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Social change and the adoption and adaptation of knowledge claims: Whose truth do you trust in regard to sustainable agriculture?

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Abstract. This paper examines sustainable agriculture's steady rise as a legitimate farm management system. In doing this, it offers an account of social change that centers on trust and its intersection with networks of knowledge. The argument to follow is informed by the works of Foucault and Latour but moves beyond this literature in important ways. Guided by and building upon earlier conceptual framework first forwarded by Carolan and Bell (2003, *Environmental Values* 12: 225–245), sustainable agriculture is examined through the lens of a ''phenomenological challenge.'' In doing this, analytic emphasis centers on the interpretative resources of everyday life and the artful act of practice – in other words, on ''the local.'' Research data involving Iowa farmers and agriculture professionals are examined to understand how social relations of trust and knowledge are contested and shaped within and between agricultural social networks and organizational configurations. All of this is meant to further our understanding of what ''sustainable agriculture'' is and is not, who it is, and how these boundaries change over time.

Key words: Discourse, Identity, Iowa, Knowledge, Phenomenological challenge, Trust, Social change, Sustainable agriculture

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Introduction

In the 1950s, the United States Congress held hearings on the use of chemicals in agriculture. The sole person to testify before Congress on behalf of the ''organic movement'' was J. I. Rodale, an outspoken publisher, researcher, and leader of the movement from the 1950s until his death in 1971. His testimony was less than openly received. Instead, his science was questioned as was his scientific training, turning Rodale's testimony into ''a quasi-prosecution, a sarcastic cross-examination of his credentials and professional credibility'' (Peters, 1979: 258). Proponents of an alternative system of farming gained little headway by way of these hearings; industrial agriculture, it seemed, was here to stay.

Fast-forward a few decades

In 1980, the US Department of Agriculture released its *Report and Recommendations on Organic Farming* in order to educate policymakers and the scientific community on organic agricultural systems. With this report as leverage, proponents of what was then called low-input sustainable agriculture (i.e., LISA) were able to get bills introduced into Congress in 1982. Concepts from the 1982 legislation were then used to give direction to the 1985 Farm Bill (Hassanein, 1999). One significant piece of legislation to come from this bill was the allocation of funds for the creation of the LISA program (now the Sustainable Agriculture Research and Education (SARE) program). By the mid-1990s, institutions dedicated to applied research and education in sustainable agriculture began to be established throughout the country (e.g., the Leopold Center for Sustainable Agriculture, at Iowa State University; the Center for Integrated Agricultural Systems, at the University of Wisconsin–Madison; the Sustainable Agriculture Research and Education Program, at the University of California–Davis; the Center for Sustainable Agriculture and Natural Resources, at Washington State

University; and the Center for Sustainable Agricultural Systems at the University of Nebraska–Lincoln). By 2001, Iowa State University began offering advanced degrees (MS and PhD) in "Sustainable Agriculture." Today we also find agriculture organizations such as The National Campaign for Sustainable Agriculture (with over 80 member organizations), the Community Food Security Coalition, and the World Sustainable Agriculture Organization proliferating across the countryside and around the world. In short, attitudes and practices – and, as we will see, social networks – within agriculture have been immensely fluid and dynamic since those Congressional hearings in the 1950s. So what is going on here?

The theoretical account that follows is an amalgamation of perspectives and analytics. It is informed by the writings of Foucault and Latour but goes beyond this influential literature in important ways. The conceptual linchpin of this synthesis is trust and its intersection with networks of knowledge. Toward this end, analytic emphasis centers on "the local," for it is here where these networks are contested and negotiated. It is here that knowledge and trust claims are adopted and adapted to the socio-cultural milieu of everyday life.[1]

This journey begins by way of an earlier developed concept, the phenomenological challenge (Carolan and Bell, 2003). A phenomenological challenge focuses on the inseparable web of socio-organizational and technical processes that are part and parcel of how we experience and evaluate knowledge claims as they come our way. These social perceptions and everyday evaluations of knowledge are rooted in concrete social relations. While this suggests that the evaluation and application of knowledge is rooted in "the local," it does not deny the expertise of agricultural professionals. Rather, it highlights their problematic epistemic orientation as it relates to sustainable agriculture, and the processes by which those orientations are adapted to local conditions (see also, Carolan, 2006e).

A phenomenological challenge thus provides a means to understand the local, socio-relational processes contributing to sustainable agriculture's growing legitimacy. In detailing these dynamics we find a myriad of actors, each of whom plays a role in giving shape to the social body of agriculture – farmers to be sure, but also land grant universities, the state, agri-businesses, Extension agents, seed and fertilizer dealers, conservation agents, farm managers, and the like. In the pages that follow, I work to map aspects of this interpretative terrain, so as to gain greater insight into the socio-relational processes that have led to sustainable agriculture's rise as a legitimate farm management system. In doing this, I find the relationship between knowledge and trust to be particularly important. Stated simply, I argue that the growing legitimacy of sustainable agriculture can be linked to continually expanding social networks of knowledge and trust. In short, more people now trust sustainable agriculture and the proponents of sustainable agriculture to be speaking the truth. This has done much to move this model of agricultural production forward.

I begin by developing the concept of the phenomenological challenge, placing emphasis on the relationship among knowledge and trust and that I call "the local," while orienting this conceptual framework to production agriculture. I then turn to the empirical case. Drawing from data gathered from an extensive qualitative research project focusing on production agriculture in Iowa, I discuss sustainable agriculture's growing legitimacy through the lens of a phenomenological challenge. Through this, the social body of agriculture is "opened" to reveal its embedded social relations, particularly as they relate to trust and knowledge. Here, the "voices" of numerous individuals, organizations, and institutions, (e.g., Practical Farmers of Iowa (PFI), Iowa State University) are examined with the goal of understanding how social relations in agriculture change as knowledge claims, trust, identities, and socio-organizational configurations are contested over time. From here, we can begin to speak about what sustainable agriculture is and is not, who it is, and how these boundaries change over time.

Framing the paper conceptually and methodologically

Before turning to the empirical analysis, two questions – one conceptual and one methodological – need to be addressed. First, what is a phenomenological challenge and how does it relate to issues of trust, knowledge, and "the local"? Second, what methods were employed to generate the data and what was the local context from which this data emerged?

