

Vitalizing Sustainable Agriculture in the U.S.:
A Path Dependency Perspective and Call for a Paradigm Shift

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Abstract

An abundance of publicly available, credible evidence establishes that the current industrial, high input, high externality agricultural system in the U.S. hurts consumers, the natural environment, and the food security of today and the future. This evidence suggests that sustainable and agroecological alternatives are viable, but the United States (U.S.) has yet to respond on a large political scale. In this paper, I explore explanations for this phenomenon. I address the mainstream explanation of the issue of influence from big agribusiness corporations on politics and the market, and I offer an ideological theory—an explanation for the mainstream explanation. I propose that the true reason behind the lack of large-scale response is a path dependency in the American capitalist paradigm. I argue that there is a deeper level than politics to be examined: a cultural-philosophical level from which stems the potential for a paradigm shift and widespread social and political change.

Food and the American capitalist paradigm

The U.S. agricultural system turns agriculture into an industry, ignores its multifunctionality, and separates food from production. Instead of seeing food as a valuable component of agricultural systems affecting communities and the natural environment, the U.S. and other countries implicated in the globalized food system see food as a business. Like any other business, the agricultural industry offers consumers a product (with an invisible production): food. The U.S. agricultural system operates within the American capitalist paradigm that reduces people to consumers with a limited imagination of what's possible, and path dependency leads Americans to see food as a product in a production system over which they have no control.

A collective psychology is influenced by social, economic, and political norms, and for the U.S., the American imagination is limited within the constraints of capitalism. Every consumer—in this case anyone who eats—is a part of this collective psychology.

Since social, economic, political, and agricultural factors all function within the broad realm of culture, the most effective point of intervention will be on the cultural level.

It is critical that we as agri-food scholars recognize the way social norms, markets for agricultural products, and the political process influence agricultural systems.¹ We must also consider that “these factors are not independent of the systems they influence” and that agricultural systems are part of a system over which we *do* have control, shaped by a paradigm that we *can* shift.¹ I propose that rather a top-down or bottom-up perspective, the most comprehensive way we can look at the American agricultural dilemma is from a multidirectional perspective: consumer demands, mentalities and culture influence institutions like the government and market, while simultaneously, these institutions influence consumer values, perceptions of food, and consumer-citizen culture.

While the several reports in support of sustainable and agroecological alternatives to an industrial agricultural system don’t prescribe a “one size fits all” solution, they provide very clear evidence pointing in a new direction. Since each country has its own agricultural history and social and political mechanisms, agroecology will look different for everyone. I am choosing to look at the U.S. in particular because it is so resistant to make the broad policy changes necessary for a large-scale transition.

Agri-food scholar Alastair Iles looks at the roles of path dependency and capitalism in what she calls “the corporate food regime” and points out that “a fundamental question that academics and activists [wrestle] with” in the sustainable agriculture movement “is how to counter the substantial power of capitalist agriculture in shaping agri-food

¹ Archer, David W., Julie Dawson, Urs P. Kreuter, Mary Hendrickson, and John M. Halloran. "Social and Political Influences on Agricultural Systems." *Renewable Agriculture and Food Systems* 23, no. 04 (June 30, 2008): 272-84. doi:10.1017/s174217050700169x.

systems.”² In response, I propose an ideological explanation of a capitalist path dependency as the primary factor preventing the U.S. from advancing in the movement.

From this perspective, as convincing as evidence may be that sustainable and agroecological principles are pivotal as well as economically and materially viable, the limited ideological creativity of the American capitalist paradigm leaves no room for motivation to change the system. In the American collective psychology and capitalist path dependency, food isn't *for* everything agroecology promotes; it is for trade and profit like any other product. Shifting to an alternative system will require more than strong evidence—it will require a break away from the capitalism-oriented American collective psychology and a paradigm shift that will allow the U.S. to actually have the evidence mean something.

The plight of industrial agriculture

A theme throughout the evolution of industrialized agriculture has been the motivation of “efficiency” that stems from capitalism. Naomi Klein studies capitalism in the context of climate change and defines “a good capitalist” as “driven by one key underlying force: the discovery of how to do more with less,” and this force has propelled the global industrialization of agriculture.³ American agriculture has been increasingly intensified since the Industrial Revolution in the 19th century, and trends continued with the Green Revolution in the mid-20th century that allowed for factory-style production, mechanization, and technology like tractors and water manipulation,⁴ and the Gene

² Iles, Alastair, and Maywa Montenegro De Wit. "Sovereignty at What Scale? An Inquiry into Multiple Dimensions of Food Sovereignty." *Globalizations* 12, no. 4 (2014): 481-97. doi:10.1080/14747731.2014.957587.

³ Klein, Naomi. *This Changes Everything: Capitalism vs. the Climate*. London: Penguin Books, 2015.

⁴ Sonnenfeld, David A. "Mexico's "Green Revolution," 1940–1980: Towards an Environmental History." *Environmental History Review* 16, no. 4 (1992): 28-52. doi:10.2307/3984948.

