



# Pawpaws, temporal embeddedness, and unruly ecologies

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## ABSTRACT

In this paper, I trace a political ecology of pawpaws, a fruit indigenous to the Southeastern United States, to argue that identifying unruly, ecological situations-what I call unruly ecologies- helps scholars reorient their research to focus on moments of possibility for more sustainable and just futures. As critical scholars like Anna Tsing have demonstrated, dominant visions of ‘how the world works’ are neither sustainable or just. I argue that Tsing’s methodology allows for a better understanding of the eco-social relations that are found within our food systems. While I am concerned with global food systems broadly, in taking the pawpaw as my point of entry into one of many complex political ecologies of the modern world, I situate myself regionally in both the Rust Belt and Appalachian Regions and highlight everyday encounters as sites of possibility. In an effort to take up Tsing’s interweaving of everyday experiences with broader eco-social theorizing, I use my own encounters with pawpaws to think about eco-social processes more broadly. Finally, I consider the work of Andreas Malm and Maria Puig de la Bellacasa, in relation to the seasonal temporality that, I argue, is an important point of focus for understanding the significance of the pawpaw’s unruliness in the modern world and the space that pawpaws make for thinking about our everyday orientations toward more eco-socially sustainable and just practices and interactions.

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I stood over the kitchen counter, two hours into processing this year's haul of pawpaws, thinking to myself, "this is taking *so much time*." I had other things to do. Things that, in some ways, felt more important, which made pawpaw processing feel like a frivolous way to spend my time. I looked down at my phone to see a text: "How goes the processing?" "Slow," I responded. My shirt and counter were covered in pungent pulp, and a pile of discarded skins and seeds was growing bigger and bigger next to me. But I was unable to pull myself away, other than to take a break to give my hands a short rest, otherwise the pawpaws would overripen, relegating them to the compost pile out back. This was my second year, now, where I entered into the late-September-October pawpaw harvest. This was the second time I had driven out to the same pawpaw patch, which was in a field along a creek in southwest Virginia. This was the second time I had dedicated what felt like far too many hours to baking pawpaw bread and portioning out servings of the pulp to freeze for *future* breads.

I grew up in rural, southwestern Ohio, on the fringe of what is considered to be the Appalachian Corridor and well within the growing range of the pawpaw. Yet, I never encountered pawpaws during my childhood and I had lived in southwest Virginia for three years before I was introduced to the fruit and this particular patch of land where they grow so prolifically. I had hiked the trail that skirts the edge of this patch countless times during my first three years in the state before I happened upon a friend one day who was gathering baskets full of the fruit. I had not yet trained my eyes to identify the pawpaw tree amidst the dense greenery of this region's forest or my nose to its pungent odor. The discovery of the large, strange fruit reoriented me to my environmental surroundings in a significant way.

Take your hand and make a fist. This is roughly the size of a pawpaw (they are quite variable in size). It is the largest edible fruit native to the United States, and can be found all along the east coast – from Florida to Maine – and as far west as Nebraska. I always smell pawpaws before I see them, as their fragrance is sweet and reminiscent of bubble-gum. Their skin is similar to the skin of a mango, but more fragile; the pulp inside is smooth, with varying creamy yellow tones. The flavor of the pawpaw is unique. To me, it tastes like a fusion of lychee, papaya, and banana. Pawpaws have a similar nutritional content to bananas, apples, and oranges, as they have a considerable amount of Vitamin C, but have higher levels of protein and fat content. Perhaps most importantly, pawpaws make a damn good bread and are the main feature of community events that take place in the Fall throughout Ohio, West Virginia, and Virginia featuring the fruit's history and flavor.

