

ORGANIC REVOLUTIONARY

A MEMOIR OF THE MOVEMENT FOR REAL FOOD,
PLANETARY HEALING, AND HUMAN LIBERATION

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*Organic Revolutionary: A Memoir of the Movement for Real Food,
Planetary Healing, and Human Liberation*

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markets in 1994, when USDA began to track them, to 8,268 in 2014. There is even a weekly farmers market held in the USDA parking lot in Washington, DC.²

The Roots of the True Organic Vision

To see how this vision grew into the modern organic movement it may be helpful to review American and European history with this topic in mind. While I read many of the ‘classics’ of organic thought during my early years in Vermont, I didn’t fit the pieces together until my involvement deepened and I began teaching about the subject. The excursion that follows offers my own interpretation and selection of events and actors that has helped me to place my own experience in its historical context.

Many people assume that the organic movement had its start with Rachel Carson and the environmental movement of the sixties that inspired farmers to “just say no” to pesticides. The activist uprisings of the 1960s certainly gave rise to the modern organic movement, but the birth of what became known as *organic farming* really occurred in response to the first widespread use of synthetic fertilizers in the early part of the 20th century.

Most of the foundational organic innovators came from Europe, where concerns about the effects of using synthesized chemicals to fertilize crops sprouted a short time after they started being promoted. Around the end of World War I the munitions manufacturers found themselves with large stockpiles of explosives on hand. The Haber process, developed by German scientists, had introduced a cheap technology for manufacturing nitrate-based compounds by using natural gas to turn stable atmospheric nitrogen into ammonia. Although the work of the chemist Justus Von Liebig, a contemporary of Darwin, had been known for some time, up until then it had attracted little commercial interest. Von Liebig demonstrated that plant growth rates could be dramatically increased by adding certain chemical nutrients in synthetic salt form to greenhouse pots. Farmers had long used wood ashes (or pot ash, from which the word potassium comes), crushed bones (high in phosphorus), and of course livestock manure (rich in nitrogen) on their cropland, without knowing the scientific explanation for what they were doing. With the advent of cheap synthetic nitrogen and a surplus of it on hand in the

form of dynamite, the weapons makers continued the age-old tradition of transferring military technologies to food production. Thus was born the synthetic fertilizer industry.

Although many farmers understood that it was a bad idea to only use synthetic plant nutrients instead of plant- and animal-based fertilizer materials, the results of doing so were too tempting to resist. In place of the backbreaking work of shoveling out stables and barns, loading a wagon and then shoveling it out again in the field, you could just buy a few bags of nitrate fertilizer, sprinkle it over the soil or rig up a device to mix it in with grain seeds during planting, and stand back and watch the crops grow.

A few scientists, including Von Liebig, were not convinced that artificial fertilizers were an unmitigated good. The value of recycling organic materials as a foundation for long term soil health was extensively documented in the early 1900s by F.H. King, head of USDA's Division of Soil Management. King had traveled through Asia to observe the methods used to maintain highly productive agriculture in the region over the course of 4,000 years, which he described in the landmark work, *Farmers of Forty Centuries*. The multiple benefits of soil humus were well known in Europe, although the central role of soil life in transforming raw organic matter into humus, releasing plant nutrients in the process, was little understood. Darwin had lauded the earthworm as a creator of soil fertility, but little was known about soil microbiology or the devastating effects of high doses of artificial salt fertilizers on soil organisms. Continued use of such fertilizers in place of organic materials clearly resulted in diminished soil humus levels, and some observant farmers reported declines in seed viability and animal reproductive health along with it.

In 1924 a group of farmers in the German state of Silesia got together and asked the renowned seer, Rudolph Steiner, what to do to counteract the deterioration of crop and livestock health quality that they were observing, which they attributed to the increasing use of artificial fertilizers in place of manure and other organic fertilizers. Steiner obliged them by offering a series of lectures which were transcribed into a small book entitled, *Agriculture*. This marked the origins of the Biodynamic school of agriculture, which remains a highly influential stream of organic agricultural theory and practice.

