



A Theory of SocioEcological Characteristics for Food Mindfulness

Uma teoria de características socioecológicas para a consciência plena sobre alimentos

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Abstract

People do not have the food needed to meet their basic needs in many parts of the world. That is, they may be forced to eat what they have access to or what the circumstances provide for. Therefore, poverty and scarcity play a large role in the choices that many people have to make on a daily basis around produce and maybe an underlying cause for their decision to consume cheap, processed food. On the contrary, there is a significant body of literature that describes the typical patterns of hyper-consumerism in the United States even though people do not know where their food comes from. More specifically, they do not have a relationship with farmers, they do not know the farmworkers, and they do not recognize the dangers associated with fertilizers, herbicides, and pesticides. This, in turn, may lead them into making poor nutritional choices regardless of their socioeconomic status. This scenario may also apply to people who chose to live a vegetarian or vegan lifestyle. However, there is an emerging trend of local and organic farming and mindfulness around personal and shared dietary wellness. This trend renews the cultural memories, intergenerational knowledge, traditions, cultural ceremonies and narratives of people from around the world who contribute to living a more sustainable (and healthy) lifestyle in relation to food. I will argue for a socioecological movement that serves to strengthen principles and characteristics for food mindfulness and the implication of creating heuristics or experiential heuristics for mindful eating. This theory is based on my work as an organic market farmer for two years. It mediates the hegemony of neoliberalism and hyper-consumerism and works towards ecojustice and food activism in science education.

Keywords: ecojustice theory; heuristic; mindfulness; organic farming; socioecological character.

Resumo

Em muitas partes do mundo, as pessoas não têm os alimentos necessários para satisfazer suas necessidades básicas. Isto é, eles podem ser forçados a comer apenas o que têm acesso ou o que as circunstâncias provêm. Portanto, a pobreza e a escassez desempenham um papel central nas escolhas diárias que muitos têm de fazer sobre a produção e, provavelmente, são causas subjacentes na decisão de consumir alimentos processados baratos. Na literatura, por outro lado, existe uma produção significativa que descreve os padrões típicos de hiperconsumismo nos Estados Unidos, embora as pessoas não saibam de onde vem sua comida. Mais especificamente, eles não têm relação alguma com os agricultores, eles não conhecem os trabalhadores rurais, e eles não reconhecem os perigos associados ao uso de fertilizantes, herbicidas e pesticidas. Isto, por sua vez, pode levá-los a fazer escolhas nutricionais pobres, independentemente da sua situação socioeconômica. Este cenário pode, também, ser aplicado a pessoas que optaram por viver um estilo de vida vegetariano ou vegano. No entanto, há uma tendência emergente da agricultura local e orgânica e uma maior consciência sobre uma dieta pessoal e compartilhada para o bem-estar. Esta tendência renova as memórias culturais, conhecimentos entre gerações, tradições, cerimônias culturais e narrativas de pessoas de todo o mundo, que contribuem para um estilo de vida mais sustentável (e saudável) em relação aos alimentos. Vou argumentar a favor de um movimento socioecológico que sirva para fortalecer os princípios e as características da preocupação com os alimentos e pelas implicações da criação de heurísticas ou experiências heurísticas para uma alimentação plenamente consciente. Esta teoria baseia-se no trabalho que faço, a dois anos, como agricultor para um mercado orgânico. Ela medeia a hegemonia do neoliberalismo e hiper-consumismo e vai na direção de uma ecojustiça e de um ativismo alimentar na educação científica.

Palavras-chave: Teoria de Ecojustiça; heurística; atenção plena; agricultura orgânica; caráter socioecológico.