The phenomenological challenge

To analyze social change through the lens of a phenomenological challenge is to examine how normative codes are rewritten, challenging what is "normal" and "abnormal," "right" and "wrong," "civil" and "perverse." While Foucault (1972, 1979) wrote extensively on "sorting" codes of discourse, he viewed them as largely immutable, as existing beyond the realm of practical action. On this point, Bruno Latour has been particularly critical of Foucault. According to Latour (1988), the world does not hang together by a single Foucaultian episteme, but rather by heterogeneous "chains of associations." These chains form social networks whose strength depends upon the activities that sustain them. Unlike the single, coherent, immutable episteme, Latour (see also, Callon, 1986; Callon and

Latour, 1981; Law, 2002; Mol, 2002) argues that networks (and the discursive structures they affect and are themselves effects of) are open, shifting, multiple, and contestable.

Far from a purely discursive analysis of social change, a phenomenological challenge thus highlights the thoroughly active, embodied, and embedded processes of social life, all of which involve people, the state, organizations, expert systems, and non-human objects and animals. Through the lens of a phenomenological challenge, we find social life to be a thoroughly performative act – which is to say, it is something that individuals do. As I detail below, the same can be said of agriculture.

To refer to either conventional or sustainable (or even organic) agriculture is to speak, at least in part, of discursive systems whose boundaries are mutable and contested. Indeed, the difficulty of clearly delineating between either of these systems of production is perhaps the best testament to this fact. A number of critical examples that have addressed this performative (and discursive) character of production agriculture can be found in the literature – from industrialized hog production (DeLind, 1995), to the development of "organic standards" (Allen and Kovach, 2000; Anton-Dunn, 1997; DeLind, 2000), and the formation of local, citizen-based food systems (DeLind, 2002; Hendrickson and Heffernan, 2002; Lyson, 2004), to the processes involved in consumer mobilization (Lockie, 2002). All of these examples highlight the thoroughly socio-organizational nature of agriculture and how it cannot be reduced to autonomous rational actors (as argued by neoliberalism). For what those in agriculture do (from their actual farming practices, and organizational membership, to those they trust and the type of "science" they find truthful) ultimately gives shape to the boundaries that define what "sustainable" and "conventional" agriculture are as well as what they are not.

Take, for instance, Laura DeLind's (1995) analysis of a grassroots protest against a factory hog farm in Michigan. In this work, DeLind details a process of contestation that is active, mutable, and discursive in character. She describes how initial attempts to zone for the local expansion of "hog hotels" quickly turned into a debate about the "right" to farm. Thus, what began as an attempt to protect the environment, family-scale farming, and a certain quality of life for local residents, soon turned into an "attack" on an entire industry. This occurred through protests being (successfully) reframed by agribusiness as an assault on the "right to farm" for all farmers. In describing this "curious relationship" between the state, hog hotels, and the "right to farm," DeLind gives attention not only to discourse, but to how the debate was framed. Also included in her analysis are the roles that science, expert systems (e.g., Michigan State University), and "state-of-the-art" techniques and technologies played over the course of the conflict. All of these were marshaled by both "sides" of the debate, at various times, to lend support and legitimacy to the knowledge claims made by the various social players and networks involved.

DeLind's article illustrates the broader contestation that is occurring more generally throughout the social body of agriculture. In doing this, it vividly highlights how structures of power can shape social relations – which, in this case, centered on the collusion between industrial agriculture and political actors. Thus, when speaking of agriculture as a discursive, socially contested system, we must also keep in mind that it is a system imbued with unequal power relations, involving such influential actors as the state (e.g., government subsidies), credit/lending agencies (e.g., banks), corporations, and the like (Carolan 2005a). All these actors have played important roles in making sustainable agriculture what it is (and is not) today.

The relationship between trust and knowledge

An important component of this analysis is the focus it places on perceptions of trust, particularly as they give shape to networks of knowledge (and conceptions of truth). In social relations of trust we have a pragmatic yardstick against which to differentiate fact from fiction (Porter, 1995). In short, we often find truth in those social relations we trust. Yet, in focusing our analysis on "the local" – on the performative fabric of everyday life – we find trust itself to be a problematic concept, at least on the surface. For when we speak of "trusting" someone or something, this does not always imply that we actually do trust them in a meaningful way. Thus, we have further cause for placing analytic attention on the locally co-produced fabric of everyday life.

Philosophers of science and sociologists of knowledge have argued that knowledge must be placed within an interpretative context in order for it to have meaning (e.g., Kuhn, 1962; Latour, 1987; Polanyi, 1962). This socially mediated character of knowledge is perhaps most familiar to us when we are first confronted with a "fact." Upon being presented with a knowledge claim, assuming we are indeed interested in establishing its validity, we quickly seek to link it to a particular social network. "Who told you that?" or "Where did you hear that from?" are some of the questions we might ask in order to determine truthfulness. Through this process, we can begin to assess how the knowledge claim fits with our personal sense of trustworthiness and, thus, begin to assess the claim's truthworthiness (Bell, 2004; Carolan, 2002; Carolan and Bell, 2003, 2004).[2]

As others have detailed, knowledge is made meaningful only after it is placed within a certain social

network (Collins, 1990; Collins and Pinch, 1998; Jasanoff, 1990). Thus, if we believe a social network to be trustworthy, we will likely feel the same about knowledge that comes from that social network – that is, we will likely consider such knowledge to be true. This point will weigh heavily in the forthcoming analysis, in our quest to explain sustainable agriculture's steady rise as an "accepted" farm management strategy. Part of the reason that sustainable agriculture has achieved a degree of mainstream status is because more people now trust that its proponents are speaking the truth.

When speaking of trust, however, we must be cautious not to see it as a fixed, stable entity, but rather as mutable and discursively contested. As documented by Brian Wynne (1992, 1996), when people express public trust in institutions for example, such trust may in fact rest upon a deeper private mistrust. That is, while people may say they trust a particular entity, deeper probing reveals just the opposite. Therefore, we must not presume that all trust statements are the same, for in some cases expressions of trust may prove to be more a condition of convenience or convention than something authentically felt (Wynne et al., 1993). Simply put, sometimes people have no choice but to trust. For instance, while recognizing that trusting an institution will likely have no affect on the behaviors of said institution, individuals may still express trust toward it so as to retain a perceived degree of agency, even though that trust is not authentically felt. There is, as Giddens (1990) notes, a degree of ontological security in such unexamined, unreflexive commitment. Wynne (1996) refers to this as "virtual trust" or "as-if trust," recognizing that individuals are often compelled to act "as if" they trust experts and/or institutions because they feel they have no other choice, keeping any significant doubts to themselves (see also, Carolan, 2006a).

