Published March 30, 2015

Imagination, hospitality, and affection: The unique legacy of food insects?

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Implications

- Current global solutions to food security threaten cultural and biological diversity; the most effective "global" solutions may in fact be specific, varied, and local. Food insects, in particular, provide a rich window through which to understand the human condition in ways that help us deal effectively and sustainably with the "wicked problem" of food security.
- Insects have long been human food in many cultural and ecological contexts. What the Western world can contribute is not so much the commodification and global-scale production of food insects as the empowerment of those for whom insects are a sustainable local food source to maintain their knowledge and continue to utilize them.
- Western negativity around insects and other invertebrates has pervasive effects on global food policy and practice and presents a significant psychological barrier to the success of conversations on sustainable food security.
- To overcome this negative barrier, we need to cultivate a new imagination, practice and accept true hospitality, and develop a deep respect and affection for culturally diverse foodways.

Key words: attitude change, entomophagy, food insects, food security, wicked problems

Introduction

There is an explosion of interest among agriculturalists, nutritionists, and entrepreneurs in food insects for worldwide food security (van Huis, 2013; van Huis et al., 2013). The FAO and the Laboratory of Entomology at Wageningen University in the Netherlands have led the way, most recently with a global conference in Wageningen in the spring of 2014. Hovering over all the proceedings are two existential questions: How is it that the Western dietary pattern has come to be the de facto standard? And, as voiced over a century ago by Vincent Holt (1885), *Why Not Eat Insects?* Why not indeed? We all eat, but most singularly in the Western world, we avoid insect meat.[1] While the question of why is a historical mystery, the more urgent questions around insects as human food are how to move past this avoidance (van Huis, 2013).[2]

doi:10.2527/af.2015-0013

The food security problem that the FAO and others are highlighting is urgent and solvable (Connolly and Phillips-Connolly, 2012; FAO, 2014). We are reminded repeatedly that the global human population is projected to reach 9 billion by 2050 and that the concomitant food needs demand a 70% increase in food production (Makkar et al., 2014). Current production systems are not believed to be capable of meeting that demand; new solutions are required. But less noticed is that global food security constitutes what is known as a "wicked problem" that extends well beyond enhancing agricultural production (Hamann et al., 2011; Misselhorn et al., 2012; Van Latesteijn and Rabbinge, 2012). The issues are complex (messy), involving diverse stakeholders with wide-ranging perspectives, and circular (frequently recurring), not lending themselves to simple solutions (e.g., Wilkinson and Eidinow, 2008; Connolly and Philips-Connolly, 2012). In the era of globalization, many are beginning to recognize the deficiency of monolithic "one world" technical solutions for the challenges of complex, interlinked food systems (e.g., van Bueren et al., 2014; Wolf, 2014; Yates-Doerr, 2014). While increasing the availability and consumption of food insects is necessarily part of the answer, we must delve more

> "Everyone eats rice
> Yet no one knows why"
>
> Ryokan, *Great Fool: Zen Master Ryokan*

[1] Our focus will be on the cultural barriers of peoples of European derivation, what we call in this paper "Western." We also use the words "we" and "our" in this paper to refer to Western people because the authors of this paper are both of Western society and are speaking to a primarily Western audience.

[2] For an exploration of Western exceptionalism and its implications, see Food and Love: A Cultural History of East and West by Jack Goody (1998). For penetrating analyses of this question, without a definitive answer, see Everyone Eats by Anderson (2005), Insects as Food: Why the Western Attitude is Important by DeFoliart (1999), Insects and Human Life by Morris (2004), and Archeological Aspects of Insect Use by Sutton (1995).

[3] The minority status of Western cultural avoidance is unremarkable at one level, for every culture avoids certain edible items (Anderson, 2005). But emotionally in the West, insects are "doubly other," neither objects of moral concern, nor suitable for consumption as are many other animals (Loo and Sellbach, 2013).

deeply, finding uncommon linkages among communities and disciplines. Insects, it turns out, are more than a source of nutritious and environmentally friendly food security; they are surprisingly "good to think with" (Beisel et al., 2013). For everyone[3] eats insects, yet no one knows why.