Steiner was heavily influenced by the German poet and philosopher Johann Wolfgang von Goethe, especially his treatises on botany and the

natural sciences. Goethe taught with a holistic viewpoint that emphasizes observation of organisms within their natural context, as opposed to laboratory analysis.³ Steiner's lectures to the farmers, which are dense with esoteric terminology, draw connections between cosmic forces represented by various planets and the qualities imparted to plants by corresponding minerals. These, he said, play a major role in crop quality (including aroma, flavor, and nutrition, among other things), which is very hard to measure, as opposed to quantity or mass, which is the only factor that is positively affected by synthetic fertilizers. High nitrate fertilization is known to correspond with increased water uptake by crops (and thus increased yields), but correspondingly lower dry matter content — the part with the nutrients.

Steiner also emphasized that farms must be viewed as single organisms, and that all life on the planet forms a single whole that is influenced in countless ways by subtle cosmic forces. One of the *Agriculture* lectures is devoted to detailed instructions for making preparations for the purpose of inoculating compost with the appropriate living energy. Use of these compost preparations, made from various combinations of specific herbs, minerals (particularly silica in the form of ground quartz), and animal parts (such as cow horns and stag bladders), buried or cured in specific ways, form the basis for the current practice of Biodynamic agriculture.⁴

After his death in 1925, Steiner's influence spread throughout Europe and the German fascists, as devotees of esoteric nature mysticism, readily embraced his teachings. This admiration was not mutual for most of Steiner's students, however, many of whom fled the Nazi regime for North and South America as well as Asia and Australia. Among them was Ehrenfried Pfeiffer who came to the US in the late 1930s and helped found the Biodynamic Farming & Gardening Association, living and working for many years at the Anthroposophic⁵ community Threefold Farm in Spring Valley, New York.

Although Steiner and his students were the first Europeans to systematize a holistic response to the advent of chemical-intensive agriculture, it is Sir Albert Howard, a British agronomist, who is considered the "father" of modern organic farming. He wasn't the first to use that term, but he was the first to identify the fundamental organic principles and practices, such as the "Law of Return" on the necessity of returning nutrients and organic materials to the soil to compensate for their removal in crops. Much of his work was based on research and observations in India in the 1930s and 1940s, where he was stationed for 26 years in the

service of the Empire. Sir Albert later made a point of crediting the Indian peasant farmers with whom he worked for teaching him about their soil improvement practices, including how they made compost by piling different kinds of organic wastes in alternating layers and periodically turning to introduce air. Known as the “Indore” method for the region in India where he learned it, this approach to compost making has become the hallmark of organic practices on both the garden and farm level.

Other examples of indigenous cultures that practiced sophisticated forms of agriculture abound. The organic playbook has borrowed liberally from ancient folk wisdom, including the Asian peasants studied by F.H. King and the Central American chinampas, in which marshes were turned into fertile islands surrounded by complex aquaculture systems. In recent years, anthropologists have rediscovered several more examples of sophisticated ecologically adapted agricultural systems that existed for centuries in the Americas before European conquest.⁶ Ancient cultures have also perpetrated some ecologically disastrous farming systems, but the point here is that our revered organic forebears owed much to indigenous ingenuity, coupled with the tools of skilled scientific observation. Europeans may have been the first to articulate the basic precepts of organic methods, but these ideas have found fertile soil to grow into robust movements here in the New World.

North America’s most influential evangelist of organic farming and gardening was undoubtedly J.I. Rodale, founder of the highly successful publishing company that bears his name. Rodale Press has cranked out a continuous supply of information on the subject since 1942, when the first issue of *Organic Farming & Gardening Magazine* was produced, with Sir Albert Howard as Associate Editor. Rodale’s contribution to popularizing and disseminating this material, at a time when the promise of ‘better living through chemistry’ was the central principle of the agricultural establishment, has been enormous. While Howard was no fan of Biodynamics, Rodale was also strongly influenced by Ehrenfried Pfeiffer, whom Rodale visited on several occasions.