These findings underscore the need for a contextualized understanding of how trust relations change over time. Only by understanding the heterogeneous "chains" that are part and parcel of everyday life – from words to ideas, institutions, and practices – can we understand the rationalities, trusts, and thought processes individuals bring to the task of assessing knowledge claims. The understandings embedded in the context of broader social relations are critical for deciphering sustainable agricultures networks of trust and how they converge and overlap with those of conventional agriculture. In doing this, it is possible to learn not only who one trusts (to be speaking the truth), but also what that trust means and how that trust is enacted at the local level.

Yet this begs the question: what is trust? If active trust is indeed more than simply saying "I trust," what exactly is it? The writings of Russell Hardin (e.g., 2001, 2002) and Anthony Giddens (e.g., 1990, 1991) have proven valuable for answering this question.

Following Hardin (2001), trust is related to the concept of "encapsulated interests." "In modal trust relationships, the trusted party has an incentive to be trustworthy, an incentive grounded in the value of maintaining the relationship into the future. That is, my trust of you is encapsulated in your interest in fulfilling the trust" (2001: 3). While some may contest bringing interests into the trust equation, Hardin's point is not to reduce trust relationships to egoistic, rational urges. Trusting someone is not the same as saying that someone has an interest in attending to your interests, which can be either material or nonmaterial in nature. Rather, Harding means that "trust is relational." Trust depends upon relationships, both past and present, that are borne out of previous relational experiences. Indeed, this is frequently how interests become encapsulated in the first place – through the development of "thick" relationships.

In the end, however, Hardin's account of trust comes across as rather formal and sterile. If trust is embedded in relationships that are marked by an encapsulation of interests, is that not also a matter of "the local"?[3] And as a matter of the local, is trust not also a performative act – an amalgamation of performance and practice?

Relying on Giddens (1990), I take this last conceptualization one step further, by grounding trust within the local, and viewing it as a thoroughly negotiated property that is sustained through the mutuality of response and involvement. Through trust, according to Giddens, individuals become re-embedded in the local conditions of time and place as they reaffirm those trust relations through their performances as purposeful actors.[4] Thus, trust is more than merely what people say. It also must be understood in the context of what people do (which allows for the differentiation between "as-if" and "active" trust). Thus, we arrive at the following position: trust is a locally meaningful performative act, premised upon the encapsulation of interests.

Research background, setting, and methods

This analysis grew out of earlier research designed to identify the barriers that prevent Iowa farmers from adopting sustainable farming practices on rented land (see e.g., Carolan, 2002, 2005b; Carolan et al., 2004; Mayerfeld et al., 2003). This was seen as a problem because of the growing prevalence of land rental in agricultural today. The underlying assumption guiding this research was that land tenancy presented additional barriers to the adoption of sustainable agriculture. Yet, we had little sense of what these barriers were, other than anecdotally, given the lack of attention to the issue of land rental in agriculture by rural scholars.

Data for this project were collected in three stages. In stage one, the names of prospective respondents were

obtained using a snowball sampling technique, beginning with farmers known to myself and others involved in the project. During this stage of the research (June–December 2000), 29 personal interviews were conducted. Three farm managers, eight Iowa State University (ISU) Extension agents, two Department of Natural Resources (DNR) agents, three Natural Resources and Conservation Service (NRCS) agents, and 13 farmers were interviewed (seven of whom were members of the PFI).[5]

During the second phase of data collection (September 2000–January 2001), focus groups were utilized. Prospective focus group participants were obtained through a snowball sampling technique. In total, four focus groups were conducted. Two involved farmers, one of which was composed of NRCS agents, and one involving ISU Extension agents and DNR agents. Focus groups lasted approximately two hours, with conversations tape-recorded and later transcribed. The size of each focus group ranged from five to ten participants.

The final phase of research involved a county-wide study. During this stage of the research, (January–September 2001), 28 interviews where conducted involving three ISU Extension agents and 25 farmers. Again, the snowball sampling method was used to obtain the sample population. Each interview lasted between 45 minutes and two and a half hours. Out of the 28 interviews, 24 respondents allowed our conversation to be tape-recorded. In those instances where interviews were not recorded, extensive field-notes were taken both during and after the interviews. During this final phase, participant observation techniques were also employed while I attended the annual PFI meeting and a number of "field days" organized by PFI, Iowa State University, and seed companies.

The final phase of data collection took place in Auburn County, a rural county located in west-central Iowa (see map). Auburn County is located approximately half way between the region's two largest urban centers, Des Moines (IA) and Omaha (NE), and about an hour from each by car. Its largest town, also its county seat, has slightly over 2,000 inhabitants. It is thus located quite a distance from any large urban markets, a condition that adds another level of difficulty to those interested in direct marketing, attending farmers markets, and participating in Community Supported Agriculture (CSA).The county was selected in part due to the pre-existing contacts between the research team and a relatively large population of PFI members located within its boarders. It was also viewed as having a relatively "average" agricultural profile.[6]

In employing the snowball sampling technique for each stage of data collection, potential respondents known to either myself or the research team were first approached and asked if they would be willing to participate in this research. Those respondents were then

asked to provide the names of two to four other farmers (tenants/landlords) or agricultural professionals who they thought would be willing to be interviewed. Beyond this, no specific concept or objective was used to prompt additional names. An attempt was also made to develop numerous heterogeneous "snowballs" for each stage. Thus, instead of arriving at a sample population through the formation of a single snowball, and running the risk of having a relatively homogeneous sample, our goal was to seek out individuals at the earliest stages of sample formation who possessed a variety of characteristics (e.g., small and large scale operation, old and young, male and female, specialized and diverse commodity profiles). In doing this, we were able to arrive at a sample that consisted of conventional and sustainable farmers (including both PFI members and non-members) as well as a diverse array of agricultural professionals. The purpose was to minimize the primary methodological shortcoming of this sampling technique: namely, that it tends to include only those within a connected social network (Gilbert, 1995). In each of the four stages, interviews were conducted until saturation was reached and emergent categories were no longer forthcoming.

