hunger. To them, this claim was clearly specious, and indicative of an industry that would say anything to sell its products. The validity of their analysis only seemed underscored when these critics looked at the industry's behavior -- moving, as it has to establish a mountain of patent claims over its intellectual property, and focusing, as it has, on crops that are primarily grown by industrialized country farmers.

Lifeworlds and Social Action

The specific actions in which the different actors we've been discussing engaged also flowed out of their respective lifeworlds; being part of the activist lifeworld inclined people toward certain norms of behavior and strategies of political action, for instance, while *a priori* excluding others. Experience in this and other social movements inculcated particular ways of thinking about how to elicit change and exposed anti-biotech activists to certain repertoires of collective action (Tilly 1978), which in turn shaped what they did on a daily basis. For those comprising this group, it was logical to try to push regulators to obstruct the technology, to attack industry's scientific constructions of it, and to organize various sorts of direct actions against the firms involved in its development. Working *with* the industry or with government officials, by contrast, was just as "naturally" ruled out, in that it signified cooperating with the enemy and exposing the group to the possibility of political cooptation.

Those in the corporate-managerial lifeworld held a very different set of common sense ideas about the technology, and engaged in very different sorts of everyday, "normal" behavior. Most corporate executives involved in the industry apprehended biotechnology on two distinct levels. Most concretely, they thought about genetic

engineering in terms of the specific, patentable goods it could produce (eg., insect-resistant corn, herbicide tolerant soy), and the benefits these could generate for the firm, in the forms of profits, shareholder value, and business growth. At a more abstract level, however, biotechnology held another meaning: it represented the height of scientific progress and innovation, the way in which a country and economy could move forward, away from an industrial past to a (far more desirable) "post-industrial," knowledge-based future. Both these general and specific interpretations predisposed corporate managers to engage in certain types of business behavior. Consistent with their understandings of the *meaning* of biotechnology, industry officials poured enormous resources into technology development and commercialization, hastened to establish intellectual property rights over their companies' scientific innovations, and devoted themselves to the task of creating favorable regulatory regimes. As time went on and corporate executives realized that they could not count on public opinion being uniformly favorable, they also engaged in public relations campaigns to convince citizens and consumers of the benefits agricultural biotechnology would provide, from producing safe food to reducing pesticide use to solving the problem of world hunger. It is these claims, of course, that have fueled activists' senses of outrage about the technology, on a variety of levels.

Industry scientists share many aspects of the corporate worldview, as well as bringing their own local culture to the workplace. Among other things, this includes a powerful belief in the quality of their science, the notion that they are "doing well by doing good" through their work in the agricultural biotechnology sector, and the belief that the general public does not understand genetic engineering simply because they don't know very much about science (author interviews). Generally speaking, this set of beliefs has prompted them to dismiss the public's right to opine about the technology and to view the activists' behavior as purely manipulative and illegitimate.[13]

[13] These ideas and beliefs have spilled over into the lifeworld of corporate managers, who have come to develop a deep faith in the infallibility of their scientific staffs and the soundness of their firms' science.In fact, as we show in our book, the relationship between the lifeworlds of these industry scientists and that of their corporate managers, at least in the U.S. biotechnology industry, is actually very close, for two reasons. First, both groups tend to think in ways that were broadly consistent with taken-for-granted ideas and the dominant discourse about the inherent value of scientific progress and innovation to society. Second, by plan and necessity, industry scientists and their corporate managers interact frequently. This close contact and the high degree of interdependence that characterizes their relationship has heavily exposed each group to the other's ways of thinking, and brought their two lifeworlds closer together. There is also literal overlap between the two groups, as some industry scientists have moved up the corporate ladder to become

So how does all this theorizing about lifeworlds help us to understand the conflict over the meaning and significance of what Ron Herring and Ken Roberts refer to as "authoritative knowledge"? (Herring and Roberts 2006). Well, it seems to us that it yields a better way of understanding why the activists think the way they do, and why they make the claims that they do, about scientific knowledge. (It also helps us to understand why anti-GE activists are likely to hold to their position, no matter how much scientific evidence is amassed.) For if you are part of the activist lifeworld, you are very likely to have a deep distrust of authoritative knowledge, because from your perspective, authoritative knowledge is a knowledge rooted deeply in the social and economic relations of advanced capitalism. Thus, it is impossible for you to see it as neutral or unbiased, or as immune to the influence of politics, funders, and pecuniary interests, especially in the case of industry. This same critical lens is also applied to some extent to state-funded science, in part because the state is seen to have a clear political interest in stimulating the economy, and in supporting the growth of new and existing industries, like biotechnology. For those who are part of the activist lifeworld, these economic and political interests, of both industry and the state, invariably have a powerful effect on the scientific questions that get asked – and, just as importantly, *don't* get asked. Thus, any science that gets done within this framework and context is deeply prone to suspicion. There will never be enough of it, and it will never focus on asking the right questions.