Revolution of the late 1990s that brought hybrid and genetically modified seeds, allowing for more “efficient” farming through monocropping and the use of chemical inputs.⁵

Industrialization comes with privatization and specialization. Privatization and the shift of farms into the hands of private companies means "farmers" have become CEOs living hundreds of miles away from their farms, and specialization means that each farm only produces a few crops, typically in large quantities. To quantify the concept of specialization, “in 1900, the average farm produced five different commodities,” and “by 2002, the number of commodities produced per farm was just over one.”⁶ Along with privatization come consolidation and increased power of supermarkets, agrobiotechnology companies, and other agribusiness corporations. “In 1998, the top four firms marketed 67% of corn seed, 46% of soybean seed and over 97% of cotton seed in the United States,”⁶ and consolidation has increased even more since 1998: a 2013 report on the Farm Bill identified recent trends in agriculture as the rise in giant agribusiness, less small-scale farmers, and concentration of supermarket power.⁷

The negative consequences of a high input, high externality system affect communities and livelihoods, natural ecosystems, and climate change. Small-scale farmers constitute 85% of all farmers and are particularly vulnerable and prone to risk due to their lack of technology and stable market exposure.⁸ The “get big or get out” farm policy of the U.S. in the 1970s pushed small farmers out, devalued their work and

⁵ Graddy-Lovelace, Garrett. Class Lecture, International Food and Agricultural Politics, Spring 2018.

⁶ Archer, David W., Julie Dawson, Urs P. Kreuter, Mary Hendrickson, and John M. Halloran. "Social and Political Influences on Agricultural Systems." *Renewable Agriculture and Food Systems* 23, no. 04 (June 30, 2008): 272-84. doi:10.1017/s174217050700169x.

⁷ *US Farm Bill 101*. Report. Food and Water Watch, 2013.

⁸ *Biodiversity for Food & Agriculture: Contributing to Food Security and Sustainability in a Changing World*. Report. Outcomes of an Expert Workshop Held in FAO & the Platform on Agrobiodiversity Research (PAR), 2011.

identities, and took away their livelihood, land and income.⁹ But it's not just farm owners being hurt; farmworkers are also hit hard by industrial agriculture: they are worked to the bone to achieve the highest level of "efficiency." They work long hours in dangerous conditions for often illegally low wages.⁹

Food insecurity and dissociation from food are major consequences on the consumer end of industrial agriculture. The U.S. "food aid" system of dumping surplus into developing nations destroys the agricultural economies of those nations and stifles their progress toward self-sufficiency.¹⁰ On rural and urban levels in the U.S., dependence on food monopolies results in food deserts and lack of access to food because of race and class barriers.⁹ Small-scale rural farmers are some of the most food insecure, which is ironic because they're the ones growing the food.⁹ Consumers are deeply dissociated from food because they are so separated from the source and production that they don't know where their food comes from; they can barely tell that their chicken is chicken by the time it gets to them. They are also disconnected from the land and natural cycles. Between 1900 and 1990, "the proportion of [the] population living on a farm dropped from nearly [40% to less than 2%], and this rush of people out of agriculture that came with industrialization and consolidation has resulted in most of U.S. society [having] little personal connection with agriculture."¹¹

In addition to hurting humans, industrial agricultural practices exploit nonhuman animals and the environment. Factory farming mistreats animals and is the largest source of methane emissions (methane is 34 times stronger than carbon dioxide in contribution

⁹ Graddy-Lovelace, Garrett. Class Lecture, International Food and Agricultural Politics, Spring 2018.

¹⁰ McDonic, Susan. Class Lecture and Materials, Views from the Global South, Spring 2018.

¹¹ Archer, David W., Julie Dawson, Urs P. Kreuter, Mary Hendrickson, and John M. Halloran. "Social and Political Influences on Agricultural Systems." *Renewable Agriculture and Food Systems* 23, no. 04 (June 30, 2008): 272-84. doi:10.1017/s174217050700169x.

to the greenhouse effect and climate change).¹² Industrial agriculture relies on deforestation to convert land to agriculture, which removes carbon sinks and oxygen sources, releases all of trees' stored carbon, and destroys forest habitats and ecosystems.¹²

Monocropping is another staple of industrial agriculture. In a monocropping system, farmers do not rotate farm plots, neglecting nutrient cycles and ruining soil health. Soils are delicate ecosystems that “can take more than 500 years to form; they are living entities, and they are dying.”¹³ The more we degrade soil, the less arable land there will be to grow in.¹⁴ So far, a total of 1,964 million hectares has been degraded—305 million hectares degraded to a state of no productivity at all.¹⁴ Soil health aside, monocropping also increases the risk of complete crop decimation from disease.¹⁴

Pesticide saturation by industrial farms kills pollinators and beneficial insects as well as contaminating neighboring farms that intentionally avoid using chemicals.¹⁵ The overuse of chemical inputs also disturbs biological processes like nutrient cycling.¹⁵ Nitrogen- and phosphorous- based chemical fertilizers run off into bodies of water, causing eutrophication—the process by which algae overgrows on the water surface and takes up all of the dissolved oxygen so that no other marine life can survive, and a “dead zone” is created.¹⁴ Only 30–50% of applied nitrogen fertilizer and 45% of phosphorus fertilizer is actually taken up by crops, which means the rest of it runs off.¹⁴

In addition to *polluting* water, industrial agriculture depletes water at an

¹² Wapner, Paul. Class Lecture, Global Health and Sustainability, Spring 2018.