The general topics covered in the interviews and focus groups centered on: perceptions toward sustainable and conventional agriculture (past, present, and future); relationships with past and present landlords/tenants; relationships with agricultural professionals; the role of trust in shaping social relationships within agriculture; and the influence of the government in shaping farm management practices. Given these broad topics, it should not be surprising that themes emerged that went beyond the tenant/landlord relationship. The locally contested nature of knowledge claims proved to be one of the more persistent themes. Thus, while the primary goal of this research was to identify the barriers to adopting sustainable farming practices on rented land, a personal interest quickly emerged on how local social relationships shape broader debates between sustainable and conventional agriculture (with a particular interest on the interrelationship between trust and knowledge) (Carolan, 2002).

Before discussing the "findings" of this research, I would like to say a brief word about the way agriculture is generally done in Iowa, in order to further contextualize the forthcoming analysis. The cultural and geophysical landscape of agriculture in Iowa – and throughout the Midwest more generally – has traditionally been, and continues to be, highly industrialized and commodity driven (e.g., producing "feed" versus "food"). Here, the soil is black, the summers are hot and humid (perfect conditions for growing corn), and John Deere green is nearly ubiquitous. Had this research been conducted elsewhere – on small organic farms or conversely on large ranchlands – the relationships described would likely have been different. As discussed earlier, what those in agriculture know and trust is in part an effect of how they do agriculture. Consequently, as those conditions (e.g., ecological, social, cultural, economic) change, so too do the corresponding (local) networks of knowledge and trust that make up the social body of agriculture.

The social relations of agriculture

The construction and maintenance of discursive boundaries in agriculture[7]

To speak of agriculture as a discursive system is to recognize the "work" that goes into maintaining the boundaries of that system. There are no hard and fast rules that clearly delineate what conventional and sustainable agriculture are. There are, of course, definitions that seek to establish some boundaries between these systems of production (e.g., Allen et al., 1991; Allen and Sachs, 1993; Bird et al., 1995). Yet these definitions inevitably vary, which only serves to highlight the fluidity of these boundaries over time.

"The current model is just not sustainable. Sooner or later people are going to realize that we need a paradigm shift in agriculture," remarked one organic beef farmer.

"The way people farm now relies too much on chemicals and other things to replace labor. But it's replacing labor at the cost of the environment, biodiversity, family, and communities. We need to start finding solutions with our minds and not in a can," explained one farm manager.

In the process of "boundary work," discourse is continually being contested, repositioned, and shaped. Through it, groups and individuals work to continually define and reposition the discourses of contesting networks in an attempt to gain advantage. Examples of this process can be gleaned from the above remarks. Here, sustainable agriculture proponents are seeking to (re)define the parameters of what conventional agriculture is (as well as what it is not) – namely, a fundamentally un-sustainable model of agricultural production.

Importantly, however, manipulation rarely occurs without resistance. Boundary work is a contentious act and interests and power relations present competing frames. One form that such resistance may take (as observed during the course of field work) is degradation discourse: the use of normative or affectual labels to weaken the communicative authority of a group and/or individuals (Carolan and Bell, 2003; see also, DeLind, 1995).

Instances of such discourse are presented below. On the one hand, terms such as "radicals," "hippies," and "old-fashioned, small-time farmers" were used by proponents of conventional agriculture to weaken the authority of those associated with sustainable agriculture. Likewise, similar tactics were used by proponents of sustainable agriculture (when spoken of more conventional operators), who used such terms as "greedy," "materialistic," "selfish," and "closed minded." Again, the goal of such discursive acts was to weaken the authority of opposing actors (and networks) in an attempt to make them appear untrustworthy and thus untruthworthy.

Through this process, lines become drawn in the sand and in-groups and out-groups become constructed and reified. In this manner, "Dan the farmer"[8] was recognized as one of "us" (as noted by one of Dan's close friends), or one of "them" (as noted by an individual less genial to Dan). Likewise, "Bill the field specialist" was seen as someone "who's nice, but of little help" (as noted by one proponent of sustainable agriculture noted), or "...someone you can turn to for most of your information needs..." (as described by an individual he has helped repeatedly over the years). Similarly, Monsanto is not "just another company." It is an organization "that only cares about profits and large scale agriculture" (as one organic grower quipped), or "an important agricultural innovator" (as noted by an Extension agent). Thus, we can begin to see that sustainable agriculture's rise in legitimacy involves not only the contestation and repositioning of social relations, but also the (re)positioning and (re)construction of individual identities as those relations change over time.

Science, expertise, and the contested relations of knowledge

To better understand the local complexities associated with sustainable agriculture's rise in legitimacy requires a thorough investigation into how knowledge claims are contested, validated, and ultimately enacted across the social body of agriculture. An examination into the perceptions and practices of science among those in production agriculture is warranted. In doing this, we find

differing knowledge systems attached to sustainable and conventional agriculture.

Many in agriculture long worried about the social and environmental impacts of the industrial system and believed there was a better alternative (Hassanein, 1999). Yet these claims were regarded for years as "unproven," "irrational," "emotional," "subjective," and "unscientific" (points Congress repeatedly leveled at J. I. Rodale in those hearings mentioned at the very beginning of this article). This, in part, was due to the fact that the industrial model was perceived to be based upon science, while the sustainable model, at least then, was not.[9] In other words, science (or at least "accepted" science) did not substantiate the knowledge claims of those challenging the dominant social relations within agriculture.

As earlier discussed, "whose" knowledge greatly influences individuals' and groups' abilities to create an effective challenge to dominant social relations. In a culture with a deep trust in science and technology, it is not surprising then that the knowledge and social relations most trusted are those of scientists. Sustainable agriculture's recent perceived association with science, however, has changed this discursive disparity. By drawing on the public's trust of science, it appears that sustainable agriculture has been able to concomitantly attain a degree of truthworthiness that previously had been lacking.

This is not to say that science itself resides outside of history (see e.g., Carolan, 2004, 2006d; Jasanoff, 1987; Jasanoff and Wynne, 1998; Wynne, 1992, 1996). As others have noted, science produces "immutable mobiles" – homogeneous knowledge claims predicated on universal applicability across space, place, and time (Latour, 1987). "Science," however, is being problematized in agriculture by those "on the ground." For example, while attempts are made through the industrialization of agriculture to "force" nature to conform to universals – through, say, the use of chemicals and biotechnology – many now question whether it should not be our knowledge that conforms to the nature of geophysical space and communities of place (Bell, 2004; Feldman and Welsh, 1995; Kloppenburg, 1991; van der Ploeg, 1993). The geophysical and cultural landscapes of agriculture are just too diverse and heterogeneous to ignore. Having trust, therefore, in the "scientific" is itself a discursive practice that need to be questioned, and many sustainable agriculture proponents began doing just that.