Another thing that the lifeworlds perspective helps us see is the clear disjuncture between the weight that activists place on authoritative knowledge, and the weight that industry actors and many policymakers place on this same knowledge. For most activists in the anti-GE movement, what the science says – even if it *were* to be seen as fully legitimate – is not the most important issue. It may well be that most GE applications are perfectly safe for human health and the environment, but to those who are critical of genetic engineering, that's not the main concern. For them, the notion that decisions about biotechnology (or any new technology) should be based on science and nothing but the science (which is the basic idea behind the 'sound science' approach of the US

---

business managers. Rob Fraley, Executive Vice President and Chief Technology Officer at Monsanto, is but one of many examples. For a fascinating first-hand account of the relationship between these two lifeworlds (although it is not conceptualized that way) from a scientist's point of view, see Belinda Martineau's book, *First Fruit: The Creation of the Flavr Savr Tomato and the Birth of Genetically Engineered Food* (Martineau 2001).

government) just doesn't hold water. From the activists' perspective, there are a multitude of other concerns that are just as legitimate and important for deciding about whether or not these technologies should be introduced into society. Their likely effects on small-scale farmers (local, national, global); whether GMOs are actually desired or wanted by consumers, whether there is an open and truly public discussion about them – *all* of these issues are seen as exceedingly important by the anti-GE activist community, not just whether or not the weight of the scientific evidence suggests they are harmful.[14] And here you can see a key axis of the conflict, because this is a very different perspective from the one held by those in the industry, and those in the US government, at least. Within their respective lifeworlds, *within* the business and scientific subcultures and communities, these kinds of concerns are considered to be illegitimate and irrelevant. What matters to these groups is only whether the technology is or isn't likely to be 'safe.' Beyond that, it is up to farmers, consumers, and the market as to whether or not it will be used and accepted. Indeed, the very notion that a new technology should be evaluated on the basis of social and economic considerations, and possibly rejected for such reasons, is considered an absurdity within the US business community and among the officials of certain states. All of this is quite evident in the discourses that the industry and policymakers mobilize around biotechnology.

To sum up our argument, then, we basically disagree with a reading of anti-GE activists that facilely sees scientific ignorance, neo-Luddism, or utilitarianism as being the central factors explaining this community's views and behaviors. As we hope we have shown, it is vastly more complicated than that, with people's ideas, values, worldviews, and cultural *milieus* working together to produce certain commonsense behaviors and responses to one another. At the same time, we do not mean to suggest that every participant in the movement possesses a deep understanding of the science behind GE or that anti-biotech activists do not act in utilitarian ways, for of course they do — just like people in companies like Monsanto, Dupont, and Syngenta do, and just like many scientists do, too, with respect to their lifeworlds. We are merely trying to say that this is a seriously insufficient way of understanding them.

[14] In other words, a distrust in and disregard for authoritative knowledge is precisely that – a distrust in and disregard for *authoritative* knowledge, meaning a knowledge that is perceived to reflect a particular set of interests and values, while dismissing the import and legitimacy of *other* interests and values.

BIBLIOGRAPHY

Einwohner, Rachel L. 1999. "Practices, Opportunity, and Protest Effectiveness: Illustrations from Four Animal Rights Campaigns." *Social Problems* 46:169-186.

Einwohner, Rachel L., and J. William Spencer. 2005. ""That's How We Do Things Here": Local Culture and the Construction of Sweatshop and Anti-Sweatshop Activism in Two Campus Communities." *Sociological Inquiry* 75:249-272.

Haas, Peter M. 1992. "Introduction: Epistemic Communities and International Policy Coordination." *International Organization* 46:1-30.

Herring, Ronald, and Kenneth Roberts. 2006. "Contentious Politics: Science, Social Science, and Social Protest, Theme Proposal, Institute for Social Sciences." Ithaca, NY: Cornell University.

Jasper, James M. 1997. *The art of moral protest : culture, biography, and creativity in social movements*. Chicago: University of Chicago Press.

Martineau, Belinda. 2001. *First fruit : the creation of the Flavr Savr tomato and the birth of genetically engineered food*. New York: McGraw-Hill.

Rochon, Thomas R. 1998. *Culture moves : ideas, activism, and changing values*. Princeton, N.J.: Princeton University Press.

Schurman, Rachel, and William Munro. 2006. "Ideas, Thinkers, and Social Networks: The Process of Grievance Construction in the Anti-Genetic Engineering Movement." *Theory and Society* 35:1-38.

Tilly, Charles. 1978. *From mobilization to revolution*. Reading, Mass.: Addison-Wesley Pub. Co.