¹³ Sethi, Simran. *Bread Wine Chocolate: The Slow Loss of Food We Love*. 2017.

¹⁴ *Biodiversity for Food & Agriculture: Contributing to Food Security and Sustainability in a Changing World*. Report. Outcomes of an Expert Workshop Held in FAO & the Platform on Agrobiodiversity Research (PAR), 2011.

¹⁵ Myers, Samuel S., Matthew R. Smith, Sarah Guth, Christopher D. Golden, Bapu Vaitla, Nathaniel D. Mueller, Alan D. Dangour, and Peter Huybers. "Climate Change and Global Food Systems: Potential Impacts on Food Security and Undernutrition." *Annual Review of Public Health* 38, no. 1 (January 6, 2017): 259-77. doi:10.1146/annurev-publhealth-031816-044356.

unfathomable rate. Agriculture accounts for 80% of global water consumption and 90% of U.S. water consumption.¹⁶ Such a limited resource should not be wasted like this, especially considering that a huge portion of the food this precious resource went into is eventually lost or wasted. A major point of support for the current system is its high efficiency, but so much food still goes to waste: globally, one third of food globally, and 40% in the U.S., is lost or wasted.¹⁷ The industrial system isn't so efficient after all if it distributes food to trashcans and landfills instead of the mouths of hungry people.

The neglect of the multifunctionality of agriculture can explain all of these misdeeds. All of the “productivity” gained from industrialization is on the small-minded scope of measuring calories per hectare and getting more product for less pay, but playmakers in the agricultural industry should also account for non-commodity aspects of agriculture: environmental wellbeing, agrobiodiversity, nutrition, and social and cultural components. Multifunctionality encompasses these aspects and recognizes the interconnectedness of agriculture, biodiversity, food security, and human and ecosystem health, and this principle will be important moving forward.¹⁶

Support for an alternative system

Credible reports with strong evidence in support of rejecting the current industrial system and transitioning to more sustainable agriculture are abundant and widely available. In this section, I will review some of that evidence to provide context for the movement before I examine the reasoning behind the lack of American response.

¹⁶ *Biodiversity for Food & Agriculture: Contributing to Food Security and Sustainability in a Changing World*. Report. Outcomes of an Expert Workshop Held in FAO & the Platform on Agrobiodiversity Research (PAR), 2011

¹⁷ Gustavsson, Jenny, Christel Cederberg, Ulf Sonesson, Robert VanOtterdijk, and Alexander Meybeck. *Global Food Losses & Food Waste: Extent, Causes & Prevention. Report*. UN Food and Agriculture Organization (FAO) and FAO's “Community of Practice on Food Loss Production,” 2011.

It's important to recognize the nuances of terms like "sustainable" and "alternative" agriculture since they "tend to be broadly and vaguely constructed" and difficult to discuss, as there are different standards for what makes something sustainable.¹⁸ When I refer to "sustainable agriculture," I mean the "the collection of agricultural practices used to produce food for today's people without exploiting land or labor today nor in the future."¹⁹ But sustainable agriculture isn't just about *producing* food; it's also about how food is used, distributed and consumed. In my definition, a sustainable food system would distribute food more equitably and reduce food overconsumption and waste.¹⁹ I also discuss agroecological principles and attach them to sustainable agriculture—agroecology is a practice, a science and a movement that legitimizes indigenous practices and place-based, community-determined solutions, focusing on nutrients and natural cycles and aiming to ensure food sovereignty and environmental health. The UN Food and Agriculture Organization (FAO) offers a simpler definition that I find charming and useful: "the ecology of the food system."²⁰

FAO has published several reports providing a logical and ethical basis for an alternative food and agricultural system. A 2011 report by FAO and the Platform on Agrobiodiversity Research on agrobiodiversity establishes that we, not only as Americans but as humans, cannot continue with the current high input system, especially with the development of climate change. According to that report, if current production practices continue, up to [10 billion] hectares of natural ecosystems would have to be converted to agriculture, and this would mean a "2.4- to 2.7-fold increases in nitrogen-

¹⁸ Pilgeram, Ryanne. "The Political and Economic Consequences of Defining Sustainable Agriculture in the US." *Sociology Compass* 7, no. 2 (2013): 123-34. doi:10.1111/soc4.12015.