The distinction, however, is not that conventional farmers trust science while sustainable farmers do not. Rather, it was the type of science – or, more accurately, the view of how science should be done – that was the point of contention. Specifically, conventional agriculture proponents tended to have faith in the science of immutable mobiles, commodified universals, and technical rationality. Sustainable agriculture proponents, on the other hand, trusted "local" science – that is, knowledge rooted to geophysical space and communities of place. I found that during farmer "field days" this distinction came into sharp relief (see also, Carolan, 2006b).

At the "conventional" field days I attended (sponsored by seed companies), the knowledge was conveyed in an objective, universal manner. Those farmers in attendance asked a few questions, but usually they just listened to what the various experts had to say. Farmers were likewise free to wander around the fields and inspect the various crops that had been planted, and most did just that. Importantly, this occurred either before or after the various specialists spoke. Thus, the knowledge claims made by the experts were largely of a disembedded sort. Rarely were claims associated with any particular illustration but rather were conferred with a universality that needed no local, physical referent.

The lines of demarcation between experts and non-experts were clearly upheld at these events. Farmers listened to the benefits of GPS (global positioning satellite) technology. They were told of all the advantages that come with raising *Bt* corn, and they were educated as to how best to control for the corn borer (or alfalfa weevil, leafhopper, etc.) using the latest chemical technologies. Granted, while they listened they also looked. Yet the knowledge process remained distant, disembodied, and disembedded. There was little sense of locality and mutability to the knowledge claims. Rather, they were presented in a unidirectional (from "expert" to "non-expert"), universalistic, and unproblematic fashion. The cognitive authority of science and expertise thus was upheld as those in attendance accepted the frequent epistemic boundary work going on. This epistemic boundary work was captured in the farmers' use of such phrases as "scientific management principles," "specialized knowledge," "the science behind it is sound," and "I don't feel comfortable talking about an area that is beyond my area of expertise."

Another sort of field experience

While the conventional farmers I interviewed talked about "trusting" expert systems such as Iowa State University and ISU Cooperative Extension, it is important to look deeper. In doing this, we can ask if such trust is represented by an encapsulation of interests or if it is better captured through what has been called "virtual" or "as-if" trust. (Again, this more accurately describes sentiments of un-reflexive confidence than any sort of hermeneutically meaningful trust (Wynne, 1992, 1996).) When probed, the trust conveyed by conventional proponents of "the science" behind the knowledge appeared to be of the "as-if" variety, rather than embedded in interests that were encapsulated.

For example, a landlord who recently retired from production agriculture had this to say: "I'd say I trust the R and D [research and development] that goes into bettering our agricultural knowledge. It's gotten us this far. But to be honest, I don't really think about it." A farm manager similarly remarked, "I'd like to think I trust them [Iowa State University]. I mean, when I think about trust I usually think of it being between two people. Not between a person and an organization or university. But I can't really think of any other word for it, so, sure, I guess you could say I trust Iowa State." A beef producer explained, "I guess I'd say I trust Iowa State to do what they can to help family farmers like myself. But honestly, they're the only show in town, so it's not like I've got a choice. I basically have to trust them."

Respondents associated with the conventional model thus expressed a certain level of dependency upon expert systems (e.g., "I basically have to trust them") as a result of their lack of engagement in the claims-making process. Consequently, while they may have expressed trusting the science, knowledge, and expertise that supported this model of production agriculture, a deeper analysis reveals that what they felt was something different.

Let us compare this with how field days were conducted by a prominent state-wide sustainable agriculture organization, the PFI.

During PFI field days, each event was held at a different member's farm. The knowledge conveyed was explicitly local in character – specific to each particular operation. As a result, members seemed to tacitly embrace the knowledge as a thoroughly embodied and embedded practice (Bourdieu, 1977). The landscape also managed to further support the knowledge being conveyed. Paths were made and signs displayed to make the event an active and ecologically embedded experience. Thus those in attendance did not merely stand idly by and absorb information. Rather, they listened, touched, walked through, and discussed the knowledge claims. They experienced the difference between, say, tofu soybeans and conventional soybeans. They walked among strip intercroppings and grass buffer strips, literally touching the knowledge claims as they were being discussed. They learned about feedlot management by viewing rotational grazing "pens," feeling and pointing at prairie-oak windbreaks, and eating organic beef. Through these events, knowledge was made intimate, mutable, and local (and in some cases consumable) (see also, Carolan, 2006c; Saldivar-Tanaka and Krasny, 2005).

Yet, the differences between these two types of field days did not rest purely upon which senses were (or were not) evoked. While the ecology of the epistemic experience was important (how spaces were arranged to support knowledge dissemination), it also supported social relationships. By embedding knowledge in place, through making such knowledge intimate and tactile, PFI field days were able to foster locally embedded relationships of knowledge and trust. In the words of one participating member, "This is not just about learning but about sharing ideas and information. There are no experts here." Another explained,

> Through these events, we remind ourselves that farming is not just about practices – by that I mean it is not about having people say 'do this and you'll have a successful operation.' It's about the processes of farming and all that goes with farming. It's about finding out what works best for you and adapting that knowledge to your operation.

At PFI field days, individuals were not simply told "the facts," but they talked about them with people they knew and who knew them. Given this degree of familiarity, and as a result of repeated interactions, the interests of many of these individuals were encapsulated. In other words, knowledge was not the only thing being conveyed and nurtured at these field days; so too was trust. This trust was not the inactive, passive, "as-if" variety, however. Rather, it was an active trust, built upon the sustained intimacy of social networks and those individuals embedded within those networks.

While this analysis of field days highlights the differing knowledge systems embodied in sustainable and conventional agriculture, it still begs the question of why some farmers connect themselves to a local form of knowledge and knowledge co-production, and others remain wedded to more orthodox forms. Or, to put it another way: Why do some farmers trust sustainable agriculture (and its socio-relational networks), while others trust conventional agriculture (and its socio-relational networks)? To answer these questions, we must now center our discussion more directly on the issue of trust and how trust gives shape to those broader socio-organizational networks that sustain it.

Shifting social relations of trust

Through trust, networks are formed and sustained. And yet, while trust can act as a social glue for holding people together, it can also be quite divisive (Gambetta, 1988). By investigating relations of trust, then, we can glean insight into why sustainable agriculture has been able to amass the social networks it has, while failing to capture others.