One of the proposed steps toward food security involves adding various insect and related species to the global diet. Insects as human food are an old story in most of the world, but until recently, this concept has been news to "the West." Indeed, not merely news, but a horrifying, nearly unthinkable option to be adopted only by the primitive or desperate. Despite this, today numerous scientists, organizations, and institutions in the West are turning their attention and considerable resources to this idea. Work on nutritional value, production, preservation, preparation, presentation, and economic opportunities have begun apace.

Is the development of "food insects" a viable, sustainable option? Will it help solve the problems of food security? Before the West uncritically embraces the commodification of insects as yet another natural resource, we suggest taking time to step back. How do Western attitudes—toward food in general and food insects in particular—help or hinder global efforts to ensure food security (van Huis, 2013)? Can attention to insects as food do more than supplement standard protein sources? Can consideration of this option open up new possibilities for sustaining cultural and ecological diversity in a context of hospitality? We argue that food insects are a rich window on the human condition at the beginning of this globalizing century, one that points us toward meaningful strategies to deal with the "wicked problem" of food security. Other voices support our claim that food security must be addressed more holistically—not just scholars in the biological sciences but from the humanities and social sciences as well (Hamann et al., 2011; Ingram, 2011; Misselhorn et al., 2012; van Bueren et al., 2014). We suggest that for true food security, we must go beyond the focus on production and distribution (important as those dimensions are) to engage imagination, hospitality, and even affection.

Imagination

Despite the sudden and recent increase in awareness of insects as human food, the Western imagination remains largely negative with regard to insects and other invertebrates (Kellert, 1993). Even the framing of recent discussions around food insects is negative. The implication is that threats to food security are so serious that we have reached a point of desperation: Is this why we are grasping at these "abominable" creatures as food? The subtext is fear: Fear that there is insufficient food for a rapidly growing global population.[4]

Roasted nsenene in a Ugandan market.

To understand why it matters how we approach insects as human food, we need first to recognize the centrality of food as an expression of identity (e.g., Anderson, 2005). For humans, food has never been *merely* a means for physical survival. Food is an expression of personal and, especially, cultural identity. We imbue our world, including its nonhuman elements, with meaning. When we eat other creatures, we not only consume their flesh, but also their symbolic attributes. As the well-known phrase reminds us, we are what we eat.[5] These meanings of food are not a mere appendix to its role in our physical survival. They permeate our food production and distribution practices as well as our treatment of others. Yet, underlying our global food systems and policies is an implicit understanding that food is primarily a nutrition delivery system, a set of ingredients, molecules, and nutritional categories drawn from merely mechanical physical systems of the natural world and enhanced with human technology. While there are manifest benefits to this reduced perspective on food, there are also associated challenges.

The idea that "we are what we eat" plays out in relation to eating insects in three ways. First, the symbolic characteristics we associate with insects will, by extension, become assigned to the people who eat them (Rozin et al., 1986). Second, by viewing any creature as merely a commodity or resource to be inserted into a mechanical food production and distribution system, we render ourselves, who eat them, into commodities (Beisel et al., 2013). Third, the language and images that we use for insects transform and perpetuate the symbolic values that we attach to insects and to those who consume them. We address each of these in turn.

Insects as alien, threatening, dangerous, and disgusting

A negative attitude toward insects is deeply embedded in Western culture. Each generation teaches the next to fear, avoid, or destroy insect pests. The pest status of a very small number of insect species reinforces these attitudes while we ignore the beauty, wonder, and delight these creatures can also generate. Literature and the popular media use insects as similes or metaphors for undesirable traits, reflecting and intensifying our uneasiness about these species (Berenbaum, 1995; Wood and Looy, 2000). "For centuries," it is said, "the heuristic power of insects has rested in their capacity to provide imaginaries of the social" (Beisel et al., 2013). Although often reviled in the contemporary West, most human cultures have included insects as a valued and appreciated element in their diets and imaginations. If we view insects with such loathing, it will undoubtedly have implications for how we view those who eat them. The edible insect movement is confronting these largely hidden cultural preconceptions.