J.I. Rodale was both a savvy businessman and a committed seeker of optimum health who was often characterized as a fanatic and worse. Born into an immigrant Jewish family in New York City, young Jerome was by all accounts rather puny and lacking in self-confidence. His focus on the connection between agriculture and health was unfortunately not bolstered by his sudden death of a heart attack while appearing on the Dick Cavett show.

J.I.'s son Robert succeeded him at the helm of the company and initiated a number of worthwhile projects, some of which were well ahead of their time. One such project was the establishment of the well-respected non-profit research farm and institute near Rodale's Emmaus, PA headquarters. It was Bob Rodale who sought to popularize the term "regenerative" agriculture in place of "organic." While the idea had some merit, the word just didn't work as a marketing term. Bob was tragically killed in a car accident in Russia in 1990 while working on a joint publication with Russian sustainable agriculture leaders. The Rodale business continues to be family owned and managed and, while the research farm has maintained its standing as a cutting edge scientific institute, the publishing company today betrays little evidence of its agricultural origins, describing itself as "home to some of the most successful and well-regarded health and wellness brands," whose mainstay publications include *Men's Health* and *Prevention*.⁷

Rodale's forte has been in the realm of research and education, but the Rodale enterprise contributed little to expanding the availability of organically produced foods beyond the home gardener. It was entrepreneur Paul Keene, another Pennsylvania-based organic pioneer, who became the first retailer of organic food by founding the mail order company Walnut Acres.

Keene, who died in 2005 at the age of 94, had been a pacifist with a Masters in mathematics from Yale. He worked as a teacher in India in the late 1930s where he learned about both Sir Albert Howard and Mohandas Gandhi. After studying at Gandhi's village training school, Keene got involved with the Indian independence movement and traveled for a while with Gandhi's disciple Vinoba Bhave. Returning to the States, he and his wife worked with economist Ralph Borsodi and his associate Bob Swann, whose influence on my own family and journey was noted earlier. After another stint of study, this time with Ehrenfried Pfeiffer (Steiner's student) at Kimberton Hills Farm, a Pennsylvania biodynamic community, the Keenes bought the Walnut Acres farm in Penns Creek, PA in 1946 and soon started selling organic apple butter and then peanut butter via mail order. Today Walnut Acres exists only as one of the many brands owned by the Hain Celestial Group, having been sold to that large natural foods distributor in 2003.

"Natural foods" and "health food" are terms that represent the whole purpose of organic agriculture for many, and theories about what constitutes a healthy diet have accompanied the organic movement from the

start. The connection between soil health and human and animal health was central to Sir Albert Howard's work, and is similarly emphasized by the biodynamic movement. Indian culture considers food and medicine to be virtually the same; this holistic understanding of the relationship between how food is grown and its nutritional — even spiritual and certainly energetic — qualities continues to be a prime motivator for people concerned about diet and health. The historical movements and theories that are woven together with these concepts form the fabric from which the modern organic movement emerged. The theme of health reappears continually in any discussion of organic philosophy. A universal constant that seems to unite organic farmers and devotees of the new foodie culture is that we all care — and care a lot — about food.

Many early organic advocates started out with the assumption that the only way to obtain a reliable supply of good wholesome food without a trust fund was to grow it ourselves. Early advocates of the nutrition and the health benefits of whole, unrefined foods who also spoke up about the dangers of petrochemically derived food additives comprise another key stream of influence, and their modern counterparts are key to fanning consumer support for the expanding organic market. Authors and scientists such as Weston Price, Adele Davis, Beatrice Trum Hunter, and many others have contributed solid, practical information about why and how to consume the most healthful 'nutrient dense' diet. Michio Kushi, founder of the macrobiotic approach, as well as other advocates of vegetarian diets also influenced many aspiring organic practitioners and eaters. The conversation about what constitutes the most healthful diet is interesting and at times heated. While my own food preferences tend towards homegrown omnivore, I firmly believe that everyone has different dietary needs, and the tendency to equate certain food choices with moral superiority (or delinquency) is more than a tad offensive. So I won't get into that discussion here, except to note that some tendency towards 'food fascism' is not a big surprise given where the movement comes from.