Dan is a fifty-something tenant who has been renting land since he began farming in the early 1970s:

> Dan: "People who know me trust me."
> Interviewer: "So does that mean everyone you know, and everyone who knows you, trusts you?"

Dan: "Well, I wouldn't say that. But those who don't trust me don't know me too well either. And they're not necessarily people I care to know myself. Now the people that really know me, they trust me, and that's all that really matters. Those other people... I could care less about what they think of me."

Here, Dan, who held views typical of the average respondent, is describing the socio-relational aspects of trust. Trust both creates and is created through social affiliation and disaffiliation. As Misztal writes, "The people excluded by our boundaries are those whom we do not trust and those whom we trust are included" (1996: 141). In short, we often trust those with whom we feel an affiliation and, in turn, often feel an affiliation to those we trust. This is in part a product of our interests being encapsulated. Yet trust also shapes who we are. It plays into our sense of self, our identity; it gives us "in groups" and "out groups." Dan was very clear about this. For him, the social networks within which he found himself embedded were defined, in part, by those he knew and trusted and who knew and trusted him in return – in short, by those who had interests that encapsulated his own. On the other hand, those who Dan did not trust – whose interests Dan believed did not encapsulate his own – were outside of that social network, and thus were not critical to his identity. The relationship between identity and group identity formation and trust has been scantly addressed in the social change literature, however. As David Snow and Doug McAdam explain, "to date, relatively little attention has been devoted to the alignment of personal and collective identities" (2000: 46). This conceptual void has resulted in "the problem of identity correspondence – that is, the alignment or linkage of individual and collective identities and action" (ibid: 42). One potential point of alignment between individual and collective identities appears to be trust.

Dan, for instance, considers himself a proponent of sustainable agriculture. On the land he cultivates he has utilized a number of sustainable management techniques over the years – organic agriculture, rotational grazing, late-spring soil nitrogen tests, and no-till, to name a few. In addition, Dan is a member of the PFI. It is from this organization that Dan obtains much of his agricultural knowledge. Yet knowledge is not all Dan acquires from this group of agriculturally like-minded individuals. He also obtains part of his identity from them. Dan views the knowledge provided to him through these networks to be true, in part due to the trust he attaches to these networks and those within them, all of which leads to social affiliation, social disaffiliation, and identity formation. In other words, Dan's relationship to PFI constitutes an active, heterogeneous chain of association – a social network whose strength depends upon activities, objects, and practices. Field days, annual meetings, potlucks, newsletters, summer camp for his children all work together to link Dan to this larger social network. No one thing or act constitutes this chain. Rather, these trust relations form as a result of the perceived encapsulation of interests that this chain sustains.

Dan: "Those are my kind of people (PFI), and I know I can trust the information they provide."
Interviewer: "Trust the information how?"
Dan: "You know, that it's correct. That you can trust it to be true. Sometimes you just can't trust the information you get from the seed or fertilizer guy because you just don't know if they have your best interests in mind. But with these folks (PFI members), you know they can be trusted."

That you can trust it to be true. Here, Dan touches on a central relationship – that between trust and truth. The knowledge Dan trusts to be true is due partially to those with whom Dan affiliates and the social networks accompanying these affiliations. But it is also due to the disaffiliation Dan experiences from those "other" networks, such as those associated with industrial agriculture. Thus, by locating himself within this particular social network (whose interests are seen, by Dan, to encapsulate his own), he concomitantly disconnects himself from other social networks and those embedded within those networks.

Interviewer: "Do you trust the information provided to you by Iowa State University to be true?"
Dan: "No, by all means not all of it."
Interviewer: "What do you mean by that?"
Dan: "I'm just a little uncomfortable with their relationship to 'big business.' I mean, Iowa State is a business, right? And they need money just like any other institution to survive. And where does that money come from – from the Monsantos and Pioneers of this world. Now, can these large corporations make money from sustainable or organic agriculture? Of course not, so what type of research do you think these corporations want to see done at places like ISU – research that makes the farmer more dependent on them and their products. Not sustainable agriculture."

Dan makes clear from this statement that his social relations, and those of sustainable agricultural in general, are at best marginalized from (and at worst external to) the social relations of Iowa State University. According to Dan, sustainable agriculture is an unattractive option for many agricultural corporations because sustainable agriculture's methods are antithetical to corporate profitability and growth. Yet, these very companies fund some of the research that takes place at land-grant institutions such as Iowa State University. Dan's concern therefore resides with Iowa State University's associa-

tions and the social relations that accompany them. For in having the perception of associating with "big business" (regardless of the claim's actual validity), Iowa State University is simultaneously disassociating itself from those opposing "big business" – those who identify with sustainable agriculture and Dan in particular.

In the above case, it is clear that Dan does not feel as though Iowa State University has an interest in attending to his own interests. The interests of Iowa State University, in other words, do not encapsulate Dan's (in the eyes of Dan). Rather, at least as Dan sees it, Iowa State University's interests reside in fulfilling a trust to what he calls "big business." As he later remarked, "They [Iowa State University] do little for me and I pay little attention to them; I can get along without them."

This is not to say, however, that Iowa State University has no network connections to sustainable agriculture, for it most assuredly does, through, for example, its institutional relationship with PFI, the Leopold Center for Sustainable Agriculture, and its graduate program in "sustainable agriculture."[10] Such connections have proven significant in granting sustainable agriculture an air of legitimacy. Thus, while the effect is less pronounced among those already firmly embedded within sustainable agriculture, Iowa State University remains a significant agent for conferring trust – and thus truth – for those outside these social relations. For example, a recent sustainable agriculture convert remarked, "[A member of the Iowa State Extension field staff] showed me the numbers. That's when I first saw that rotational grazing [a sustainable farming technique] might actually work," declared a recent sustainable agriculture convert. Likewise, a field specialist, herself a devoted sustainable agriculture proponent allowed, "I remember seeing [a distinguished Iowa State Agriculture Economist] talk about [sustainable agriculture] at a workshop and I knew we'd finally made it."

Here, we can begin to understand how sustainable agriculture and its proponents went from a largely marginalized group of actors to legitimate discursive contenders. In the process their networks began to include those who are perceived to be trustworthy by those within the dominant social networks. In short, they began to include those who are trusted as speaking the truth by "mainstream" agriculture. And, once "respected" institutions and people – such as Iowa State University and distinguished agriculture economists – began connecting themselves to sustainable agriculture, sustainable agriculture began to garner trustworthiness (and truthworthiness) by association.

