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Generalization without universalization: Towards an agroecology theory

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ABSTRACT

We consider the question of whether agroecology can be said to have a theory, given its interdisciplinarity and transdisciplinarity. Based on the discussions from a workshop at the 2015 conference on *The Agroecological Imagination: A Franco-American Exchange*, we argue in the affirmative. But rather than understanding theory as universalistic generalized explanation, we argue that agroecological theory focuses on the consequences of *context*. Such a focus leads agroecologists to offer contextually sensitive principles of general relevance but not universal outcomes, and thus generalizing without universalizing. We conclude by arguing that a contextual approach leads agroecologists to think in terms of the philosophical triad of ontology, epistemology, and axiology, taking seriously a wide range of perspectives as well as questions of justice.

KEYWORDS

Agroecology; theory; contextuality; justice; axiology

Introduction

Can an endeavor like agroecology—so interdisciplinary and transdisciplinary, so dedicated to making a practical difference in human affairs, and so committed to engaging the political dimensions of transformation—be said to have a theory? Would it even be productive for the goals of agroecology to develop one? After all, is not theory the realm of the abstract, distanced from the real by various forms of privilege?

Answering these questions of course depends in part upon what one means by theory. Typically, by theory, we mean some form of *generalization*, or a set of interrelated generalizations, about some domain of experience—albeit generalizations that thoughtfulness requires us to repeatedly check and recheck to make sure new information does indeed fit with them. For example, the Merriam-Webster dictionary offers this definition of theory: "The general or abstract principles of a body of fact, a science, or an art" (Merriam-Webster 2017). As well, another common attribute of the term is that theory *explains*. Merriam-Webster, in an alternative definition, puts it this way: "a plausible or scientifically acceptable general principle or body of principles offered to explain

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phenomena" (Merriam-Webster 2017). So perhaps we may more crisply put it that theory is *generalized explanation*, noting that generalization necessarily entails a degree of abstraction.

But how general and thus abstract must an explanation be to count as theory? Can we regard it as a theory if we assert, for example, that the authors of this article like red wine with dinner, thus accounting for what was in their glass the prior evening? But perhaps, sadly, it will only be water this evening. Must the explanation always hold, universally across space and time, to count as general and thus theory?

And herein we immediately confront a stark contrast with one of the guiding thoughts of agroecology: A deep skepticism about universalization. But perhaps that skepticism is exactly the main theoretical implication of agroecological thought—or so, with the help of the agroecological theory workshop at the Madison conference, we contend.

On beyond systems

Since at least the 1980s or so, agroecologists have typically emphasized the language of "systems" to describe their intellectual project. For example, Altieri's (1987) foundational work *Agroecology: The Scientific Basis of Alternative Agriculture* uses the word system 100 times and the word systems 163 times.[1] As one widely cited definition puts it, agroecology is the "ecology of food systems" (Francis et al. 2003). A standard catchphrase of the agroecological vision has long been that it is a "systems approach," a phrase that remains popular in many quarters. In many ways, the workshop participants continued to find this framing welcome. Commonly, agroecologists use it to encourage wider understanding of the range of actions and consequences that food and agriculture entails, and a wider embrace of the range of voices and disciplines that need to be brought into the conversation—all of which we applaud.

However, the term systems and related words and phrases like ecosystems, agroecosystems, food systems, and the like also potentially misstate and misdirect the agroecological vision. We will focus on two agroecological issues with the term here, although there are others: its potential *productivism* and *connectivism*.

By the potential productivism of systems language, we mean its common use in industrial agriculture's focus on increasing production through increasing inputs. While advocates of agroecology generally use the term systems with more subtlety, many scientists and commercial interests like to trumpet "manure-handling systems," "irrigation systems," "livestock management systems," "grain storage systems," "weed control systems," "labor management systems," and a host of other products that one can buy to contend with issues on a farm. These systems promise farmers greater productive efficiency, but also something else: that one farm can succeed in

the same way another one has through such purchases or adoptions, ensured by science and technology. In other words, these systems advocate sameness across space and time. This is generalization *with* universalization.

Associated with such productivist generalization with universalization is an ontological dodge around the problem of boundaries. Although this notion of systems implies connection—Merriam-Webster (2017) defines a system as "a regularly interacting or interdependent group of items forming a unified whole" and the Oxford English Dictionary (2017) defines it as "an organized or connected group of things"—it means connection within a boundary, a boundary that is left unstated. Morally, the notion of connection is very compelling, which is what we mean by connectivism: the intuitive ideological appeal of the rhetoric of connection. But left implicit is that one farmer hopes to gain advantage over another to whom the purchased or adopted irrigation system, grain storage system, or weed control system is not made available—unless he or she buys or otherwise adopts their own, which the advantage-seeking farmer must hope will not usually be the case. So this use of system is really connection within disconnection.

It is as well disconnection within connection. The purveyor of the system focuses on the seamlessly interconnected parts in this unified whole but not on the connections that are unintended: manure and pesticide spilling and leaking into the groundwater, dropping commodity prices through overproduction, methane releases into atmosphere, and so on. In other words, the universal generalization of such connectivism only succeeds because its rhetoric diverts attention from a fuller understanding of its specific consequences.

Although wary of such industrialism, agroecologists often wind up advocating forms of productivism and connectivism nonetheless. Consider the well-meaning university agroecologist who, out of a feeling of connectivist solidarity with others, seeks to introduce her or his organic production system into a peasant community with very different resources, ecology, and social relations than the agroecologist understands from her or his home. The intent may be environmentally sensitive livelihood enhancement, but it may well result in none of that. It may well result in none of that precisely *because* there are significant disconnections between the peasant community and the university agroecologist's own community. The wiser form of agroecological good intentions, then, recognizes that we cannot universalize our generalizations.