Organic's Little-Known Eco-Fascist Roots

The first organic-identified organization was The Soil Association, founded in 1946 by Sir Albert Howard and his friend, Lady Eve Balfour, author of *The Living Soil*. The word "organic" was advocated by another Brit, Lord Walter Northbourne, who described a holistic concept in which the

farmer serves as a coordinator of diverse elements of a self-regulating farming system, so as to optimize the cycling of nutrients. It is worth noting that this is not just about the 'natural' source of farm inputs, as 21st century organic promoters have led many to believe.

The clash between the emerging "industrial" approach to agriculture and the ideas of Steiner, Howard, and others had political and social implications that were certainly known to early organic theorists. The social aspects of the organic concept were not given much prominence by its founders, but organic farming has never just been about a technological or scientific distinction (just as all technological revolutions have also been profoundly social and political). The social and political context of the early organic movement, and its connection to fascist ideology, is chronicled by Philip Conford in *The Origins of the Organic Movement*.

Among the more persistent myths of the current organic scene is the notion that the modern organic movement sprang from a strictly left-progressive political philosophy. While partially true, it is a mistake to believe that the political left has any claim to 'ownership' of the organic project, or that organic agriculture (or any green technology, for that matter) is inherently politically correct. Rather, the thinking that shaped the organic vision can be traced to both left-wing and right-wing ideologies, and it is apparently the right wing that informed the first consciously organic advocates in Europe. As laid out in excruciating detail by Conford, many of the founders of the Soil Association, with the exception of a few like Sir Albert Howard, were avowed fascists who supported Hitler and Mussolini before these dictators became enemies of the British state.

Steiner's followers in Europe, primarily Germany and Austria, were similarly not all repulsed by the Nazi embrace. Anthroposophy, the spiritual credo founded by Steiner and the basis for his agricultural instructions, "had a powerful practical influence on the so-called 'green wing' of German fascism," according to Social Ecologist Peter Staudenmaier.⁸ It was largely, he suggests, through biodynamic agriculture that this influence occurred. The well-known Nazi slogan, "Blood and Soil," was the rallying cry of this green wing, which held that "environmental purity was inseparable from racial purity."

It should go without saying (but still must be said) that none of this means that practitioners of Biodynamic agriculture or avowed Anthroposophists are really fascists at heart. As acknowledged by Staudenmaier and consistent with my own experience, most of those who today espouse

Biodynamics, and certainly those who practice its methods without endorsing its religious aspects, tend to be politically liberal, open-minded, and compassionate folks. But I cannot help but shudder at the common emphasis on purity⁹ amongst some organic true believers. The enthusiasm of some of the right-wing organic crowd in the US for Biodynamics and its array of mysterious cosmic forces can give one pause as well. We would all do well to acknowledge our ambiguous and not always high-minded histories.

Political and social tributaries of the modern organic movement in North America also spring from some peculiarly American forms of religious fundamentalism and anti-intellectual (i.e., eastern liberal, often Jewish) sentiment. The Jeffersonian agrarian ideal of the yeoman farmer, as eloquently conveyed by Wendell Berry in *The Unsettling of America*, represents a romantic note that has inspired much of the back to the land movement, myself among them, but that also appeals to the logic of “Blood and Soil.” There continues to be a fine line between a heartfelt spiritual reverence for Nature idealized in many forms of new age thought and a tendency towards xenophobic and dogmatic “one and only true way” belief systems.