¹⁹ *Final Report, International Symposium on Agroecology for Food Security & Nutrition*. Report. UN Food & Agricultural Organization (FAO), 2014.

and phosphorus-driven eutrophication,” comparable increases in pesticide use, and unsustainable water consumption and ecosystem simplification.²⁰ The report proposes that agrobiodiversity will ensure agricultural sustainability and more nutritious food.²⁰

The 2013 United Nations Conference on Trade and Development (UNCTAD) report calls for an alternative agricultural system on the basis of addressing climate change.²¹ Several studies on climate change and global food systems also suggest the value of agriculture’s multifunctionality and the nutritional *quality* of food, not just the quantity.²² The quality of crops has been declining due to 1) monocropping systems that destroy soil, 2) early crop harvest for preservation and travel that doesn’t allow crops to reach their full nutrient content, and 3) increasing CO₂ levels in soils.²² Decreases in soil quality directly impact crop nutrition and have led to a rise in global malnutrition.²²

A 2011 FAO report on agroecology explicitly claims that the “current globalized and industrialized food system does not provide convincing evidence that it is sustainable in any of the three aspects of sustainability”: economic, social and environmental.²³ A 2017 FAO report asserts that the world is in dire need of a paradigm shift (the very paradigm shift that this paper will analyze).²⁴ This report expresses concern for the people left behind by the current system: people in poverty, small-scale rural farmers, and people affected by climate change; and it recognizes the consequences of consolidation of

²⁰ *Biodiversity for Food & Agriculture: Contributing to Food Security and Sustainability in a Changing World*. Report. Outcomes of an Expert Workshop Held in FAO & the Platform on Agrobiodiversity Research (PAR), 2011.

²¹ *Wake Up Before It’s Too Late: Make Agriculture Truly Sustainable Now for Food Security in a Changing Climate*. Report. United Nations Conference on Trade and Development (UNCTAD), 2013.

²² Myers, Samuel S., Matthew R. Smith, Sarah Guth, Christopher D. Golden, Babu Vaitla, Nathaniel D. Mueller, Alan D. Dangour, and Peter Huybers. "Climate Change and Global Food Systems: Potential Impacts on Food Security and Undernutrition." *Annual Review of Public Health* 38, no. 1 (January 6, 2017): 259-77. doi:10.1146/annurev-publhealth-031816-044356.

²³ *Final Report, International Symposium on Agroecology for Food Security & Nutrition*. Report. UN Food & Agricultural Organization (FAO), 2014.

²⁴ *The Future of Food and Agriculture: Trends & Challenges*. Report. UN Food & Agricultural Organization (FAO), 2017.

power including realty and land as well as mergers of seed companies.²⁵

A mainstream rejection of a more sustainable system is the drive to “feed the world” and the concern that sustainable methods will be incapable of achieving that, but significant evidence refutes this concern. Genetically modified organisms (GMOs) are often seen as critical for “feeding the world,” but in the long term, agrobiodiversity and soil health will feed the world, and since GMOs threaten those, they *jeopardize* global nourishment rather than guarantee it.²⁶

The “Global Agriculture at a Crossroads or the International Assessment of Agricultural Knowledge, Science and Technology for Development” (IAASTD) report originally published in 2008 is an extremely comprehensive resource on these issues.²⁷ Hundreds of national and international organizations from several countries and disciplines contributed money and efforts to this project consisting of several regional studies, and among the many valuable results, the main takeaways are 1) a rejection of high input, agrobiotechnology-intensive industrial agriculture and 2) an emphasis on the multifunctionality of agriculture.²⁷

Not only have legitimate studies and reports recognized and validated the dangers of industrial agriculture, but there is also growing research on the viability of agroecology as an alternative agricultural ideology. A 2015 publication concludes that contrary to common misconceptions, sustainable agriculture like agroecology *can* feed a lot of

²⁵ *The Future of Food and Agriculture: Trends & Challenges*. Report. UN Food & Agricultural Organization (FAO), 2017.

²⁶ Jacobsen, Sven-Erik, Marten Sørensen, Søren Marcus Pedersen, and Jacob Weiner. "Feeding the World: Genetically Modified Crops versus Agricultural Biodiversity." *Agronomy for Sustainable Development* 33, no. 4 (March 19, 2013): 651-62. doi:10.1007/s13593-013-0138-9.

²⁷ *Agriculture at a Crossroads: International Assessment of Agricultural Knowledge, Science and Technology for Development* (IAASTD). Report. Washington, DC: Island Press, 2009.

people, produce great nutrition, and be realistic—not just idealistic.²⁸ The global revival of indigenous agricultural practices serves as an example of successful implementation of agroecology, and the U.S. can use other nations as role models for its own alternative system. For example, Peru is leading movements returning to indigenous agroecology,²⁹ and the Nyeleni Declaration on Food Sovereignty sets a precedent for countries and communities coming together to commit to a more sustainable agricultural future.³⁰

Why isn't the U.S. convinced?