Introduction

This paper is the story of a two-year project to grow responsibly nurtured organic vegetables, herbs, fruits, and flowers for an urban farmers' market. It was an incredible experience that we shared with colleagues, friends and family, and one that we'll hopefully never forget. It has shaped our decision-making forever. People wrestle with poverty and scarcity when making decisions about food around the world, even in the United States. They may be forced to eat what they have access to or what their circumstances afford. Farming is hard work and people who have lived on a farm often find it difficult to return once they leave for the city. Farming practices may be associated with oppression and subjugation, or personal family history that deters people from wanting to grow food, garden, or farm. Some people eat a vegetarian or vegan diet, which may be associated with mitigating one's ecological

footprint. Others grow food in a garden, raise animals for meat or live a subsistence way of life. Native American communities (e.g. Alaska Native people) live off the land in many communities around the world. In this paper, I do not promote a particular way of living in relation to food. On the contrary, I am interested in the principles and characteristics that provoke mindful consumption. These characteristics are often elusive in many places globally where people tread lightly on the Earth while balancing the tensions between culture and local ecology.

This paper introduces the idea of *socioecological character*, a term, which can be used to emphasize the ecological influences of sociocultural theory (TOBIN, 2012). Socioecological character has an associated ecological resonance that I also explore here. I draw on my experiences as an organic market farmer for two years in North Georgia, USA, to work towards socioecological principles and characteristics that may contribute towards food mindfulness through science education. I also advocate for the mediation of socioecological influences as a way to mindfully engage youth in action.

Using Issues to Provoke Environmental Discourse

Worldwide the science education curriculum is organized around ecojustice issues and ecological dilemmas (MUELLER; BENTLEY, 2009). I've written about how ecojustice issues and inquiry within a *socioecojustice* framework is embedded in local food issues (MUELLER, 2009a). These issues range from the conventional use of herbicides and pesticides to the health effects on farm workers who work around these chemicals. Socioecological issues are also incorporated frequently in schools to encourage scientific media literacy (O'CONNOR et al., 2013) and other interdisciplinary conversations that hone argumentation skills (Sadler, 2014). Most importantly, socioecological issues in the curriculum are incorporated in children's education because they help youth to think dynamically about information and to evaluate their ethical, political, or scientific positions on controversial topics (ZEIDLER, BERKOWITZ; BENNET, 2014; MUELLER; ZEIDLER, 2010).

Socioecological Character

At the heart of the trend of issues-based curriculum is the opportunity for youth to explore their influences. A person's moral and ethical character is deeply influenced by sociocultural influences they take for granted in their everyday life (TOBIN, 2012). Place-based studies help students to also explore these influences on a deeper level since every issue is always situated in a place and it is interdependent with this place. When people evaluate issues they become attentive to their underlying influences, cultural narratives, or root metaphors that characterize our way of being in society. I've written about how the cultural root metaphors of *individualism*, *patriarchy*, *anthropocentrism*, *consumerism*, and *scientism* influence character in much the same ways that traditional ecological knowledge influence how we think about nature (MUELLER, 2009b). These metaphors are inculcated during particular periods of time and become expressed in the dominant cultural milieu, partly through the popular media but also through our own contradictory character. Deeply embedded cultural metaphors comprise our *socioecological character*, which may be described as the

resonance of sociocultural experience and the environmental conditions of a place. This resonance has been explored by food studies involving mapping to explain how deeply held assumptions influence peoples' relationships between food and places (MARTE, 2007). A similar idea of *memory banking* has been applied in anthropological research with food, seeds and biodiversity (NAZAREA, 1998).

At the macro-societal level, socioecological characteristics provoke some patterns of thinking and predictable actions, which can be metaphorically compared with the idea of an "environmental memory effect" (MUELLER, 2009b). Environmental memory effect is a concept used in applied ecology to describe what happens to a particular environment after it experiences change. For example, coral reefs are sensitive to the warming trends of the climate, and in some cases, they are dying off. Human efforts to reverse these trends may involve our mediation of anthropogenic causes of climate change such as significantly reducing the factory emissions of harmful pollution and greenhouse gases (e.g. methane). But even if all of these anthropogenic causes to climate change suddenly stopped, there would be some lingering effect. A residual of socioecological character works in much the same way.