The populist movement of the late 19th and early 20th century is among the most significant political contributors to the American alternative agriculture stream. One of the best sources for the left-progressive view of this history is *The Corporate Reapers*, a collection of essays by Al Krebs, a founder of the Agribusiness Accountability Project. The democratic, egalitarian ideals of early prairie populism gave rise to a strong rural cooperative movement, state-owned grain elevators and banks (including the sole surviving example in North Dakota), and some of the more constructive farm policies of the New Deal. While Krebs argues convincingly that it was not originally racist or anti-Semitic, the populist movement eventually was either killed off by World War I era red scares or captured by the Democratic Party under the ‘silverist’ William Jennings Bryan, a great orator famous for his opposition to the teaching of evolution in the Scopes ‘monkey trial.’

It is hardly surprising that this strain of agrarianism — which opposes the capitalist moneyed establishment — has inspired converts to organic approaches to farming in the mid-twentieth century. Some of the most respected American organic pioneers emerged from this background, including the publishers of and many contributors to the influential *Kansas*

City based monthly, Acres USA, which began publishing in the early seventies when the Modern Organic Movement was emerging. The populist impulse is also the wellspring of some more sinister organic advocates, including militant neo-Nazi survivalist groups, anti-immigrant vigilantes and conspiracy theorists. Among the conspirators in the 1995 Oklahoma City bombing (in which the explosive material was a synthetic nitrogen fertilizer) was an organic farmer from Michigan, profiled in Michael Moore's documentary *Bowling for Columbine*.

Socialist and Gandhian Influences

Prairie populism was also strongly influenced by socialist writers and organizers, in an era that predated Soviet-style communism. Prince Petr Kropotkin, calling himself an anarcho-communist, addressed agrarian issues in tracts such as *The Conquest of Bread*. Kropotkin called for decentralized production of the basic necessities of life, so that staple foods should be grown close to where they are consumed with only a modest amount of trade for products that will not grow in a given region. Perhaps the detractors of the first farmers markets in Vermont, who accused these efforts of being communist, were not as wacky as we thought back in the seventies.

There were quite a few respectable mainstream leaders who openly identified as socialists in the first decades of the 20th century, some of whom exerted real influence on US farm policy. The first author to earn the title of 'muckraker' was Upton Sinclair, whose 1906 exposé of the horrific, unsanitary conditions in the meatpacking industry in *The Jungle*¹⁰ led directly to the first federal food safety regulations. Oversight of food safety for livestock, poultry, and dairy products remains to this day the responsibility of the USDA's Food Safety and Inspection Service (FSIS), rather than the more recently created Food & Drug Administration (FDA). Sinclair was an avowed socialist, who at one point ran unsuccessfully for Governor of California and was involved in organizing the socialist reform movement called End Poverty in California.

The origins of the Progressive Party have more to do with Theodore Roosevelt's zeal for conservation than with what is today considered progressive politics, but its agrarian-friendly motif has carried over into the present — never mind that traditional conservationists have often been at odds with those concerned with farming. Henry Wallace, who served

as FDR's Secretary of Agriculture and then Vice President, later ran for the presidency against Truman on the Progressive Party ticket. Wallace tried to push US agriculture in a more progressive direction, most notably through the first Agricultural Adjustment Act in 1933, which later morphed into the legislative monstrosity called the Farm Bill. While he was not 'out' as a socialist, Wallace's disillusionment with the conservative direction of the Democratic Party led him to help revive the Progressive Party, which at various times advocated government ownership of utilities, labor and civil rights, and curbs on monopolies. Some say that his dismal loss to Truman in 1948 was largely due to the Progressive Party's acceptance of support from the Communist Party.¹¹

Wallace was also a complex character, who made a fortune as a corn geneticist and founder of the Pioneer-HiBred Corn Company, now owned by DuPont and one of the major developers and promoters of genetically modified seeds. However, the foundation he created with shares of his company's stock has been a key funder of organic and sustainable agriculture work, including the Wallace Institute for Alternative Agriculture, founded by Dr. Garth Youngberg who was the first USDA organic coordinator before the Reagan administration eliminated the position. A similar interest in supporting sustainable agriculture initiatives is found in the foundation endowed in the mid-20th century by W.K. Kellogg, who advocated for the health benefits of whole grains and developed the concept of processing corn into a wildly popular breakfast cereal.