We have seen evidence that those who do eat insects are quite aware of this Western aversion. One of our colleagues grew up in Eritrea as the son of North American missionaries. He has fond childhood memories of catching

[4] While the numbers "9 billion by 2050" and "70% increase in food production" are frequently cited, the original sources and their accuracy are a matter for debate, but a consideration beyond the scope of this article.

[5] The interdisciplinary literature on food and human identity is vast. One entry point with respect to food insects is through our recent paper (Looy et al., 2014).

and eating locusts with his Eritrean friends. Yet when the family returned to North America for furloughs and fundraising, his parents warned him not to discuss the locust-eating because of the negative responses that would ensue. Students we know who have grown up in cultures that traditionally consume insects are hesitant to tell us about these practices until we demonstrate our interest. Even then they often say, "That's something my parents or grandparents did, or "Only people in the rural villages eat insects, not those in the cities."

Another colleague from the United States has worked for many years in the village of Sanambele in Mali (see detailed story in Looy et al., 2014). It was not until she told the women of the village that she teaches people in Montana to eat insects that they were willing to reveal that traditionally these women ate them as well. Village children once gathered grasshoppers in season to roast and eat, providing a vital source of protein in their diet. That the children no longer engage in this activity is due to the fact that Western agricultural specialists have persuaded the villagers to stop growing food for local use and switch to a cotton cash crop for the global market. Unfortunately that crop requires pesticides, and unintended consequences ensued. Since the Western advisers had not considered grasshoppers a food source, it did not occur to them that the pesticides would make the grasshoppers unsafe. These villagers withheld their insect-eating traditions, and the lack of awareness of food insects on one side and the silence of the villagers on the other has resulted in a recent increase in protein malnutrition among the children of Sanambele. Similar stories have emerged from Japan and Korea (Looy et al., 2014). The loss of knowledge about these food ways is local and particular. If you cannot eat insects, and if you cannot speak of your knowledge of eating them, you will not teach your children to do so. Yet we know that locally-available, sustainable sources of nourishment and cultural identity constitute food security (Wolf, 2014; Yates-Doerr 2014).

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The commodification of insects

A second aspect of the Western imagination that has an impact on edible insects is the general notion that the natural world is merely a stockpile of resources for human use and pleasure. We tend to view nonhuman creatures and even nonliving elements as "stuff," rather than having value and a right to exist according to their own natures. In contrast to most indigenous cultures, we do not see ourselves living in a dynamic, respectful relationship with the nonhuman world, with obligations toward it (Abram, 1996).[6]

Of course, many a Western crop farmer, rancher, or livestock producer is acutely aware of the necessity of respecting the plants or animals and the land they inhabit to sustain their livelihood. Yet those developing food production technologies, and policymakers at national and global scales, seek—and are implicitly expected to seek—global solutions (e.g., see *Neoliberalizing Food Security* in Jarosz, 2009). Place all of this in the context of economic forces, which tend to take priority over more direct measures of environmental and human well-being, and these pressures tend to homogenize the system to produce efficiencies of scale. This tends to mean commodification of food sources rather than development of more local, diverse, and labor-intensive sources and practices. Which general approach is most appropriate for various sorts of potential food insects is at least a question that should be asked (Yates-Doerr, 2014). Certainly we do not wish to dismiss or diminish the concern for the needs underlying the desire for developing insects as a global food source. There are many people working on this idea who are actively seeking sustainable ways to integrate these creatures into diets where appropriate. But our conversations continue to be influenced by the assumption that insects, like other sources of food, are *merely* sources of food. And our negative attitudes continue to "leak" into our discussions and plans.

The emergence of food insects is a disruptive innovation. And re-imagining insects is vital to a truly secure food system. However, that transformation does not necessarily mean that people of the Western world should add insects to an already-abundant diet. What it might mean instead is that we need to assist people in places where food insects are abundant and part of their cultural landscape to find ways to live sustainably with those species—so that the species and the people continue to thrive.[7] We can begin this task by addressing our negative attitudes toward potential food insects. But to enable the flourishing of insect-eating peoples and their food species, we do not simply need to add food insects to a highly industrialized, technological, global nutrient delivery system—the "One World, One Health" approach (Yates-Doerr, 2014). We do need to cultivate our imaginations, transforming the alien and loathsome into creatures worthy of respect in our eyes, and in doing so, learn to treat those who eat these creatures with profound respect.