How do we learn to pay attention to certain things and not others? This paper is an exploration of this question. I want to suggest that this line of questioning reveals a morphological character of reality that is frequently bracketed in favor of a homogenous, 'modern' existence that is predictable, governable and, though hegemonic in many respects, a distinctly *singular* take on human experience. Modernity, after all, is distinctly capitalist, in which human and ecological relations are reduced to transactional exchanges driven by profit. In many ways, the management of time as a governing feature of life, broadly speaking, is key in understanding the functioning of global capitalism and its local manifestations.<sup>1</sup> There are many ways to consider the contours of the current moment in planetary existence. The one I choose to focus on here is time and temporality, which I find to be a useful framing for understanding the many, complex, environmental issues we face collectively. While some scholars take to the framing of the "Anthropocene" to describe the current epoch in geological time, I want to think more distinctly in terms of temporality.<sup>2</sup> In doing so, I follow Andreas Malm who writes about the broad contours of global climate change:

Climate change is a messy mix-up of time scales. The fundamental variables of the process – the nature of fossil fuels, the economies based on them, the societies addicted to them, the consequences of their combustion – operate over seemingly unrelated temporal spans, all refracted in the moving, elusive present of a warming

1 Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. (Verso Books) 2016, Apple Books.

2 For more on the Anthropocene see Julia Adeney Thomas, Mark Williams, Jan Zalasiewicz. *The Anthropocene: A Multidisciplinary Approach*, 1<sup>st</sup> ed. (Polity Press) 2020.

world; in an elevated sense of the term, every *conjuncture* now combines relics and arrows, loops and postponements that stretch from the deepest past to the most distant future, via a now that is non-contemporaneous with itself. Ours, if anything, is an epoch of diachronicity.<sup>3</sup>

Thinking through diachronicity and the non-contemporaneousness of the current moment is a distinctly temporal analysis of planetary relations. I argue that thinking temporally allows for a complex understanding of the various drivers of climate change and ecological destruction. It also allows for me to better understand my discomfort and self-consciousness over *taking the time* to process pawpaws once a year. In thinking through the temporality and lifecycle of the pawpaw, I enter a space of possible reorientation *because* of the shift in temporality that pawpaw processing requires. I argue this leads to a shift in perspective that might allow for a more complex understandings of the relationship between society and nature and, thus, a better idea of how to consider ecological and social change in the current moment.

In this analysis, I draw on theories and methods in political ecology, in part pulling from Anna Tsing's *Mushroom at the End of the World*. Tsing traces the political economy of matsutake mushrooms in the Pacific Northwest of the United States.<sup>4</sup> Tsing offers a useful roadmap for *doing* political ecology by tracing the global economic and political contours that influence the economic exchanges of matsutake mushrooms and by practicing what she calls "the arts of noticing."<sup>5</sup> Arts of noticing require paying attention to "the terrain [the anthropo-] refuses to acknowledge."<sup>6</sup> Thus, the economic exchanges mapped out by Tsing are shaped by global politics and capitalism, especially capitalism's ruins, but these exchanges are also attuned to the cycles, rhythms, and ecologies of matsutake and the histories, values, and needs of those with the knowledge to find, harvest, and exchange them. Importantly, Tsing does not just identify the human systems and behaviors, but their interactions within and in response to broader ecological relations.<sup>7</sup> Following Tsing, I argue that a political ecology which is focused on temporality helps to home in on entanglements and relations, and allows for one to do work within social, ecological, and economic relations that give shape to the modern world.<sup>8</sup> For Tsing, this is an exercise in collaborative survival in precarious times.<sup>9</sup> In a similar line of reasoning, though perhaps more open ended, I argue that in mapping out unexpected encounters with organisms, beings, or things that re-orient us somehow, we might better understand not only the complex eco-social issues we face, but the moments of possibility or of change toward more sustainable and just ways of organizing both socially, politically, and economically.<sup>10</sup>

Political ecology is particularly useful in its rather pragmatic acceptance of change within systems, meaning that identifying what exactly *is* sustainable or just will always be situated in social, political, and ecological context. In this paper, I use a rather phenomenological political ecology framework as the basis for continuing to understand the relationship between 'society' and the 'environment' through the way food systems have developed globally and manifested in the everyday.<sup>11</sup> While I am concerned with global food systems broadly, in taking

3 Malm, *Fossil Capital*, p. 22 Apple Books.

4 Anna Tsing, *Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, (Princeton: Princeton University Press), 2010.

5 Tsing, *Mushroom at the End of the World*, p. 17.

6 Ibid., p. 20.

7 Ibid.

8 A political ecology focused on temporality requires a focus on, to use Malm's term, diachronicity, or the relation of things and happenings over and across times.