From connection to context

In view of these problems, we advocate a reorientation of agroecological understanding away from the seductions of the language of connection to instead thinking in terms of the consequences of *context*.

	INDUSTRIAL	AGROECOLOGICAL
	same thing	**different thing**
same place	monoculture	multifunctionality
different place	homogenization	localization

Figure 1. Orientations toward context.

Industrialism tries to do the same thing over and over again in different places, leading to homogenization. And it also tries to do the same thing in the same places, leading to lack of rotation, specialization, simplification, competitive advantage, and other manifestations of monoculture. In other words, it proceeds by overwhelming context, generally with capital-intensive inputs of technology that promote differential accumulation of money, status, and other forms of social and ecological hierarchy.

But the essential vision of agroecology—what the introduction of this special issue calls the "agroecological imagination"—is to think contextually. Instead of doing the same in different places and the same in the same places, agroecology works by trying to do different things in different places through localization of knowledge, food, region, and more. And agroecology also works by doing different things in the same place, for example through crop rotation, crop and livestock integration, diversification, considering the farm as a home and a community, provision of habitat, and other forms of multifunctionality (see Figure 1).

Systems thinking helped agroecology move in these contextual directions. But the language of systems is now showing limits in how it enables us to appreciate context, especially because of its conceptual invitation to generalize with universalization—a fundamentally noncontextual understanding.

From universals to principles

But if agroecologists are not to universalize, what are they to do? What is left for agroecological theory?

We suggest a focus not on agroecological systems but agroecological *principles* that have general relevance but not universal outcomes. A key ontological insight of contextual thinking is that *the same is never the same*. That is, the same phenomenon or process will inevitably manifest itself

at least little bit differently in different contexts, precisely because of those differences. Any instantiation of anything is always interactive with its context. Indeed, without that interaction, we would not even know anything is there. But because all existence is interactive, any instance of anything that we regard as the same thing will have an expression that is at least a little bit different than it would be in another context.

In other words, contextual thinking alerts us as well to the necessity and the inadequacy of narratives and categories. To regard two or more somethings as instances of the same something is an analytic decision that helps us identify and trace agroecological principles. But the agroecologist, by consciously stepping back from universalization, is equally ever aware that our analytic decisions may be unhelpful because of a corollary to the insight that the same is never the same: *the same is always the different*, at least a little bit. The agroecologist does not confuse the box with the contents—nor the field with the crops, the farm with the region, the region with the world.

Yet as well, the agroecological vision is not that all of everything is merely different—that all of everything is unrecognizable, uncategorizable, and mutually irrelevant with no possibility of learning and application of experience from one setting to another. Through the use of principles, the agroecologist also holds to another ontological insight: that *the different is never the different*, at least absolutely. We can indeed share our experiences from one time and place with another time and place. Contexts are not islands. As the introduction to this special section states, one context has consequence for another, just as one consequence is context for another.

The workshop participants especially highlighted the following agroecological principles, in light of this contextual vision:

biophysical principles
- recycling of nutrients
- species diversification
- synergy between species

social principles
- social learning and dialogue
- openness to change and creativity
- justice

contextual principles
- complexity
- interactiveness
- consequence

This is, obviously, only a partial list. But recognizing the partiality of our understanding is perhaps the biggest principle of all.

Another agroecological triad

As the introduction also noted, triadic thinking is increasingly common in agroecology, helping us overcome the binary thought typically associated with universalistic generalization (Gúzman and Woodgate, 2013; Méndez et al., 2013; Wezel et al. 2009). We would like to conclude by briefly sketching another triad of agroecological thinking that a contextual approach entails: ontology, epistemology, and axiology.

Any ontology needs an epistemology. It needs some means of deciding whether that ontology helps us do what we hope to do, while at the same time alerting us to potential challenges to those hopes. But a contextual ontology—an ontology of contextually sensitive principles—needs a contextual epistemology. It needs a way to gather knowledge of contextuality that recognizes and appreciates the contextuality of experience, for the consequences of context vary by the contexts for which it has consequence, including the contexts of the knower. What we see depends on from where we see. The recent embrace of the participatory and the transdisciplinary in agroecology manifest the way agroecologists are, at least implicitly, recognizing and appreciating a contextual epistemology and the fuller range of voices and vision it grants.

In other words, what we know cannot be separated from how we know. But as well, it cannot be separated from who we are, and thus what we value and what we hope for. Although not as common as the terms ontology and epistemology, axiology—the study of value—is often described as the third major branch of philosophy. What one values shapes what one tries to know. Those unconcerned about matters of, say, global warming, soil erosion, or social inequality are unlikely to attempt to watch out for them. And what one values shapes how one tries to know. Those unconcerned about the views of others on the consequences of global warming, soil erosion, social inequality, or other agroecological issues are unlikely to seek to be informed by what others also see. In short, to reflect on the axiology of agroecology is to immediately raise the question of agroecological justice.

Our own axiological view is that a contextual ontology and epistemology for agroecology implies a contextual axiology—an axiology that embraces both our differences and our similarities, and thus the politics of those differences and similarities, as we struggle to work out how best to get along with each other and the planet.

Note

1. Count conducted with an online electronic version available through the University of Michigan library.

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