[6] A number of activists and scholars, especially of indigenous origin, have spoken of the importance of transforming the Western worldview in this regard if we are to find ways to live more sustainably on this planet. For entry into this literature, see Wisdom of the Elders by Knudtson and Suzuki (1992).

[7] By the same token, shifting our approach toward insects as part of the human diet may help us to consider which aspects of the current Western diet that are truly, locally sustainable. Perhaps our demand for foods that cannot grow in our own regions, or for year-round foods rather than only while in season, would diminish if we shifted our view of sustainable eating and food security toward a more local, less global perspective. This could paradoxically provide for a more secure global food supply.

How to speak of insects as food

Language is the means by which these transformations can occur. Insect-related language is, in English, overwhelmingly negative. Terms such as "bug-eyed, spidery, worm, roach, blood sucker, louse, going buggy, locked-up in the bughouse," are just some examples of using insect-related words to describe insanity or contemptuous, inhuman, and therefore deeply negative, traits (Hillman, 1991).

Rice is an interesting example of how language can help us to think differently about foods. Throughout Asia, Latin America, and parts of Africa rice is a dietary staple, but much less so in North America. Here we say we have "rice" whether it is in the fields, in the store, or on our plates. However, for Indonesians, this food plant is *padi* in the fields, *beras* when harvested, and *nasi* on the plate. Similarly, Muslim Indonesians, who do not eat pork, refer to pigs and pig products all as *babi*. But for North Americans, *pigs* live in barns, become *pork* in the slaughterhouse, and are eaten as *bacon, ham, chops,* or *ribs* on the plate. "*This is not merely a matter of vocabulary but of values*. The words we use are a good indication of what we consider important. As our values change, so does our language. When we really need a word, we invent one, we imagine a new relationship" (Richards and O'Brien, 2012, emphasis added). As we come to value insects for the vital roles they play in sustaining life, and as a source of food, our language will necessarily change. And if we want to stimulate this change, we need to discover new ways to speak, and therefore to think and enact insects as a dietary element. Speaking of "insect-based foods" or "edible insects" is certainly better than using the technical term "entomophagy." But we still lack a rich language of familiar and nuanced terms for meat from the taxonomic class Insecta.

Hospitality

Hospitality, once a matter of survival and a way of life, has become for many a mere social formality or a mechanical descriptor for an entire economic sector. But in its ancient form, an expression of our evolution as a complex social species, it is centered around the meal, often in an honored space in which even strangers are treated with welcome, respect, provision, and equality. We are social feeders, and to be human is to eat together (Anderson, 2005). The family meal, the holiday gathering, or the office party inevitably involve food. Eating together is bounded by deep and extensive social custom. Together at table "we" negotiate with "them," and it is at table that we celebrate successful pacts and treaties, business agreements and contracts, and show love and respect. Since "we are what we eat," eating with strangers involves accepting food from the host, thereby becoming what the "other" eats, and by extension, in some small part, becoming *like* the "other." Such exchange requires mutual respect. To even implicitly condemn the food practices and offerings of one's host is deeply offensive and a barrier to building relationships.

The power and importance of food in our social life has, throughout our evolutionary history as a species, been expressed most within the clan or family group. In modern industrial cultures, this occurs most intimately at home, and somewhat less so at work. So it is not surprising to suggest that these will be the last places in the West to embrace edible insects. However, a cultural tipping point may be emerging in other venues, the so-called "third places" of social life: restaurants, specialty shops, and foodie events (Anderson, 2005). These places are now regularly featuring insect fare and are catching the attention of social funding agencies like the Wellcome Trust. Food Salons, the Nordic Food Lab's experimental kitchen (nordicfoodlab.org), pop-up restaurants, and other *engagement events* (Michael, 2012) are creating a new level of conversation in the public. These events transcend the more stylized and ambivalent framings of food insects seen on reality TV and in the horrified disgust of sensational media headlines (Last, 2014). The venerable, educational "Bug Banquet" (Looy and Wood, 2006) is being transcended by mashups of art, music, poetry, and cuisine that allow for deeper levels of engagement with the otherness of insects.