The economic depression of the 1930s coincided with a devastating drought that etched the Dust Bowl in our collective memory, and gave rise to the agricultural reforms advanced by figures such as Henry Wallace. Many recognize the Depression era back-to-the-land movement, the source of some classic homesteading and self-sufficiency treatises, as the basis for the rural renaissance of the 1960s. Scott and Helen Nearing are icons of the modern back-to-the-land movement, revered as models of simple living and self-sufficiency. Their chronicles of building stone houses, eating a vegetarian diet and living lightly on the land, starting in 1932 in southern Vermont and later in Maine, were part of the canon of the sixties urban émigrés. Both of the Nearings came from privileged backgrounds and chose a radically different path. Scott lost his faculty position at the prestigious Wharton School of Business of the University of Pennsylvania as a result of his outspoken pacifist and socialist beliefs, including anti-war activism during the First World War. Helen

was brought up as a Theosophist (a philosophy closely related to Steiner's Anthroposophy), and was for a time the companion of the renowned 'anti-guru' philosopher Krishnamurti. She also maintained ties to Buddhist teachings throughout her life, in addition to her support for Scott's regular writing and lecturing on radical politics.

Ralph Borsodi, whose name inspires puzzled inquiry rather than reverence among most of my contemporaries, has been called the greatest unsung hero of the counterculture movement. The importance of Gandhian thought and practice to the organic movement cannot be overestimated. Like Paul Keene, Borsodi and his associate Bob Swann were also inspired by experiences with Gandhi's disciple Vinoba Bhave. Swann developed the concept of the community land trust modeled after Vinoba's Gramdan villages that were created from land donated by wealthy Indians to be worked cooperatively by the impoverished.

This is of course only a sample of the authors and visionaries who influenced me as I began this journey. The seeds they sowed were rooted in the soil of my own upbringing to propel me forward into the germinating modern organic movement.

The Sprouting of the Organic Movement

This brings us up to the time of Rachel Carson and the beginning of the environmental movement. As there's no need for me to retell this well-known story here, we'll note the incredible reach of her work and move on to a major influence on my own thinking who also wrote about the problems of contaminated food, air, and water a little while before Carson's *Silent Spring* was released. He was a fellow by the name of Murray Bookchin, about whom I first heard when I lived in Montreal. Writing under the pen name of Lewis Herber, Bookchin published *Our Synthetic Environment* in early 1962. He later teamed up with a young graduate student by the name of Dan Chodorkoff to found the Institute for Social Ecology in Plainfield, VT in 1974, forging a new understanding of the relationship between the environmental problems identified in his visionary work and the social ills long decried by Marxists and other political activists.

Once the environmental harm done by modern agricultural chemistry and the injustice of poverty, racism, and violence intersected in the seedbed of the civil rights, environmental, and anti-war movements — to say nothing of the fecundity and creativity of the sixties youth culture — the

agricultural and social alternatives seeded by the figures we've met here (and others, to be sure) began to germinate and emerge almost overnight. While there were many motivations for going back to the land, the organizers of the first modern organic groups, at least those on the East and West coasts, emerged from these liberatory movements.

The story is a bit different in the heartland, where the prairie populist-inspired contingent generally eschewed the organic title in favor of 'eco-agriculture,' and laced their rhetoric with Bible quotes and tirades against eastern bankers and federal bureaucrats. Among the more complex and colorful characters central to the Midwestern alternative agriculture movement was Chuck Walters. Coming from a Kansas farm background, Walters did editorial work for the National Farmers Organization before founding the monthly tabloid *Acres, USA: A Voice for Eco-Agriculture*. Galvanized by Rachel Carson's revelations, Walters "realized how the methodical cheating of small farmers and the enforced swing toward chemical agriculture were gears in the same machine, working in tandem to transform the countryside."¹²

Many of us learned a huge amount through Walters' efforts. Writing in the early nineties I characterized Walters' tone as "conservative, frankly Christian, anti-Eastern intellectual polemic that makes a lot of us leftist intellectual types uncomfortable." Some of the issues we first read about in the pages of *Acres, USA* included: warnings of global climate shift; destruction of tropical rainforests; the dangers of biotechnology, water fluoridation, mercury amalgam fillings, food irradiation, fossil water depletion; milk pasteurization; hemp legalization; farmers alcohol; free trade; and, of central concern, farm debt, the fight for parity pricing, and economics in general.