Yet it is also here that we can see why sustainable agriculture has not, as yet, fully emerged as the dominant discursive system. Many of those interviewed who continued to disassociate themselves from sustainable agriculture did so, in part, because they did not yet see the links sustainable agriculture has to trusted ("mainstream" agriculture) social networks. For example, Jon, a retired farmer who now rents his land and prefers to farm it in a more conventional manner, said "I just don't think it's feasible. I mean, I have concerns about the profitability of sustainable or organic agriculture. And I haven't seen anything from [ISU] Extension or *Wallace*'s Farmer [an agricultural periodical] to really show me otherwise." Sam, a tenant who prefers to farm conventionally expressed similar concerns. "I just don't know. If it's [sustainable agriculture] as great as some people make it out to be why aren't more people doing it? And then places like Iowa State – why aren't they promoting it if it's so great?"

Thus, both farmers were largely unaware of sustainable agriculture's associations with Iowa State University, "respected" agriculture economists, and "science" (as they defined it) more generally. This contributed to their view that the socio-organizational configurations of sustainable agriculture were largely untrustworthy (and untruthworthy), and not yet worthy of their affiliation. This would suggest a need to more rigorously emphasize and nurture these relationships and connections. While those embedded within sustainable agriculture's networks (e.g., PFI) may be less impressed by such associations, it is clear others give significant legitimizing weight to them.

The state

The influence of the state cannot be overstated within the realm of production agriculture. Although the state did not explicitly tell farmers what to produce, it did influence their selections. While it did not explicitly preach conventional agriculture, it did shape the conditions that made the adoption of more sustainable methods impractical and in some cases financially unfeasible. In short, while the state may proclaim to be a neutral bystander in the formation of social relations within production agriculture, such neutrality can certainly be questioned (see e.g., Bonanno et al., 1995; Friedmann and McMichael, 1989; Kloppenburg, 1988). It is important, therefore, to see the state as an active participant in this socio-relational process through its ability to foster certain relationships and hamper the formation of others. This, in turn, allows us to understand who trusts the state and why some feel that the state does not have their interests at heart (the state's interest do not encapsulate their own).

For instance, direct government payments to Iowa farms shape not only production practices but also farmers' perceptions of the state (in terms of trust and encapsulated interests). According to one farmer, "Conventional methods are only profitable with government subsides. Take those away and suddenly the

numbers work to the advantage of more sustainable methods.'' Another remarked, ''I can't really blame someone who wants to stay with a corn-bean rotation. I mean, checks from the government are nice. It's a great way to hedge one's agricultural bets.'' Yet another farmer summarized, ''Honestly, without government payments the conventional model of production wouldn't stand a chance. You take those away and sustainable and organic agriculture will sweep across the countryside.''

It is also important to recognize the secondary effects of government subsidies within the context of the case study. Specifically, respondents spoke of how banks were more likely to approve loans to lease or purchase land if the farmer could guarantee that the land was put in a specific ''rotation'' (most prominently the ''corn–soybean'' rotation). This made them eligible for government programs and thus a more secure ''bet'' for repaying their loan. It created a powerful incentive not to diversify one's (traditional) commodity profile.

In the words of one farm manager: ''Banks don't exactly incite innovation, particularly as we're talking about it here. They like supposedly 'tried-and-true' methods in agriculture, which means corn-and-beans, corn-and-beans, corn-and-beans.''

This is not to suggest that the state is devoid of sustainable agriculture proponents and associated network connections. Proponents of sustainable agriculture can be found in the halls of Congress and in the US Department of Agriculture – indeed, throughout the state and federal levels. Yet more ''bridging'' work remains to be done. As things stand now, the state remains firmly committed to the logic of industrial, commodity driven agriculture and its associated global food system (Heffernan, 1999; McMichael, 1995).

Currently, the social relations of trust between the state and those of sustainable agriculture appear to be tenuous at best. Given the current structure of farm subsidy programs and research appropriations, many of those interviewed who associated with sustainable agriculture felt as though the state did not trust them, and they, in turn, did not fully trust the state.

As one farmer remarked, ''You do have to wonder who they're [the state] ultimately fighting for – the little guys like me or big business agriculture?'' In the words of another respondent, ''There seems to be a disconnect between what I do, and what others like me do and the decisions that are made behind closed doors in [governmental] agricultural committees and subcommittees.''

This is not to say that all the farmers and agriculturalists interviewed expressed distrust toward the state, but many did – particularly those who identified with the sustainable model. For these individuals, such sentiments were evidence that their interests were not being encapsulated by the state. And until those interests become encapsulated, distrust will remain.

Discussion and conclusion

When viewed through the lens of a phenomenological challenge, we find the social body of agriculture to be dynamic and mutable. For instance, even before sustainable agriculture was recognized (by those in ''mainstream'' agriculture) as a legitimate and profitable farm management system, proponents of sustainable agriculture could be found in Congress and at land-grant universities. These individuals could be said to have been embedded across social networks. To various degrees, they had a socio-relational ''foot'' in the dominant and contesting discourses.

Over time, however, lines in agriculture's socio-relational sand begin to be redrawn. Reducing one's use of agricultural chemicals was believed to be a noble goal by most everyone interviewed. Land-grand universities now devote considerable energy and funds to better understand sustainable agricultural systems. Organizations funded by Congress are also slowly beginning to provide small loans and grants to encourage ''alternative'' forms of farming systems with diverse, non-traditional commodity profiles. What is occurring in agriculture, in other words, is network interpenetration. Sustainable agriculture has slowly filtered into conventional agriculture and conventional agriculture has slowly penetrated sustainable agriculture, thus transforming both in the process (Carolan, 2005b).

For example, profitability is now important for many who align themselves with sustainable agriculture. As one farmer admits, ''I do everything I can to reduce my use of chemicals. I care about wildlife and clean water and do my part to protect the environment. I see myself as a steward of the land. And fortunately it's profitable. I don't think I'd do it [referring to reducing chemical inputs] if it wasn't. So it's a win–win scenario – for myself and the environment.'' This sentiment is echoed by an organic beef farmer. ''People don't realize this, but there's good money to be made in niche products – I mean really good money.''

