ariel: a review of international english literature
Vol. 52 No. 3–4 Pages 1–27

Actual, Possible, Edible: Metabolic Description in Aminatta Forna's *Happiness*

Molly MacVeagh

Abstract: This essay responds to critical skepticism about the politics of description and suggests that careful, empirical description does not necessarily endorse the status quo. Against theoretical approaches that see descriptions of everyday life as static "filler" (Moretti 72), this essay reads quotidian details—particularly details about food and eating—as dynamic narrative motors. Taking up Aminatta Forna's 2018 novel, *Happiness*, alongside debates in the energy humanities, it seeks to illustrate the way Forna's descriptive investment in metabolic cycles serves as a counter-discourse to her novel's overt valorization of cosmopolitan resilience. In *Happiness*, what I call "metabolic description" both expands the novel's scale and troubles the ontological boundaries between the eaters and the eaten. It also offers a method of engaging with the energy humanities that moves beyond the thematic to examine the formal. The essay concludes that attention to food descriptions in realist fiction can reveal three things: a literary energy imaginary beyond oil, a dynamic continuity between organism and environment, and an attendant destabilization of the globalized liberal subject.

Keywords: energy humanities, metabolism, globalization, realism, description

Happiness, Aminatta Forna's 2018 novel of grief and globalization, is notable in part for its investment in discipline-specific description. It follows two primary characters: Jean, a recently divorced American wildlife biologist who has moved to London to study urban ecology, and Atilla,

a Ghanaian trauma psychologist who has come to the city to keynote an academic conference. Jean and Atilla meet by chance—running into each other on the street—and Atilla soon recruits Jean to help search for Tano, his close friend's missing son. As the two conduct their parallel searches, they reckon with their mutual attraction. They also recruit a band of helpers in the form of London's doormen, garbage men, and street performers. What results is a hybrid tale: part nature writing, part will-they-or-won't-they romance plot, and part fantasy of cosmopolitan subjecthood. Yet for some—particularly those readers professionally mired in the debates of literary criticism—*Happiness* might register most powerfully as an allegorical rendering of contemporary method wars over the critical responsibility to accurately describe and diagnose.[1] In staging a run-in between a trauma psychologist and a wildlife biologist, Forna's novel could be read as a metafictional exploration of the right balance between scientific description and psychological interpretation or diagnosis.

If we follow this thought experiment a little further, it appears that *Happiness* comes down firmly on the side of description. This is in part because Atilla has reached a stage in his career where he is suspicious of the pathologizing gaze of his fellows and the diagnostic temptations of psychological depth. But it is primarily because most of the third-person narration is aligned with Jean's uniquely ethological form of attention. As Jean roams around London musing on its ecological histories and noting the urban plants, she often relays her findings in luxurious detail. Curious about the history of her favorite London cemetery, for instance, Jean learns that it was locked up after the First World War and "left to die" (Forna 49). Instead, however, it thrived: "Saplings sprang up, prying open graves, toppling obelisks and urns, knocking angels from their pedestals. Snowdrops burst from the soil in winter. . . . Moss greened the gravestones, ivy curled around pillars" (49). Dead bodies and the institutional "death" or closure of the cemetery become the catalyst for vibrant growth, emphasized by the urgency of Forna's verbs. The plants in this dead cemetery "spring" and "pry" and "topple." Jean makes similar, if more subdued, observations about the vibrancy of a dead tree she can see from her roof. As she looks at the "dark wood of its trunk

and limbs," she considers that there is something comforting about dead trees: "children were attracted to climb in their branches, bees to hive in their hollows, and animals dug through the soft wood at their base to make burrows" (163). In both instances, the novel's descriptions are decidedly dynamic, emphasizing the energy and motion of locations (a dead tree, a cemetery) that more commonly index stillness.

This dynamism is doubly notable because it is achieved through description, a mode traditionally associated with pause or stasis. In his essay "Narrate or Describe?" Georg Lukács accuses description of rendering characters and readers mere "components of still lives" (139). Gérard Genette gets at something similar, defining narratological stasis as "when narrative discourse continues while historical time is at a standstill, usually in order to take care of a description" (126). This association of description with stillness is even more pronounced when the object under observation is the natural environment. As Elizabeth Hope Chang explains, "the history of the realist novel's narrative development premised itself from the outset on an endemically representative and silent setting" (3), and so the moments in which "a narrative pauses to regard a plant, whether potato, oak, or orchid, have often been seen as gaps or breaks from regular narrative work" (9). Amy King puts this more bluntly: "narrative natural history," she writes, "places an absolute value on observation rather than narrative momentum: it values dilatoriness or stasis over event" (462). And in a slightly different vein, Franco Moretti dismisses descriptions of everyday experiences as "fillers," or "mechanisms designed to keep the 'narrativity' of life under control" (72).[2] *Happiness*, I suggest, challenges the notion that descriptive observation—even the observation of the mundane and the "natural"—entails a cessation of narrative movement. While Forna's descriptions do not always advance the plot, they provide a vital illustration of her characters' evolving vulnerabilities: by emphasizing the shifting relations of material objects generally rendered subordinate to character psychology, Forna's description emphasizes the possibilities and uncertainties of everyday life.