How can we transfer this public engagement with food insects into the intimacy of home and hearth, to enable people to recognize the inhospitable and disrespectful implications of our rejection of insects as food? What does the practice of hospitality look like in the context of international conversations about food security? And is it even relevant among the pressing issues in the globalized food system? We believe that a spirit of hospitality can rebalance the power in these diverse conversations—the actual and perceived hegemony of the West with the actual or perceived neediness of the rest. What would happen if we humbly accept an invitation to the table of those who eat insects and do so with respect and appreciation rather than disparagement? Through such individual practices, we may learn much about what sustainable food security looks like in diverse local regions and find better solutions for ourselves and those we care for as well.

> **"The Western view of land and creatures is largely as commodities. The indigenous view of land is as a community to which each belongs, a community to be used with love and respect."**
>
> Leopold, 1949

Affection

Wendell Berry (2012), in his recent Jefferson lectures, claims that "It all turns on affection." But what does affection have to do with food security? Margaret Visser (2000) reminds us that food is a powerful metaphor for love and sharing, a measure of true delight. It is the binding force of home and culture. It is not unusual for farmers, butchers, and restaurateurs to speak in terms of deep affection for the animals and plants they know so well. "One of the best ways to improve world nutrition," Anderson (2005) says, "is to pick up the best ideas from the thousands of cultures that humanity has developed." In the present context, rather than a homogenizing food-for-the-world approach, why not diversify in locally-respectful ways?

Doing this requires intimate knowledge and, indeed, affection, both for the people and cultures of a particular place, but also for the creatures in that place with which those people live in mutually-sustaining relationship. Hospitality provides welcome and respect among strangers, the preconditions for knowledge and affection.

Knowledge and affection are, for humans, necessarily local and intimate. Science and technology are powerful means by which we can tackle certain problems and gain certain kinds of knowledge. But as Aldo Leopold noted already in the mid-20th century, "The Western view of land and creatures is largely as commodities. The indigenous view of land is as a community to

Snacking on roasted katydids.

which each belongs, a community to be used with love and respect" (Leopold, 1949). And it is the latter view that we need if we are to *care* enough about other peoples, cultures, and creatures with whom we share the planet, and about our ability to live sustainably together. This is because "…people *exploit* what they have merely concluded to be of value, but they *defend* what they love. To defend what we love, we need a particularizing language, for we love what we particularly know. The abstract, "objective," impersonal, dispassionate language of science can, in fact, help us to know certain things, and to know some things with certainty…. But it cannot replace, and it cannot become, the language of familiarity, reverence, and affection by which things of value are ultimately protected" (Berry, 2000, p. 40).

We quite literally are advocating that as Western people awaken to, and seek to embrace, insects as human food, we do so by coming to *love* these creatures—not as commodities, but as creatures, interacting with us in ways that enable us all to thrive. Further, we advocate that we develop an attitude of respect and affection toward the people of other cultural groups who delight in insects as a traditional ingredient in their diets. Together, acts of imagination, hospitality, and affection are showing promise in changing the cultural landscape around eating insects.

Moving Forward

Imagination, hospitality, and affection are ideas that can seem, to those of us trained as scientists, "soft" or "subjective" or "nice to talk about, but…" The language of modern science is one of mechanism, technique, and control. We are both scientists ourselves and fully acknowledge the value of science for increasing our knowledge of the world. However, for sustainability questions like the "wicked" food security problem, we need more than knowledge of mechanisms, more than technological solutions.[8] These questions are questions of human attitudes and behaviors, of what we value and love. To find answers, we need to recognize the limitations of a language based in power and control—the language of science—and the necessity of a language based on love.