American farmers have identified their top two influential external social factors as 1) meeting food and nutritional needs of the growing population and 2) environmental concerns,³¹ and as the established evidence confirms, a shift to a more sustainable system would benefit them in both of those areas. The evidence is available and has been widely supported by other countries and historically used indigenous practices, so why hasn't the U.S. caught on?

Scholars across the world are examining this question. A common justification is agribusiness' manipulation of policy, or "the corporate food regime."³² "The political desire to control how food is defined and labeled for the benefit of corporate interests" is a powerful force to consider, as well as "the economic motive to define food in ways to

²⁸ Lappé, Francis Moore, and Joseph Collins. "Too Little Food, Too Many People?" In *Food First: Selected Writings from 40 Years of Movement Building*, 6-20. 2015.

²⁹ Graddy-Lovelace, Garrett. Class Lecture, International Food and Agricultural Politics, Spring 2018.

³⁰ *Nyeléni Declaration on Food Sovereignty*. 2007. International Declaration, Mali.
http://www.cadtm.org/IMG/article_PDF/article_2464.pdf

³¹ Archer, David W., Julie Dawson, Urs P. Kreuter, Mary Hendrickson, and John M. Halloran. "Social and Political Influences on Agricultural Systems." *Renewable Agriculture and Food Systems* 23, no. 04 (June 30, 2008): 272-84. doi:10.1017/s174217050700169x.

³² Iles, Alastair, and Maywa Montenegro De Wit. "Sovereignty at What Scale? An Inquiry into Multiple Dimensions of Food Sovereignty." *Globalizations* 12, no. 4 (2014): 481-97.
 doi:10.1080/14747731.2014.957587.

make it more profitable and to gain larger market share.”³³ Big agribusiness companies lobby to policymakers with market-based motivations. For example, the American Farm Bureau Federation is one of the country’s largest crop and livestock insurance companies, is opposed to climate policy and regulation or taxation of greenhouse gas emissions that might “decrease competitiveness of American agriculture,” and is (not so coincidentally) “one of Capitol Hill’s most vocal lobby groups,” with a lobby spending of \$2,634,661 just in the first half of 2009.³⁴ Monsanto, the leading American agrochemical and agricultural biotechnology corporation, spent \$4,340,000 on lobbying in 2017, but its peak spending was almost \$9 million in 2008.³⁵ Agribusiness is a huge market, so policymakers are not only influenced by money, but also the desire to keep the market strong and contributing to the Gross Domestic Product (GDP).

Maybe the U.S. is convinced but these ulterior motives prevent real change, or maybe there’s something deeper at work. Agribusiness politics offers a clear explanation for the lack of a large-scale, political response in America, but there is a deeper motivation underneath that explanation. I argue that path dependency in the American collective psychology prevents Americans from breaking away from the current system.

Path dependency is an analytical framework used as a tool in considering “institutions as structural variables from which stem arrangements of ideas, interests, and powers.”³⁶ Built into this theory is the premise that “organizations and actors are part of

³³ Pilgeram, Rynne. "The Political and Economic Consequences of Defining Sustainable Agriculture in the US." *Sociology Compass* 7, no. 2 (2013): 123-34. doi:10.1111/soc4.12015.

³⁴ Quraishi, Jen. "Big Ag's Growing Influence." *Mother Jones*. June 26, 2017. <https://www.motherjones.com/environment/2009/11/growing-influence/>.

³⁵ "Lobbying Spending Database - Monsanto Co." *OpenSecrets*. <https://www.opensecrets.org/lobby/clientsum.php?id=d000000055>.

³⁶ Trouvé, Hélène, Yves Couturier, Francis Etheridge, Olivier Saint-Jean, and Dominique Somme. "The Path Dependency Theory: Analytical Framework to Study Institutional Integration. The Case of France." *International Journal of Integrated Care* 10, no. 2 (June 30, 2010). doi:10.5334/ijic.544.

institutions that structure and channel their behavioral standards and activities along established paths,”³⁷ and in the U.S., organizations and actors include (but are not limited within) government, agribusiness, and the consumer public. Paths (in this case the view that capitalism is the only possibility) “are made up of institutions and public policies determined by previous choices that impose constraints on institutional development processes.”³⁷ In the U.S., the capitalist ideology dictates worldviews and obstructs the nation’s philosophical view and ability to imagine an alternative agricultural system.

This cultural-philosophical perspective explains how the deeply ingrained American paradigm of world systems and the economy (capitalism, competition, free market, globalization, etc.) prevents Americans from being convinced deeply enough to do something. The paradigm prevents American consumers, business, and politics from expressing the ideological creativity it will take to redesign an agricultural system that is so interconnected with every sector of the American (and global) economy and society.

Even though studies show that sustainable agriculture can be economically viable, productive, and profitable within capitalism, making the switch would require a sizable investment of time, money, and effort. Considering that the primary motivation to switch is the sustainability factor and that the U.S.’ first priority is the business factor, with the American mindset, it makes sense for the U.S. to stay where it is: if it gets good business in both scenarios, then why not just stay in this one?