Yet, as attention among sustainable agriculture proponents shifts toward market-based relationships, one must ask how this will alter what ''sustainability'' means in the context of sustainable agriculture. Will sustainability evolve increasingly into economic sustainability first and foremost, with social and ecological sustainability remaining important but nevertheless secondary concerns? As others have noted, due to the penetration of instrumental, profit-driven rationality, such ''alternative'' systems risk becoming more ''industrial'' in character as they become incorporated into mainstream agriculture (Allen and Kovach, 2000; Anton-Dunn, 1997; DeLind, 1993, 2002; Kirwan, 2004).

For this reason, it is important to examine these relations ''on the ground,'' as they are being played out and

contested. As many note, one thing that separates sustainable from conventional agriculture is its emphasis on ''local'' knowledge (Campbell, 2001; Clark and Murdock, 1997; Feldman and Welsh, 1995; Kloppenburg, 1991; Nerbonne and Lentz, 2003; van der Ploeg, 1993). This does not mean, however, that research (with its immutable mobiles) and extension have no place in sustainable agriculture. Rather they must be balanced by the local. In doing this, we find that the social relations that make up production agriculture are dynamic and ever-changing. Thus, what ''sustainable agriculture'' is today is not necessarily what it will be tomorrow. In the end, the connections it establishes, how it uses ''science'' (and what ''science'' it uses) to legitimize its claims, and the extent to which it turns to economic rationality to garner support will all shape what ''sustainable agriculture'' is (and is not) in the future.

In conclusion, through the lens of a phenomenological challenge this paper has detailed sustainable agriculture's rise in legitimacy by way of its ability to acquire network relationships with individuals and organizations associated with ''mainstream'' agriculture. The success of sustainable agriculture can thus be linked, in part, to its ability to present a mode of agricultural production that is both active and local. Specifically, by constructing networks of familiarity individuals come to know one another through sustained relationships, which result in their interests becoming (further) encapsulated. From this, (active) trust associations are forged.

Proponents must be careful, however, not to make sustainable agriculture too much like its conventional counterpart when seeking to win further legitimacy. For besides the social and ecological implications, an additional concern should be the type of socio-relations that may emerge from such a trend. As things stand now, sustainable agriculture makes food production more intimate and local for all those associated with it. By knowing food production in such a way, those involved are more likely to trust this system of production and trust those involved in this system to be speaking the truth when it comes to issues related to agriculture and food.

Trends toward the ''instrumentalization'' of sustainable agriculture, on the other hand, place such local, intimate social relationships at risk. This could result in the devolution of trust (e.g., greater amounts of ''as-if'' versus ''active'' trust) and the loss of encapsulated interests. Currently, it appears that sustainable agriculture (or at least ''sustainable agriculture'' for PFI) refers to more than economic, ecological, and social sustainability. It seems to be premised on sustaining locally embedded relationships of trust and knowledge as they pertain to both people and place. In the end, this is perhaps one of sustainable agriculture's most valuable and underappreciated attributes – its focus on local, intimate, and encapsulated relationships. Without this, we would be left with yet another faceless, disembedded, and distant form of agricultural production, which we already have in the conventional model.

Notes

1. This reference to the ''adoption and adaptation'' of knowledge claims is an intentional word play off the diffusion of innovation literature (e.g., Rogers, 1995). Building upon earlier criticisms the concern here regards the undervaluing of local knowledge (e.g., Downs and Mohr, 1976; Kremer et al., 2001; Strang and Soule, 1998). In other words, how is knowledge (as technology, practices, etc.), adapted to the social, cultural, and biophysical milieu of the encounter as it diffuses across social networks?
2. To be clear, highlighting the relationship between knowledge and trust does not deny the reality of scientific claims. It simply gives attention to the fact that no one is an expert on everything. And on those topics on which we are not experts, we must rely on those who are – or, more specifically, on those who we trust – if knowledge is to have any meaning (any truth) for us.
3. I thank Laura DeLind for highlighting this point for me.
4. It is important not to read Giddens as simply juxtaposing the intimacies of personal life against the impersonality of abstract systems. His analysis is more complex than that. In the words of Giddens, ''The disembedding mechanisms lift social relations and the exchange of information out of specific time-space contexts, but at the same time provide new opportunities for their reinsertion'' (1990: 141, my emphasis).
5. Practical Farmers of Iowa (PFI) is a non-profit organization that began in 1985. It now has over 700 members in Iowa and neighboring states. According to their website, ''Our mission is to research, develop and promote profitable, ecologically sound and community-enhancing approaches to agriculture. We carry out diverse programs to assist farmers with both production and marketing needs, to raise public awareness of where food comes from and how it is grown, and to educate youth about agriculture and the environment.'' (http://www.practicalfarmers.org/about-us.asp)
6. According to the 2002 Census of Agriculture, 55% of all Iowa farms produce corn, compared to 58% in Auburn County. For cattle, the numbers are 34% and 35%, respectively. The percentage of farms raising hogs is 14% and 11%, respectively. For soybeans, the respective figures are 54% and 54% (USDA, 2004). On the other hand, operations within the county were slightly larger than the ''average'' operation for the state. For instance, the average size farm in Iowa in 2002 was 350 acres. In Audubon County that figure was 409 acres. Likewise, while the average estimated market value of land and buildings per farm for the state as a whole was $707,730, the figure for Audubon County was $740,445 (USDA, 2004).
7. Before ''opening'' up the production realm of agriculture to our sociological gaze, I must make the following methodological disclaimer: while this paper attempts to

historically contextualize sustainable agriculture, the narratives presented are derived from interviews that are temporally specific. Thus, no claims are made of providing an analysis of "the sustainable agriculture movement," if such a thing even exists. For instance, in the case of Iowa, there has been a long tradition of agricultural social unrest – from the "Sioux City Milk War" of 1932, to the Farms Holiday movement of 1932–34, to the "Cow Wars" in the winter of 1934. Any exhaustive analysis of sustainable agriculture as a social movement ultimately would have to include such events.

8. Names have been changed to protect the identities of those who participated in this research.
9. Admittedly, sustainable agriculture's association with "science" is not recent (see, for instance, the work of Sir Albert Howard (1940) who wrote extensively on organic agriculture). However, those links (with the "scientific"), I argue, have only recently been acknowledged and seen as legitimate by those in mainstream agriculture.
10. Although, in the fall of 2005 the then-director of the Leopold Center, Fred Kirschenmann, was given 48 hours to resign and offered instead the position of "Distinguished Fellow" of the center. While much debate surrounds this event, proponents of Dr. Kirschenmann claim that the reasons for his dismissal center on his unwillingness to appease agribusiness and his continual work on what is called "Ag in the Middle."

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