The ecological sphere tends to be deemphasized or ignored in education, while issues-based trends encourage more holistic character role-playing in order to gain valuable perspectives on problems from other points of view (MUELLER, 2009b). By acknowledging more fully that the ecological sphere is part of this understanding of socioecological character (or the root metaphors) that create the presuppositions of our perspectives, our socioecological characteristics create some opportunities for analyzing *a way of being in relation* (or *mindfulness*). When people's voice and action on an issue are also deemed important, the mediation of socioecological resonance constitutes the basis for moving towards the resolution of a particular problem. Action is a significant part of the mediation of a particular perspective (think, the hegemony of neoliberalism) with some predictable patterns of character. People are also much more likely to be invested in care and commitment for issues if they understand the complexity of interactions involved with their socioecological resonance, including the interpretive domains of thinking and experience but also the environment. Considering the robust roles that people play in global tensions around social and ecological justice through environmental discourse in education, we have a responsibility to help youth evaluate their deeply embedded assumptions and guide them towards more mindful action in relation to the issues they evaluate.

Socioecological Characteristics of Food Mindfulness

Generally accepted ideologies boil down to the hegemony of deeply embedded cultural residual that reinforces certain actions of individuals-in-relation-to-others (THAYER-BACON, 2003; MUELLER; LUTHER, 2014). Consider, for example, consumerism as the notion that it is good to purchase as much stuff as possible. What it means to consume mindfully then (how, why, when, where, etc.) depends a great deal on the *mediated* socioecological resonance of relational beings who shape influence in the market and industry, or reciprocally strengthen their characteristics of mindfulness.

Some of my favorite authors (e.g. Michael Pollan, Barbara Kingsolver, Eric Schlosser) have written extensively about the problems associated with U.S. food. The problems can be characterized by neoliberalism and hyper-consumerism—two root metaphors that work in symphony to emphasize individualism, competition, and the market economy as the highest good. These authors explain how much is spent on food that is typically flown clear around the world and produce that is grown using monoculture practices, harmful environmental toxins, and without clear labeling. Without recognizing how neoliberalism and hyper-consumerism influence our eating habits, we may downplay the “zombie-like” eating patterns that contribute to waste, the suffering and abuse of animals, other peoples’ ailments, and degraded ecosystems. People learn just enough to navigate the “BigBox” grocery, locate deals, and save a dollar on produce that they assume has met safe standards. In a neoliberal world, the argument seems to orbit around the nutritional values of conventionally farmed versus organic foods, which also tends to obscure the issues of overreliance on the market, waste, the unethical ways that animals are treated and harmful conventional farming practices (PALUPI, JAYANEGARA, PLOEGER,; KAHL, 2012).

A Responsibly Nurtured Organic Place

When I entered organic farming, I did so to become part of a counterculture of “back-to-the-landers” (GROSS, 2012) or people interested in nurturing organic food. What began as a way to grow small gardens of produce for my family became a five-acre plot of land dedicated to raising vegetables and fruits for a downtown Atlanta, Georgia USA farmers’ market. For several years prior to living on a farm, I engaged my beginning secondary teachers at the University of Georgia with issues related to organic food and cultural experiences. Subsequently, I devoted an entire course to ecojustice, which incorporated the major issues of food justice and activism. Moving to a farm created the right situation for using ethnomethodological ways to explore a philosophy that had already seeped its way into my “foodie” lifestyle. Although neoliberalism and consumerism were not initially the ideologies I wanted to explore through this work, they quickly became the medium for my philosophical critique.

As part of this research I spent two years learning to farm organically, learning from the local knowledgeable farmers, talking with farm store owners, visiting farms, reading magazines and books, and planting my feet and hands in the soil around me. Likewise, my family sold produce at a metropolitan farmers’ market. We also raised animals for meat. We were intimately involved with this work and, as you might imagine, we kept detailed garden and field plans, seed journals, personal journals, took thousands of digital photos and created social media to illuminate this experience (also see SALAZAR, 2012). (As part of the larger educational sphere that goes beyond schools I consider my family part of this milieu).

It has been more than a year since I lived and worked on an organic farm. Now living in Anchorage (Alaska) I find that my family shares a common influence and ecological resonance that deeply characterizes our food choices.