What Does 'Organic' Mean on a Jar of Dilly Beans?

I devoured the words of many of these authors during my first few years in Vermont as I was learning to grow food and became engaged in farmers market organizing. The connections between agriculture, economics, and politics that started coming into focus during my time with the commune in Montreal now expanded more deeply into the soil of my community as I got involved with a new cannery project.

A church foundation funded a project in the mid-seventies to set up community canning centers in three different parts of Vermont. The Northeast Kingdom — the area defined by the three northeastern coun-

Endnotes

Chapter 1

1. Extension Agronomist, University of Vermont from 1954 through 1986. Win Way, a prolific generator of helpful information for farmers, was considered a maverick among his peers. He advocated for small farms, local food, and organic farming at a time when it was considered cultish, and wrote a regular column for the NOFA newsletter for years. University of Vermont Extension. http://www.uvm.edu/extension/about/history/?Page=audio_list.php&SM=audio_sm.html&name=winston%20arthur_way. Accessed November 27, 2015.
2. USDA Agricultural Marketing Service. <http://www.ams.usda.gov/AMSV1.0/Farmers-Markets>. Accessed November 27, 2015.
3. The contrast between Von Liebig and Goethe exemplifies the tension between reductionist and holistic approaches to science, discussed more thoroughly in the following chapter.
4. Steiner's instructions have been found to create effective microbial inoculants by combining just the right materials that are allowed to ferment under the right conditions. Animal organs may be combined with specific flowers that concentrate certain trace minerals needed by microbes that help improve compost.
5. Anthroposophy is the name of the spiritual philosophy taught by Steiner; it's also the foundation for the well-known Waldorf school movement.
6. See for example, Jared Diamond, *Guns, Germs and Steel*, (New York: W.W.Norton, 1999) and Charles Mann, *1491: New Revelations of the Americas Before Columbus*, (New York: Knopf, 2005).
7. <http://www.rodaleinc.com/content/about-us>
8. See Peter Staudenmaier's discussion of Anthroposophy and Ecofascism at: <http://www.social-ecology.org/2009/01/anthroposophy-and-ecofascism-2/>. Accessed November 28, 2015
9. See the next chapter for a discussion of organic principles and the contradiction of the desire for purity.
10. Upton Sinclair, *The Jungle*, (New York: Doubleday, 1906).
11. What has come to be called 'progressive' farming today is, ironically, at odds with populist impulses and associated with faith in technological progress as the solution to agricultural problems.
12. <http://www.acresusa.com/history/> accessed November 28, 2015
13. Now available online at: <http://www.nal.usda.gov/afsic/pubs/USDAOrgFarmRpt.pdf>
14. Bob S. Bergland and Susan E. Sechler, *A Time to Choose: Summary Report on the Structure of Agriculture*, (Washington, DC: USDA, 1981). <https://archive.org/details/timetochoosesumm00unit> Accessed December 3, 2015.

Chapter 2

15. Murray Bookchin, *The Modern Crisis*. (Montreal: Black Rose Books, 1998).
16. Wendell Berry, *The Unsettling of America: Culture and Agriculture*, (San Francisco: Sierra Club Books, 1977), pp.173-174.
17. See Stuart Hill's explanation of social ecology here: <http://www.zulenet.com/see/chair.html#seis> Accessed December 3, 2015.
18. Gershuny, Grace. "Buddhism Becomes Majority religion in Barnet as Special Day Approaches," *Caledonian Record*, May 23, 1987.