9 Tsing, *Mushroom at the End of the World*, p. 20.

10 In my use of 'sustainable' I am intentionally vague. Sustainability, like other descriptive terms meant to denote more ecologically and socially responsible and regenerative practices, has been taken up in many ways. There is not one 'catch-all' definition to 'sustainability' or even 'just' if one follows, like I do, arguments for a complex, dynamic reality. Sustainability, and words like it, are deeply contextual. In other words, what is 'sustainable' or 'just' in one situation will likely not be in another. It is a principle that must be re-evaluated and, if necessary, overhauled to fit the times.

11 In my use of 'phenomenological' I am conveying that perception and experience are fundamental to the political ecology I am exploring in this work. This is the basis for my use of the term 'encounter' throughout this paper to describe my experiences with pawpaws. I use 'encounter' denotes both experience and perception of that experience. For more on the phenomenology of perception see Maurice Merleau-Ponty, *Phenomenology of Perception* (Routledge, 1<sup>st</sup> ed) 2013.

the pawpaw as my point of entry into one of many complex political ecologies of the modern world, I situate myself regionally in both the Rust Belt and Appalachian Regions. In an effort to take up Tsing's interweaving of everyday experiences with broader eco-social theorizing, I use my own encounters with pawpaws to think about eco-social processes more broadly. I also turn to the work of Andreas Malm and Maria Puig de la Bellacasa to explore a temporal understanding of the pawpaw. The temporality of the pawpaw, I argue, is an important point of focus for understanding the significance of the pawpaw's unruliness in the modern world and the space that pawpaws make for thinking about our everyday orientations toward more eco-socially sustainable and just practices and interactions.

Unruliness matters. When considering systems on a global scale, research must acknowledge the homogenizing tendencies of a globalized world. This is not to say that the world *is* homogenous, but scholars across disciplines have pointed to homogenization as something that makes reality more governable, understandable, and profitable through the process of making things more similar. The concept of homogenization has been taken up by cultural theorists concerned about globalization, urban planners studying urbanization and suburbanization, and scholars in food studies concerned with practices of monocropping, all of which point toward a tendency to render the world as uniform and simple, thus governable.<sup>12</sup> I consider unruliness as a means of confronting tendencies toward homogenization.

But what *is* unruliness? What does it mean to be unruly? William Beinart writes, there is no one definition to 'unruly' but unruly environments might be thought of as "spaces and processes at the edges of control of states, power holders, and human settlements."<sup>13</sup> Feminist scholars Rawwida Baksh and Wendy Harcourt point to unruliness as a political strategy, where a refusal to conform, in other words a resistance to established norms and boundaries, constitutes a way of pushing back against established power.<sup>14</sup> Following these definitions, I argue that pointing out moments of disruption or disturbance – these being indications of unruliness – orients us toward encounters that might tell us something about resistance to hegemonic power and point us to other possibilities. If the status quo of economic and political functioning is subject to critique (which it is for myself and many of the scholars I've cited in this section), unruliness definitely matters. In sitting within eco-social complexity and change, a political ecological framework allows for one to perhaps identify, as Peter Taylor writes:

...situations that do not have clearly defined boundaries, coherent internal dynamics, or simply mediated relations with their external context. Such *unruly complexity*, as [Taylor] call[s] it, arises whenever there is *ongoing change in the structure* of situations that have built up over time from *heterogeneous components* and are *embedded or situated* within wider dynamics.<sup>15</sup>

While Taylor uses unruly complexity instead of unruly ecologies, his definition speaks to my understanding of unruly ecologies. I prefer unruly ecologies as the use of 'ecologies' offers a more lively and relational perspective than 'complexity.' Taylor argues that these unruly situations are significant in a threefold sense: 1) in eco-social change, 2) in what counts as knowledge, 3) in guiding ecological research by linking "knowledge-making, interpretation, and engagement in social change."<sup>16</sup> Thus, in this exploration of pawpaws, I demonstrate how identifying unruly, ecological situations – what I call unruly ecologies – helps scholars reorient their research to focus on moments of possibility for more sustainable and just futures. Unruliness, after all, suggests the existence of boundaries, norms, and governance through the pushing back against these very features of social and ecological life. As scholars occupying