Figure 1: Homemade Salsa Fresca! This Pico de Gallo is an array of different tomatoes, peppers, onions, Cilantro, Tarragon, Mint, and other herbs from the farm. We never threw away vegetables, herbs, fruits or meat we had grown. Leftovers became part of the compost or pig-feed. © 2012 Mike Mueller

The amalgamation of socioecological characteristics serves to provoke mindfulness at the local supermarket, whether it is the smell of herbs, tomatoes, or the sight of flowers. For example, we might feel the loss of a regional taste in hydroponically or greenhouse grown tomatoes that lack Georgia’s distinctive “soil-clay” geography. The “regionality” of taste was a hallmark of our organic farm. We are also mindful that food choices always come with consequences and that we have a responsibility to select produce wisely. We are mindful that typically produce has been sterilized, fertilized, herbicized and pesticized. Consider the following entry from my journal.

Today's entry: spider in the salad. So often we go out and pick lettuce, beet tops, radish, cilantro, parsley, spinach, and chard to make great salads for dinner. We harvest them above the soil to minimize soil on leaves. We also rinse them and get little bugs off. Tonight I looked down into the sink and saw a large brown crab spider. So often I just eat from the garden not worrying about bugs realizing I'm probably eating a few. I accept it. But would my kids still eat their salad as diligently as they do had they known I found and washed a spider off the greens? How do corporates take care of these "bugs"? (personal journal 4/16/12)

Because our farm was a responsibly nurtured organic place, plants would be eaten right from the vine or stalk and we did not worry about fertilizers, pesticides or herbicides within our bodies when we harvested fruits, vegetables and flowers.



Figure 2: Summer's Broccoli! We never worried about our children eating right from the plant itself. We never worried about visitors, grandparents, or students on the farm and potential harms to them. Whereas many conventional farms are "off-limits" to visitors or farmworkers use gloves and protective gear to harvest their produce. © 2012 Mike Mueller

Principles of Socioecological Character

There are three paramount principles that emerged as part of this philosophy of socioecological characteristics that contribute towards food mindfulness, namely, *polysemic knowledge, embodied change and positionality, and environment condition*. While I describe the farming experience as a counterculture for the purposes of shaping my family's decision-making process involved with food, I do not want to be misunderstood as "taking the high road" with every decision about food. I know that farming is hard work. I realize people are suffering around the world when it comes to food. I know that people make sacrifices everyday to support their families. Even when we worked on the farm, we did not always make the best decisions about our food. I recall once buying a conventionally grown tomato from Wal-Mart on the way home from the farmers' market because we wanted to make tacos for dinner and had sold all of our tomatoes at the farmers' market that week. While it might be argued that I am romanticizing farming or arguing for the perfection of a decision process, I am arguing for the characteristics of balancing socioecological tensions, understood through the lived practice of organic market farming alongside cultural experiences and exposure to intergenerational knowledge and ecological conditions. I'm theorizing the characteristics that influence decision-making over the long-term, which if acknowledged more fully in the curriculum will be a source of mindfulness.

Figure 3: Teddy Bear Sunflowers near Barn. A farm is part of the larger educational milieu that exists outside of schooling. A farm is a place for children to grow up, build forts, play,



characterize ethics, and learn about animals and plants. A farm creates the conditions for inquiry. © 2012 Mike Mueller

Principle A: Polysemic Knowledge

Once a student asked me to explain the term “fresh” within the context of organic market farming and selling produce at a farmers’ market. At the time I explained that fresh is a relational characterization that is embedded in people’s knowledge relationships with farmers and food. *Fresh* is an embodied, relational characteristic (relational way of thinking about thinking) of increasing awareness around the ways that seeds are saved, vegetables are cultivated, the health benefits of obscured greens that many people do not know, and so much more. A responsibly nurtured organic farm has much to do with the renewal of intergenerational knowledges and experiences, narratives, traditions, and plans which account for the future of a place.