Therefore, foundationally the question of insects as human food is, we argue, a question that needs to be answered by bringing together scientists—agriculturalists, nutritionists, etc.—with social scientists, poets, storytellers, and most importantly, people of diverse cultural contexts. For as Wendell Berry says (2012): "…imagination thrives on contact, on tangible connection. For humans to have a responsible relationship to the world, they must imagine their places in it. And it is in affection that we find the possibility of a neighborly, kind, and conserving economy."

What, in practical terms, might this look like for the question of food insects? It is part of the Western cultural identity to value adventurous eating and exploring "ethnic" foods, a happy circumstance when scholars and marketers want to introduce a new food. There is a small, but slowly growing, body of literature that is examining consumer attitudes toward insects as human or animal food (e.g., Caparros Megido et al., 2014; Verbeke, 2015). Marketers, entrepreneurs, and designers are exploring ways of preparing and presenting insects that will be appealing to the Western palate.[9] These strategies for promoting the idea of insects as food follow a similar arc to that recently used to introduce other novel foods to Western markets; foods such as tacos, sushi, and cranberry juice. Common among them are three strategies being employed for presenting edible insects to a wary public. First are the various initiatives transforming insect tissue into a less readily recognizable form—insect flour, ground meat insect burgers, or even insect cell tissue culture. This was a successful strategy, for instance, with soy-based products in North America, and much media hype and investor attention surrounded a McGill University business school team that won the $1 million Hult social innovation prize for a plan to develop insect flour (Rubin, 2013). A second strategy is to present the insect qua insect, emphasizing the qualities of taste, beauty, and presentation, most often in a restaurant setting. The various insect cookbooks frequently employ this approach with attractive photo layouts and variations on recipes well known to the public. A final strategy is the creation of a culture of *haute cuisine* (Strong, 2011), beginning with foodies and other cultural influencers. This is the putative route of sushi from rejection as "raw fish" in the 1960s to power culture and epicure delight in the 1970s and 1980s, to a fixture in virtually every supermarket across North America today. The creation of high cuisine is a common new food route throughout history, and edible insects are clearly following that pathway, as well as the others.

The adoption of marginal foods is a complex cultural process full of contingency and surprise. The challenges around convincing a Western audience to embrace entomophagy are nearly as daunting as mastering this unappetizing technical term! But some factors in this desirable and difficult transformation are clear. First, education and moral suasion have pride of place, with entomologists being the early adopters of this approach. But as climate change advocates have discovered, these rational arguments will only move a small portion of democratic populations (Hulme, 2009). Complex problems require multifaceted approaches. A second key to placing insects on the menu is simple availability. Markets must supply wholesome, food-grade insects. Finally, we need motivation to change our foodways, and concomitant new practices to change deeply held attitudes. Motivation is key—motivation to transform our imaginations to think about insects in radically new ways, to practice and especially to accept true hospitality across cultural boundaries, and to develop a deep respect and affection for culturally diverse foodways and the creatures that participate in them.

[8] The respective roles of the academic disciplines are a rich subject. Mike Michael's (2012) "What Are We Busy Doing?" Engaging the Idiot is one entry point into the dialogue relevant to insects and food security.

[9] There are numerous examples of this rapidly emerging economic sector in van Huis et al. (2013).

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About the Authors

Dr. Heather Looy's research interests relate to two basic elements of human experience: food and sex. Specifically, she studies food preferences and attitudes and the biopsychology of human sexuality and gender. These topics are linked by her interest in emotions (especially disgust) and moral judgment. How we treat others, deal with controversial issues, yet maintain flourishing communities, are affected by the ways in which we use emotions and knowledge to express our identity and values. In this context, with Dr. John Wood, she examines attitudes toward food insects and the implications of those attitudes for food security.

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Dr. John Wood's research interests lie in urban ecology, campus sustainability, and attitudes around edible insects. He has studied the behavior of white-tailed jackrabbits and their population fluctuations in Edmonton. And he has published on university campus land use and sustainability practices. For the last 15 years, together with Dr. Heather Looy, he has explored how new food adoption practices are changing one aspect of Western exceptionalism—our cultural blind spot toward food insects.

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