12 Max Horkheimer and Theodor Adorno, *Dialectic of Enlightenment: Philosophical Fragments*, (Stanford: Stanford University Press), 2002; Howard Koval, "Homogenization of culture in capitalist society," *Popular Music and Society*, 12:1, 1–16; Paul W. Brown, Lisa A. Schulte, "Agricultural landscape change (1937–2002) in three townships in Iowa, USA, *Landscape and Urban Planning*, 100:3 (2012), 202–212; Peter M. Groffman, et al. "Ecological homogenization of urban USA," *Frontiers in Ecology and the Environment*, 12:1 (2014) 74–81.

13 William Beinart, "Reflecting on Unruliness" in *Unruly Environments*, Siddhartha Krishnan, Christopher L. Pastore, Samuel Temple, eds.

14 Rawwida Baksh, Wendy Harcourt, "Introduction: Rethinking Knowledge, Power, and Social Change," *The Oxford Handbook of Transnational Feminist Movements*. (Oxford University Press) 2015, p. 26.

15 Peter J. Taylor, *Unruly Complexity: Ecology, Interpretation, Engagement* (Chicago: University of Chicago Press) 2005, p. xiii.

16 Taylor, *Unruly Complexity*, p. xiii.

numerous critical positions have clearly demonstrated, dominant visions of ‘how the world works’ and how it ‘ought’ to be tends toward extractive practices, of both land and labor, which are drivers of ecological and social harm and injustice. And while ‘unruliness’ can be a disposition taken up by humans, either individually or in community, my exploration of pawpaws as unruly allows me to extend and think through how non-humans might also be unruly and thus, an important point of focus within scholarship that studies eco-social relations.

## EMBEDDED TEMPORALITY

Scholars, Buddhist thinkers, and novelists (among many others) have located time and temporality as central to human experience.<sup>17</sup> The way we live within time directs our attention to certain things and away from others. Temporality is embedded, by which I mean there is a distinct mass or material quality to time and temporality. Andreas Malm writes, “Ours is, if anything, an epoch of diachronicity.”<sup>18</sup> While Malm analyzes the development of energy, not food, his work highlights the way capitalism forefronts certain timescapes—flows and rhythms—of eco-social work and the importance of temporality in understanding our current political and economic systems. Malm demonstrates that certain types of energy (i.e., a river mill) are “determined by particular conditions in space and time.”<sup>19</sup> As Malm argues that coal, which is *not* beholden to the conditions (space and time) under which it was created, made the general rhythms of capitalism possible. In other words, to have a society structured around unfettered growth and the maximization of profit, necessitates the control of energy. On this, Malm is worth quoting at length. Malm writes:

The flow [wind and water sources] was subject to the temporal fluctuations in the weather. One day the wind might be still, the next day a thunderous storm could blow in; water could freeze, dry out, overflow or run at the average height of the stream, all depending on the season of the year and the weather of the day or even hour. In short, the flow was conditioned *in space* by its circulation through the landscape and *in time* by its integration in weather cycles...The flow was in no way exhausted or sapped through use in manufacturing. A windmill or a waterwheel caused no reduction in the supplies of either fuel: barring some fundamental change in climate or restructuring of the landscape, wind and water were bound to return in full force no matter how many factories they impelled.<sup>20</sup>

For Malm, flow of energy is theorized in contrast to animate power, which is simply the “power of muscles to put things in motion.”<sup>21</sup> Animate power is regulated by the consumption of food and nutrients, rest, and sleep, instead of weather patterns. It is also a mobile form of power, as animals and humans can move around their landscape. Importantly, this form of power is beholden to the individual’s will.<sup>22</sup>

Malm contrasts the qualities of waterpower to the stock of energy or fossil fuel. The characteristic that makes fossil fuel, particularly coal, a key force in the rise of capitalism, is that it is an energy source that both “exists outside of the landscape” and “outside of time.”<sup>23</sup> In other words, coal is an energy “source in itself.”<sup>24</sup> As Malm argues, only coal, which is *not* beholden to the conditions (space and time) under which it was created, made the general rhythms of capitalism possible (read: the grind, the hustle). In other words, to have a society