While this response may be logical, we as citizens of the Earth and neighbors to our fellow humans need to move out of logical and into ethical. Logical and ethical are often dichotomized, but evidence in support of sustainable agriculture has broken down

³⁷ Trouvé, Hélène, Yves Couturier, Francis Etheridge, Olivier Saint-Jean, and Dominique Somme. "The Path Dependency Theory: Analytical Framework to Study Institutional Integration. The Case of France." *International Journal of Integrated Care* 10, no. 2 (June 30, 2010). doi:10.5334/ijic.544.

this dichotomy and shown that an alternative system can be both. So how can the U.S. further value the ethics factor and respond with more fervor and efficacy? One argument is that some Americans have already made a commitment to living a more ethical lifestyle (in spite of their capitalist path dependency) through the organic movement.

The organic movement: hopeful but limited

Communities across the world are “creating or reviving alternatives [to industrial food systems], from food policy councils in the USA to campesino-a-campesino networks in Central America, to seed sharing coalitions in India,”³⁸ but the main American response has been the organic movement. It is certainly a good example of consumers seeing food’s connection with agriculture and thinking critically about where food comes from rather than seeing it as nothing more than a product on a shelf. It offers hope for the power of consumer voices, but its critical flaw is that even though American organic consumer voices may be loud enough, they aren’t complex enough.

The organic movement puts food in the broad context of agricultural practices and environmental health—evidence suggests that most purchases of organic food are for its presumed health and safety benefits or for associated environmental concerns.³⁹ But unfortunately, intersectional issues of industrial agriculture don’t get captured. Erosion of agrobiodiversity and attached cultures and histories, lack of nutrition, food inaccessibility, implications of international “food aid” and surplus dumping, loss of

³⁸ Iles, Alastair, and Maywa Montenegro De Wit. "Sovereignty at What Scale? An Inquiry into Multiple Dimensions of Food Sovereignty." *Globalizations* 12, no. 4 (2014): 481-97. doi:10.1080/14747731.2014.957587.

³⁹ Guthman, Julie. "Commodified Meanings, Meaningful Commodities: Re-thinking Production-Consumption Links through the Organic System of Provision." *Sociologia Ruralis* 42, no. 4 (2002): 295-311. doi:10.1111/1467-9523.00218.

livelihood for small-scale farmers and impacts on rural communities, continued abuse of laborers, and several other critical issues of food and agriculture get excluded.

The number of organic products imported to the U.S. increased from 16 in 2011 to 31 in 2016, which seems promising since it points to increasing American ethical commitment, but imports don't change domestic practices.⁴⁰ Importing organic is not as effective as changing the American agricultural system, and when taking into account all of the resources spent on transportation and distribution, importing is wasteful and environmentally degrading, which contradicts the movement's primary intention. Organic agriculture can also often neglect labor issues, so while a farm may be free of GMOs and pesticides, it isn't necessarily free of other industrial trends like worker mistreatment.

In addition to the issue of imports, the organic industry is not immune to business motives. Even the organic industry attempts to commodify meanings of food products.⁴¹ In an article examining commodification in the organic system, agri-food scholar Julie Guthman uses Horizon Organic as a case study.⁴¹ Guthman asserts that Horizon emphasizes a scientific basis for animal health to replace the free-range quality that consumers "yearn for," and in return, Horizon gets a large market share.⁴¹ She uses this example to show how inseparable the creation and distribution of value is from representation, meaning, or symbolism of a food product.⁴¹

This disconnect doesn't mean that consumers should stop demanding organic; it just means that the organic movement needs to incorporate intersectional aspects of sustainable agriculture and demand changes in American agricultural institutions rather

⁴⁰ "Organic Trade." USDA ERS. January 19, 2018. <https://www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-trade/>.

⁴¹ Guthman, Julie. "Commodified Meanings, Meaningful Commodities: Re-thinking Production-Consumption Links through the Organic System of Provision." *Sociologia Ruralis* 42, no. 4 (2002): 295-311. doi:10.1111/1467-9523.00218.

than simply demanding a product that can be outsourced without the U.S. having to make meaningful changes. Demanding organic can still be beneficial, and the increase in awareness and demand is a sign of hope for the U.S., but the organic movement could be more comprehensive and accomplish more significant change if it demanded a radical institutional transition. This institutional transition would require what I describe as a break away from path dependency and a new realm of ideological creativity in the collective psychology of American consumers. It would recognize intersectional and multifunctional aspects of agriculture rather than just demand that a certain product (that is incorrectly perceived to be the cure-all for the problems of industrial agriculture) be delivered to an American supermarket, with no awareness of where it came from. The organic movement has principled and respectable intentions, but it makes people feel like they're doing enough when they're not making the necessary paradigm shift.

Ideological creativity and empowerment

“The beauty of the current sustainable food movement is that its history is still being written and there is no question that we have to start somewhere.”⁴² Fortunately, we as agri-food scholars and American consumers are the ones writing the history of this movement, and as soon as we realize that capitalist path dependency and neoliberal subjectivities constrain our political imagination, we can start writing something new.