Figure 3: “Nonnie” and Summer work together to hand harvest the dried herb Rosemary. Intergenerational knowledge is carried forward through the food preservation. © 2012 Mike Mueller

It is the shards of local history embedded in the soil (pottery, tools and so forth). There are many ways to become literate. We read the Farmers’ Almanac, anecdotal accounts of companion planting, scientific reports, mathematical charts, and planned with the

seasons and lay of the landscape. We learned Appalachian history, planting skills, and Native American knowledge. Working in the farm field takes time, appreciation and the respect or valuation of polysemic knowledge. We studied, worked, and played as a family, cooking and creating healthy meals, and preserving vegetables and fruits. This created intense bonds but also renewed experiences, skills, and traditions. We learned about the physical geography, geology, climate and weather, sunlight, shade, runoff, dry and wet areas for planting, plant disease, and insects. Subsequently, there were clothing and lotion considerations to protect the skin, bodily ailments and limitations, insect bites and stings, and medicinal remedies.



Figure 4: Red Wasp! One of the most painful stings in the United States is produced by the Red Wasp (*Polistes carolina*). When I was stung by this wasp it felt like a jolt of electricity throughout my body. My arm swelled up to the size of an American football for a few days. © 2012 Mike Mueller

Learning occurs everywhere including where we interact with people most at the market. People's tastes shift throughout the seasons. Their aspirations change. But they never miss a market—we often see the same people from week to week. We never miss a farmers' market either, whether rain or sickened by weekly events. Consider the following journal entry:

Wow, the temperature reached 106 degrees Fahrenheit [41 degrees Celsius] at the farmers' market yesterday. After a busy morning, the market became quiet – the “dead” of summer and the heat was hard to bear. We often barter for our weekly supplies of vegetables we need for the family, by either trading with other farmers etc. or buying produce at reduced rates. Some customers come by the stand and want our produce but don't have enough cash to pay. Often we ask them to come back the following week and pay, many who do. This practice is a good way to encourage folks to come back each week and it's the sort of relationship that few places offer in the corporate world. Where could a customer walk away with produce or other items and not pay—or be trusted to pay later? Often a long week of work on the farm and frustration with 3 weeks of dry [weather] in Georgia, the farmers' market almost instantly revitalizes my spirit and desire to create produce so that I can participate in the experience the next week. I loved the “surf” “sublime” music this week at the market! (personal journal 6/30/12)

There is food, cooking, exercise, and music. For many people, this is the closest they will ever get to a farm or the origins of their food. They have very few reasons to leave the city. We bring photo albums and share stories about the farm with our visitors. They share their knowledge and a glimpse of their world with us. The farmers' market is very diverse. People bring their children, dogs, or other pets. One boy and his mom bring a different lizard, insect or other creature they have caught in the park to share with us each week. We interact with people who are students in K-12 schools or universities, who are pregnant, gay, mother, immigrant, and so forth. The farmers' market serves as a gauge about people's attitudes toward food. We are able to document how they use environmental and science knowledge (e.g. scientific studies associated with the nutritional values of organic vegetables). The market regenerates us as much as it does our customers. We see many of the same people each week and the market becomes a place to socialize with people who believe it is an important context for their growth as humans and as a society.



Figure 5: The market serves as a gauge to understand peoples' aspirations, attitudes, and what they crave and know. The market is an important place to learn about people's mindfulness around food and how it plays a role in their decisions regarding food. We never made enough to live off our organic farm, but it was worth every conversation, interaction, and smile. Farming is hard work and I recognize that many farmers cannot leave their fields for the security of another job. © 2012 Mike Mueller

Principle B: Embodied Change and Positionality

Anything worth achieving is characterized by hardships. Farming is no different. There are many hardships we faced as farmers from Fire Ant stings and scars to tearing a fingernail completely off one finger. There is the constant question of whether "this is all worth it?" What I'm describing was the embodied change and positionality that was created and renewed in the day-to-day grind of the project. There were many things that became more difficult without a fingernail and then something else would happen. The truck would need to be repaired or an unexpected insect would take over a particular crop. The weather would dry up or it would get too hot for our flowers. We would plant something in the wrong location. Within the organic farm community, people are willing to share their knowledge or skills to help one another become successful. Although this was not always the case, most farmers were dependent on

one another. There were a few farmers who used fraudulent practices to trick their customers into thinking that a particular crop was in season or that they had grown it regionally. At the end of each market day, the farmers trade with each or barter for things they need to feed their own families. This proved to be a good practice for us so that we did not have to grow everything. We also filled a niche with our flowers when we learned that none of the other farmers had organically nurtured flowers. The flowers were good bartering items.