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17 See Ruth Ozeki, *A Tale for the Time Being* (USA, Penguin House) 2013; Martin Heidegger, *Being and Time*, (New York; Harper Perennial), 2008; Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. (Verso Books) 2016; Maria Puig de la Bellacasa, “Making time for soil: technoscientific futurity and the pace of care,” *Social Studies of Science*. (2015); Jay Lemke, “Across the Scales of Time: Artifacts, Activities, and Meanings in Ecosocial Systems.” *Mind, Culture, and Activity*. Vol 7, No. 4. (2000), p. 273–290.

18 Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. (New York: Verso Press), 2016. p. 21, Apple Books.

19 Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*, (Verso Books), 2016. p. 66, Apple Books

20 Ibid., p. 68–69.

21 Ibid., p. 70.

22 Ibid., p. 71.

23 Ibid., p. 72.

24 Ibid., p. 72.

structured around unfettered growth and the maximization of profit, it is necessary to be able to first be able to control the production of energy. Thus, when Malm writes, “Ours is, if anything, an epoch of diachronicity” he is commenting on the ways in which current eco-social orderings and ways of doing things “operate over seemingly unrelated temporal spans,” which he argues, is at the heart of global warming, intensifying environmental issues, and struggles to envision a flourishing future on this planet.<sup>25</sup>

Bellacasa also focuses on temporalities in her analysis of declining soil health. Bellacasa explores how time constitutes a fundamental feature of lived experiences across various scales, arguing that reorienting to cycles of soil regeneration promote practices of care, and “draws attention to glimpses of alternative, livable relationalities.”<sup>26</sup> Bellacasa, like Malm, describes the various timescapes that can be used to better understand the complexities of current eco-social existence. She describes the timescape of technoscientific futurity, which operates in favor of narratives of progress and modernity, and which conceptualizes society as advancing along a linear path towards progress and growth. In this sense, the future is cast in an unquestioningly positive light, whereas the past becomes a marker for “development delay.”<sup>27</sup> While this narrative, in many ways, seems to break down in the face of climate change and predicted displacements, deaths, and collapse of infrastructure, the legacies linger in framing of problems and solutions. I encounter this each time my students and I discuss what the best solutions for climate change are in class. Green technologies and green consumption are unfailingly the most proposed solutions. Remove climate change from the equation, and assumptions of progress and modernity become even clearer. Technoscientific futurity is the timescape that is central to European discourses on politics, societies and environments across the globe. As such, this framing orients practices that forefront innovation, production, invention, and novelty with the objective of inventing our way out of climate disaster.

There are two important points to be made in reading Malm and Bellacasa alongside each other. First, that time and space are important to understand any sort of ordering of the world (like capitalism). Second, that there are both conceptual/ideological and material features to temporality, meaning they are embedded and thus our material (both social and ecological) surroundings work to orient us in both space and time. Thus, if we (generally speaking) are concerned about eco-social relations on this planet, I argue that we can think through flows of time across scales and spaces to better understand not only these ongoing conflicts but also see spaces of possibility. Here, I turn to my encounters with the pawpaw to explore how temporal embeddedness affects our everyday encounters.

## UNRULY ECOLOGIES

I brought some ripe pawpaws to my class last Fall to show my students. Holding the small greenish-black fruits up in the air, I asked, “how many of you know what these are?” I handed the artifacts to two students sitting up front and told them to examine the fruit, in particular to smell the fruit, and then pass them along. Three of the twenty or so students in the room raised their hands, “aren’t those...pawpaws?” “Yes!” I said, “Exactly! And where are they found?” Silence. “*Everywhere*,” I emphasized, sweeping my hands widely in front of me. This was an exaggeration, of course, and I proceeded to demarcate the growing zones of the pawpaw more specifically, but my students got my point. I told them about the massive number of pawpaws I had encountered just days before which were less than 30 miles away and noted the existence of patches even closer to campus. I continued, “Ok, so if they are so prolific and so wide ranging, why don’t you know what they are? Why have you never heard of pawpaws before? *Especiall*y since many of you, like me, are from this region...” I asked the remainder of the students. Shrugs all around. Confused stares. My answer? “Capitalism!”