Our limited incorporation of sustainable agriculture (such as the organic movement) has been within our existing political mindset. In other words, the reason the U.S. isn't getting as far as it could or should with sustainable agriculture is because it is simply incorporating some concepts of a sustainable ideology into its capitalism-oriented,

⁴² Pilgeram, Ryanne. "The Political and Economic Consequences of Defining Sustainable Agriculture in the US." *Sociology Compass* 7, no. 2 (2013): 123-34. doi:10.1111/soc4.12015.

corporate-dominated, industrial agricultural system. Any significant systematic changes will require a widespread cultural-philosophical movement and a break away from the path dependence of the current political ideology—a paradigm shift.

The principles necessary for a wholly sustainable, agroecological system cannot function or flourish in the constraints of the current setting and closed-minded, capitalist collective psychology of the U.S., which includes political and market forces as well as consumers. Low-input, environmentally sound methodology would mean the end of huge industries like factory farms and chemical fertilizer and pesticide producers. Local food production and distribution would require community involvement on urban and rural levels and removal of race- and class-based boundaries. Valuing agroecological concepts would mean respecting (rather than marginalizing and silencing) the voices of indigenous peoples and cultures. But all of this is so ingrained in American society.

With that in mind, “change may appear implausible because so many processes need adjusting” and Americans see them as or “too fundamental to [the] system’s functioning to be tampered with,” but that doesn’t mean it’s too late to do anything—it just means doing something is going to have to start on a philosophical level before expecting big things like policy to change.⁴³

I will now bring back the idea of ideological creativity. Implementing a truly sustainable system that meets all of the justifiable demands for change would require an ideological shift in the American mind, which means training consumer minds out of the degraded roles capitalism has forced them into and back into touch with their original humanity. According to Naomi Klein, capitalism “consists of two axiomatic principles

⁴³ Iles, Alastair, and Maywa Montenegro De Wit. "Sovereignty at What Scale? An Inquiry into Multiple Dimensions of Food Sovereignty." *Globalizations* 12, no. 4 (2014): 481-97. doi:10.1080/14747731.2014.957587.

that are irrevocably inconsistent with the flourishing of humanity”: that it 1) rests on the ideology that man has total power over nature and 2) depends on “extractivism.”⁴⁴ There is a reason why people who have achieved capitalist definitions of success (socially defined by money and influence) tend to be unhappy... Humans thrive under principles opposite of the capitalist ones Klein points out: we thrive in community and connection with each other and nature.⁴⁵

We need to get back to our innate values and reconnect with people and Earth in a more harmonious way. Robin Kimmerer is a plant ecologist and writer, and her book *Braiding Sweetgrass* creatively offers us a new sensibility that allows us to relate to the natural world through our senses and innate human qualities.⁴⁶ Kimmerer reminds us that human interaction with nature can be positive and mutually beneficial; our interaction with nature doesn’t always have to be destructive.⁴⁶ She encourages us to follow a principle of reciprocity rather than mastery over nature; what we put into the universe will always come back.⁴⁶ She helps us understand that nature is abundantly generous and always giving to us, so we owe it to Earth to give back.⁴⁶ She proposes that if we would see nature as a gift, we would not exploit it.⁴⁶ If we can live in a world of gifts, we can practice appreciative rather than mindless production and consumption of food.

I am applying Kimmerer’s suggestions about our relationship with nature to our relationship with the broader cultural world in which we create and follow social and political norms. Her proposal for a more intimate and grateful relationship with Earth might allow us to prioritize caring for the planet and our fellow humans over the current priorities of free market competition, capitalist achievement, and individual gain. If

⁴⁴ Klein, Naomi. *This Changes Everything: Capitalism vs. the Climate*. London: Penguin Books, 2015.

⁴⁵ McDonic, Susan. Class Lecture and Materials, Views from the Global South, Spring 2018.

⁴⁶ Kimmerer, Robin Wall. *Braiding Sweetgrass*. Minneapolis, MN: Milkweed Editions, 2013.

American norms can move away from exploitation, become community-based, and value place-based and self-determined solutions, then sustainable agriculture and agroecology will be viable on a national and potentially international scale.

This kind of philosophical revolution may seem far-fetched, but it *is* possible. History has set a precedent for successful resistance movements—movements that overturned wide-reaching ideological systems.⁴⁷ For example, before abolition, slavery was deeply ingrained into people’s schemas of the world and to many seemed critical for a thriving economy, but resistance movements across world overturned it.⁴⁷ Before the women’s rights movement, most people could never have imagined women as members of academia, but here we are today with countless socially and politically validated and valued women, several of whom are leaders in agri-food scholarship. These are just a few examples of historical movements that reorganized social and economic structures for the U.S. to use as a source of reference and inspiration in the movement for a paradigm shift towards large-scale political change towards a sustainable food and agricultural system.