Many patrons to the farmers' market talked about our flowers and the flowers often attracted butterflies, bees and other insects from the park. People took hundreds of photographs of our produce and flowers throughout the market season. Some people sent their photographs to us but we also found them across the web on Facebook sites and community blogs. Being there in that city farmers' market was as much the advocacy of a position and agency as it was a way to sell healthy produce.

Principle C: Environmental Condition

On an organic farm, there is no end to monitoring the condition of the environment. Consider all of the scientific knowledge needed to responsibly nurture an organic farm well—weather, insects, soil chemistry, seed saving, preservation methods, etc.



Figure 6: The farmers' market manager explains the ways that the city of Atlanta is invested in local and organic produce including an organic education garden that school children visit to learn about organic food, how to garden, and cook. She played a large role in making the organic market movement much more accessible for underrepresented people. © 2012 Mike Mueller

Hopefully you can also see where the environment is harmoniously woven within the previous two principles (i.e., e.g. polysemic knowledge and embodied change). These principles work together to contribute socioecological characteristics for mindfulness around food. Many of these characteristics were also evident for people at the farmers' market. For example, patrons of the farmers' market often mentioned that they wanted flowers because they reminded them of something from their past—that is, their mother may have kept flowers around the house and this particular variety was her favorite. People purchased flowers for cultural events, birthdays, anniversaries, or other celebrations. People purchased produce because they wanted

to experiment with different cooking creations, they were pregnant or had health problems, and they wanted to learn about the nutritional or medicinal values of vegetables and herbs. They bought produce that would attach their children to the “regionality” of Georgia. While we were cultivating our own socioecological character, people who interacted with us were in the midst of creating and renewing their characteristics.

Figure 7: Our son Riley investigates the phenology of flowers, insects, and the relation of these things in harmony. He uses a digital camera, nature journal, and grows a garden to



collect his data. He also worked very hard to help us with the daily chores of the farming life, including the taking care of his siblings.

Figure 9: Morning is a great time to photograph and explore pollinators. While hummingbirds are already “humming,” many bees and wasps have camped out overnight



in flowers remaining motionless until the sun warms them. Here, we saved a swatch of Dill for this Eastern Tiger Swallowtail caterpillar. © 2012 Mike Mueller

Specialness and Ecological Mindfulness

People return to a farmers' market, organic farming as a way of living, or the regionality of organically grown foods because they are special to them. The relationship embedded within this 'specialness' is characteristic of mindfulness.



Figure 10: Our son Noah with his "friend" Zucchini; a very large organic Zucchini. (While I'm writing this paper, he stops by my desk and explains that he remembers his "friend" and misses his friend a lot. This special feeling has been described as biophilia by E.O. Wilson and others.) We gave away hundreds of vegetables, herbs, and flowers to children who saw them as special at our farmers' market. The favorites were "bumpy," yellow squash, cherry tomatoes, and Zinnia's. © 2012 Mike Mueller

Socioecological characteristics, if acknowledged more fully in school and outside, perhaps as part of the popular trend of engaging students in issues-based science curricula, ought to serve to provoke a new generation of youth mindfulness and responsibility (Mueller; Luther, 2014). Polysemic knowledge, embodied change and positionality, and the science and knowledge of environmental condition represent the beginning of a conversation on socioecological characteristics that contributes towards food mindfulness. We might leverage the research needed to holistically decipher how children mediate the resonance of socioecological hegemony. Heuristics provide an interesting possibility for this research because they also serve to encourage youth responsibility. Ultimately, they enhance the capacity of youth to draw more fully on their socioecological character as they evaluate polysemic knowledge, embodied change and positionality, and consider what the environment holds for their future.

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