25 Ibid., p. 21.

26 Maria Puig de la Bellacasa, “Making time for soil: technoscientific futurity and the pace of care,” *Social Studies of Science*. (2015), p. 2.

27 Ibid., p. 3.



In class that day, we were talking about diversified economies, a feminist concept derived from the work of J.K. Gibson-Graham and notably expanded by Katharine McKinnon.<sup>28</sup> McKinnon states, “It is only in modern times that ‘the economy’ started to be described as a closed system, operating according to internal laws of the kind referred to every day in financial journalism: laws of supply and demand, the ‘need’ for competition under the free market and prosperity founded on growth.”<sup>29</sup> This conceptualization of the economy is homogenizing or flattening in its appeal to certain logics, times, and spaces that are most profitable or economically viable. Thus, economic practices like bartering, subsistence farming, and welfare programs are considered fundamentally contrary to capitalism’s viability.<sup>30</sup> Many scholars and activists have argued that this is not the case, however, with many millions, perhaps billions, of people (past, current, and future) existing on the basis of these alternatives. I think of the pawpaw as a point of disruption which, for the purposes of this paper, signifies a moment when one’s way of orienting within the world shifts significantly. It disrupted my way of thinking about what I knew about the landscape around me. The pawpaw is abundantly available, can be consumed immediately, is rich in nutrients, odor, and bounty, yet I was previously unaware of its existence. Likewise, the existence of the pawpaw was unfamiliar to most of my students.<sup>31</sup>

Of course, someone noticing a pawpaw tree and its seasonal rhythms of fruiting and ripening is contingent on much more than just capitalism. But it also does have to do with capitalism. As demonstrated, social, political, and economic systems frame our encounters in a temporal as well as spatial sense. I consider my discomfort with pawpaw processing to be exemplary of this—the idea that I was *wasting* a lot of time during the tedious processing. There is a specific pressure to forgo processing in favor of time and labor efficiency. But what else is forgone when efficiency reigns? Social, political, and economic systems frame human relations. These relations are the means by which we learn to ascribe value to things, places, and people, and thus direct how we interact with the world around us. It is through our relations to the world around us—both human and nonhuman—that we are oriented to space and time in particular ways. So, the pawpaw not only is a point of individual disruption (for me), but it is also a point of disruption in hegemonic (read: capitalist) understandings of time, space, and value.

Of course, pawpaws do not exist outside of capitalism. This is not an inside/outside binary that I want to describe. This is why I use the term ‘unruly’ as it suggests an existence within but also a pushing back against or an unsettling of certain rules, norms, or standards. In its unruliness, the pawpaw prompted a reorientation for me which exposed both the system of capitalism at work (and how I am deeply oriented to capitalist spaces and times) *and something else at work*. It is that something else that I turn to now in an effort to tease out the possibilities offered by pawpaw encounters and other encounters of unruliness as they may emerge.

Our perception of the world affects our actions and understandings. Thus, I argue that re-orienting oneself can perhaps open up new possibilities for creating meaningful change. Or, even for relocating meaning in a world that is so often framed by competitiveness, violence, concreteness, and profit. I suppose what I am trying to say is that there are encounters with unruly ecologies that I consider to be locations of possibility for focusing our framing on care, ephemerality, and eco-social respect (to name a few characteristics that are not valued within our current capitalist system). The pawpaw is an example of one such moment of unruliness.

Pawpaws are unknown to many because they do not feature in the global capitalist food system, even though they are prolific, wide-ranging, and nutrient dense. Many individuals and communities know of their existence, and they do make an appearance in seasonal market offerings like other wild edibles such as ramps, morels, and fiddleheads.<sup>32</sup> Yet, pawpaws remain

28 J-K Gibson-Graham. “Building community economies: Women and the politics of place.” In *Women and the Politics of Place*, edited by W. Harcourt and A Escobar. (Bloomfield: Kumarian Press) 2005, 130–157. J.K Gibson-Graham.. *The End of Capitalism (As We Knew It)*. (Minneapolis: University of Minnesota Press) 1996.