Looking forward

The paradigm shift in question depends upon the most fundamental American political and economic theories, but those very theories are what need to change.⁴⁸ This movement is essentially an ideological revolution as a component of a political revolution for sustainable agriculture. The U.S. must clearly define its goals, and power is a huge factor in designing those goals: “the ability to define ‘sustainable agriculture’ ultimately means the ability to control how a segment of the food and agricultural products are

⁴⁷ Wapner, Paul. Class Lecture, Global Health and Sustainability, Spring 2018.

⁴⁸ Klein, Naomi. *This Changes Everything: Capitalism vs. the Climate*. London: Penguin Books, 2015.

produced within the United States (and globally).”⁴⁹

As agri-food scholars, we must consider power dynamics when defining terms and telling narratives. The American mind tends to consider positions of power as policy influencers, corporations, and generally high-income positions, and while that is in many ways true, the collective psychology must alter its schema of power to include citizens and consumers. Social justice plays into political issues as well, because the broad voice of the consumer public tends to leave out voices of minorities⁵⁰. A critical component of the resistance for a paradigm shift and cultural-philosophical movement is attaching more value to historically under-heard and undervalued voices⁵⁰.

To reiterate the verdict of my analysis: the reason behind the U.S.’ lack of large-scale political response to the plethora of evidence in support of an alternative, sustainable agricultural system goes beyond the politics of agribusiness. It can be traced down to path dependency in the American collective psychology through which capitalism constrains political and ideological creativity and prevents Americans from demanding and creating an alternative agricultural system. Once the U.S. experiences this paradigm shift, it will better value and prioritize the already convincing evidence for a transition from industrial to sustainable agriculture, and the U.S. will finally experience the systematic agricultural shift it so desperately needs.

⁴⁹ Pilgeram, Ryanne. "The Political and Economic Consequences of Defining Sustainable Agriculture in the US." *Sociology Compass* 7, no. 2 (2013): 123-34. doi:10.1111/soc4.12015.

⁵⁰ Graddy-Lovelace, Garrett. Class Lecture, International Food and Agricultural Politics, Spring 2018.

Annex: Reflections on My Experience in the Sustainable Agriculture Community

Over the past several months, I have volunteered in the Garden-to-Table program of a D.C. public school, Horace Mann Elementary, where I got a taste of local, relatively sustainable food production. The program's mission is to teach students the importance of local, fresh and healthy food. Staff and volunteers plant and cultivate crops indoors, and when the crops are ready, the students have the opportunity to plant and learn to care for them in the outdoor garden plots. The school also grows herbs, lettuce and other greens indoors and on the rooftop with grow lights and aeroponic towers—an advanced vertical gardening technology that uses 90% less water than conventional methods.

First I will disclose that the program has a fairly small reach and is not totally detached from industrial agriculture or capitalism—many seeds are ordered from corporations, and the majority of the school cafeteria food is conventionally grown and purchased; but nonetheless, I have found value and spiritual connection through the work. I must also note that this program is only one slice of a world of sustainable agriculture, and programs will look different for every community. In the case of Horace Mann, the system requires a high level of expertise, attention to detail, organization, planning, and finances. The grow lights and towers each cost around \$300 or more, before adding in costs of other materials (seeds, Rockwool, etc.). This level of expense is clearly not universally viable and doesn't make sense for every community, but what I do find will be common in any sustainable system is a deep knowledge of and commitment to the crops (and animals), local communities, and land, whatever and wherever they might be.

I have certainly gained some technical skills and knowledge of sustainable and urban agricultural processes, but the biggest takeaway from this experience has been the

fulfillment of growing food and seeing my nurturing of the plants come full circle to them nurturing me. My favorite plant that Horace Mann grows is the basil on the aeroponic towers. Once the basil is fully-grown, the tower becomes a massive overflow of lush, green foliage, and the scent takes over the air. It's so beautiful and fascinating to watch tiny seeds become this amazing tower of flourishing, nutritious leaves of basil. I certainly don't get that experience in Giant or Whole Foods; tossing a package of basil into my cart provokes no feeling of connection to the plant or gratefulness to nature, no sensation of pride or fulfillment.

Ever since actively growing food at Horace Mann, I have felt rather disturbed by the food that comes from a mysterious, unnamed source. I feel disconnected from the food I typically eat, and I think most Americans would agree if they considered the source and implications of their food. Growing food is a science and a natural process, but it is also a full body experience and an art. Growing our own food rewards us with sustainably produced nutrition, but also the satisfaction and fulfillment of nourishing our souls, ourselves, our family, our friends and communities, the environment around us, the soil and its microorganisms, and potentially the rest of the world. That reward and reciprocity with nature (like the kind Kimmerer discusses) can be a source of regeneration and motivation. School garden programs are only a small piece of the puzzle and will not solve all of the U.S.' agricultural problems, but they're a place to start, a place to find connection and motivation. Whether it's through aeroponic towers, a home vegetable garden, or discussion with friends over (sustainably sourced) coffee, I invite you to find yourself again through food—find your source of regeneration and motivation; find your agency; find your spirit.

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