29 Katharine McKinnon, “The Diverse Economy: Feminism, Capitalocentrism, and Postcapitalist Futures.” In Elias J. Roberts A (Ed.), *Handbook on the International Political Economy of Gender*. (Cheltenham: Edward Elgar). p. 1.

30 McKinnon, “The Diverse Economy,” p. 2.

31 It’s worth noting here that the majority of my classes are made up of students from Virginia or neighboring states.

32 Ramps (*allium triocum*) are a type of wild onion or garlic native to the United States, found widely in the Appalachian Region. Morels, or *morchella*, are a type of transcontinental wild edible mushroom, sought after for their distinct nutty flavor. Fiddlehead is a general name for a young fern (seven of which are popularly eaten) that is harvested before it has unfurled into the standard fern frond one might be accustomed to seeing.

embedded within space and time in a specific way because they cannot be transported far distances due to their fragile skin and short shelf life. According to a fact sheet compiled by Clemson Cooperative Extension, pawpaws grow in twenty-five U.S. states across USDA Zones 5 to 8.<sup>33</sup> Yet for their range and their notable lack of disease or pest threats, there are several unruly aspects of pawpaws. By this, I mean the aspects of the organism that make it difficult to incorporate into capitalist food systems as they are difficult to cultivate and to commodify to the same extent that other food goods are. They do not quite fit within the logics of efficiency and profit maximization that are sought after in a capitalist food system. They are unruly according to the current food systems demands; thus, they remain on the fringes—shaped by but resistant to global food markets.

These unruly characteristics have to do with both the sociality and rootedness of the organism and its temporal embeddedness. The pawpaw to be a distinctly unruly outgrowth—it forms a collective of clones rather than an individual—and is deeply rooted.<sup>34</sup> Individual trees are difficult to transplant as the plant has an impressively long taproot, which complicates efforts to transplant due to risk of damage.<sup>35</sup> In addition, patches are most often comprised of rootsucks, meaning the seemingly separate organisms above ground are part of one original tree.<sup>36</sup> This makes fertilization and fruiting difficult in some cases, as a pawpaw tree needs different genetic material for fruit to set.<sup>37</sup> Yet, pawpaws are communal in that they provoke a community sharing that is rather remarkable. In his book on pawpaws, Moore recounts his conversation with Neal Peterson, aka Johnny Pawpawseed. He quotes Neal as saying, “people had been in the woods for centuries, and since pawpaws are long-lived, particularly as a patch, the reputation spreads and locally people tell one another, and a certain patch is well known as being really good.”<sup>38</sup> This notion of word-of-mouth knowledge exemplifies a relational quality to this food that is worth noting.

The regional, seasonal festivals and market offerings that emerge every year in September and October in celebration of this fruit are a tribute to both its abundance and ephemerality. The unique flavor of the pawpaw is the catalyst for community events like the Annual Ohio Pawpaw Festival, North Carolina Pawpaw Festival, and the Pawpaw Festival of York County Pennsylvania bring individuals together to share recipes, eat, display art, and generally highlight the long history of this food source. In other words, I am not the only one who enters into the late summer, early fall timescape of the pawpaw, but it is just that—the timescape of the pawpaw, beholden to its and embedded within its seasonal rhythms.

It is, in part, they pawpaws seasonal rhythms that make it unruly within the global, capitalist food system, which tends to favor non-perishables that have a long shelf-life or perishables that are easily transported, available for most of the year, and can be stored or processed easily. Pawpaws fall from the tree when they are perfectly ripe, which is when flavor is best. The fruits are tender and susceptible to bruising and their shelf-life is a short three to five days. Heating the custard-like pulp (say to make a pawpaw jam or jelly or custard) changes the flavor significantly.<sup>39</sup> In these ways, pawpaws thwart preservation, other than by freezing the pulp. It is these features—their rootsucks and communal nature, their delicate skin, heat sensitivity, and short shelf-life—that give the pawpaw an unruly disposition under capitalism’s privileging of certain temporalities, rhythms, and values. In this way, pawpaws are a point of (re)orientation that makes space for eco-social interactions that do not quite fit into capitalist rationalities and logics.

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33 James H. Blake, “PawPaw,” *Home & Garden Information Center* at Clemson Cooperative Extension. January 28, 2022.

34 Unruly by the standards of easily cultivated organisms.

35 Andrew Moore, *Pawpaw: In Search of America’s Forgotten Fruit*, 1<sup>st</sup> ed.. (Chelsea Green Publishing, 2015) p. 177, Apple Books.

36 Guy K. Ames, “Pawpaw- A ‘Tropical’ Fruit for Temperate Climates,” *Cornell Small Farms Program*. January 8, 2018.

37 Moore, *Pawpaw*, p. 20.

38 Moore, *Pawpaw*, p. 53

39 I have attempted pawpaw custard before. The result was an unpleasant, bitter, pulp. This information is confirmed by Sara Bir, *The Fruit Forager’s Companion: Ferments, Desserts, Main Dishes, and More from Your Neighborhood and Beyond*. (Chelsea Green Publishing. 2018), 245.



In these various ways that individuals and communities encounter the pawpaw, there is some sort of possibility. This is why I use the term ‘reorient’ to describe what happens when we encounter something that shifts how we perceive the world. Included in one’s perception of the world are the possibilities the future might hold. Tsing describes her work as “not a critique of the dreams of modernization and progress that offered a vision of stability in the twentieth century; many analysts before me have dissected those dreams.”<sup>40</sup> Rather, Tsing frames her work as an “imaginative challenge of living without those handrails, which once made us think we knew, collectively where we were going.” She writes, “If we open ourselves to their fungal attractions, matsutake can catapult us into the curiosity that seems to me the first requirement of collaborative survival in precarious times.”<sup>41</sup> Perhaps we might think of pawpaws similarly, as a catalyst of sorts in collaboration across species, across ecosystems, across the various spaces and rhythms that make up the various ways of life on the planet. In examining this fruit, we might better understand how our encounters with the various times, spaces, values, and lifeways might help to focus our attention and foster a more caring, interrelational, and collaborative food future. When I step into the seasonal rhythms of the pawpaw, for example, I find myself taking the time that I would not have otherwise taken, to engage with a feature of the world that is unruly in its fleeting abundance. In highlighting unruly situations scholars might begin to, as Taylor suggests, promote eco-social change, orient our ways of knowing and ultimately, guide ecological research towards more complex understandings of, and possibilities for, eco-social relations. Because, while my students seem to have a sort of knee-jerk-reaction to propose green technology and green consumption as solutions to climate change, they also frequently acknowledge that perhaps there’s something noteworthy about how we learn to *value* certain things in the world. Perhaps this process of ascribing value is worth attending to as well. Perhaps unruly ecologies are a lesson in this.

The patch that I have returned to now for two years (and quickly approaching a third) is not one I stumbled upon alone. I had hiked the trail that skirts the edge of this patch countless times during my first three years in the state before I happened upon a friend one day who was gathering baskets full of the fruit. It was this friend who passed along the location of the patch—just down the creek a ways—by word of mouth. Within a few hours, I had collected several of the fruits, taken a picture, and sent a text message to my grandmother who has lived in Elizabeth Township, Ohio (where I grew up) for her whole life. “Grandma! I harvested and ate pawpaws for the first time yesterday. Have you had them?? Made me think of you.” Her response was to send a short story, one that I had never heard before:

I loved pawpaw! Haven’t had any since I was a school child, riding the long bus route. When in season, the bus driver would stop near wooded area somewhere on Gearhardt Rd; and let the older boys run back in the woods and gather as much as they could hold—run back to the bus, and share them. About a dozen of us then had a feast!<sup>42</sup>

This first encounter with the pawpaw not only reoriented me in the Virginia landscape I currently occupied, but it became a feature of my mental map of my childhood home in Elizabeth Township too, near Gearhardt Road, and remains deeply connected to my grandmother’s memories of her childhood. These are both spatial and temporal orientations, bound up within the unruly ecologies of pawpaws in the region.

## COMPETING INTERESTS

The author has no competing interests to declare.

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40 Tsing, *Mushroom at the End of the World*, p. 2.

41 Ibid, p. 2.

42 Joanne Smart, text message to author, October 5<sup>th</sup>, 2021.

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