This is particularly true in the case of what I call "metabolic description," or the novel's exacting attention to processes that circumscribe

and invigorate a text's living bodies. Forna's descriptive investment in the ingestion, disintegration, and excretion of matter heightens the sense of contingency that accompanies the state of mere existence. In what might be called an anti-individualist materialism, the bodies, organisms, and environments in her book seem precarious—dependent on each other, ontologically unstable, and almost improbable in their functioning. As Heather Houser suggests, description is a "tool for suturing extratextual matter, perception, and language" (12), so there is a certain logic to the coincidence of a renewed critical interest in description and the new materialist turn's interest in extratextual matter.[3] Though contemporary fiction "does not necessarily have thematic investments in lively matter," it "describes imagined worlds in a manner that corresponds to new materialist recognition of the liveliness of things" (Houser 14). In "honoring matter's elusiveness," Houser continues, "the writer abandons the mimetic impulse and yet achieves a mimetic effect: she registers the potentialities of matter" (14). Forna's metabolic description, lingering as it does over decomposing bodies and photosynthesizing plants, draws attention to the material contingency of daily life. As it follows the energy flows of consumption and growth, it consequently makes dynamic what gets taken as static or given, locating narrative energy in what is conventionally read as filler.

In this essay I propose that Forna's descriptive dynamism in *Happiness* contributes to the evolving conversation in the energy humanities. First, following Roman Bartosch's recent claim that "analysis of the energy of stories must indeed precede analysis of stories of energy" (121), I argue that *Happiness* provides a useful case study in the formal mechanisms that power a novel's movement through time and space. By "energy of stories," Bartosch refers to narratives' "expressive force rather than the mere representation of . . . energy systems in fiction" (121). As Imre Szeman suggests,

> it does very little to point to the presence of fossil fuels in fiction, to go searching about for those few places where coal, gas or oil might resurface, receive mention or be extracted from the narrative. What we need instead is a new critical sensibility in

> our analyses of world literature . . . that permits us to understand how every social practice, cultural form, and political expression is animated by . . . energetic capacities. (286)

Happiness, like many contemporary novels, is animated by oil's structuring absence.[4] But the novel's interest for my purposes lies less in the specter of fossil fuel extraction and more in the way its descriptions of energetic exchange power narrative motion.

Happiness is thus relevant to the energy humanities in its provocation to rethink conventional accounts of the energy of stories and its insistence on considering what energy means beyond oil. As Christopher F. Jones points out, the field of energy humanities in its current iteration may suffer from "petromyopia," or the "over-privileging of petroleum accompanied by the relative understudy of other energy topics" (1). This is concerning, he continues, because it risks both reifying the power of oil over our lives and underemphasizing the diversity of fuel sources currently powering the world. *Happiness*, for its part, emphasizes the energetic capacity of food. While food "represents only a tiny fraction of energy use for those in developed nations," for much of human history, human and animal muscles provided the bulk of power, "making food calories a foundational source of energy" (Jones 7). I argue that Forna's novel is a productive addition to energy humanities discourse in part because it directly contrasts the oil imaginary. "Oil," Jennifer Wenzel explains, "is everywhere and nowhere" ("How to Read" 156). It enables the functioning of everyday life yet is rarely registered in cultural production, a paradox Amitav Ghosh cites in his now-canonical diagnosis of the paucity of petrofiction.[5] Food, like oil, enables the continuity of everyday life in its most basic sense. Unlike oil, however, it is abundant in novels. Instead of what Wenzel calls "the temporal and material mindfuck of oil" ("Taking Stock" 31), food is imminently understandable: this is a potato, this is a sandwich. Edible objects are regularly used to ground readerly imaginations.

So if oil is an "absent presence" in contemporary world literature, constantly discussed in criticism but rarely manifest in novels, food might be termed a present absence. It is everywhere in literature but

comparatively unstudied by energy critics. Through its focus on food, this essay attempts to bring what I call "metabolic description" into the conversation about literary energies. In the first section, I examine Forna's commitment to ethological description, an observational style derived from early animal behavior studies. Ethological description's purported objectivity might seem to condemn *Happiness* to merely representing the actual conditions of living in the world. However, the novel's expansive treatment of the spatio-temporal systems of trade and travel occurs most often by way of this close empirical attention. Through defamiliarizing descriptions of the human and conceptually mobile object-landscapes, Forna's text provides the means for engaging alternative models of London's past and future. These models suggest that realist description can set the narrative in motion rather than delay it. The second section argues that metabolic description is particularly dynamic: not only does *Happiness* map energy flows along circuits of consumption but it also destabilizes the ontological boundaries between the eaters and the eaten. Section three takes up the question of porous subjecthood, suggesting that these digestive descriptions oppose the plot-level endorsement of liberal pluralism.

I. Ethology and Descriptive Expansion

When we first meet Jean, she is sitting on her London roof and looking for foxes. She sees a vixen and watches it stop, raise its head, and slip "sideways from the wall into the overgrown buddleia" (Forna 17). The following description of Jean works in a parallel objective register: after briefly turning her attention to a green parakeet, "Jean put the camera down, sipped her coffee and recorded the sighting of the fox in a spiral-bound notebook. She turned back the pages and totaled the number of sightings of the light bright vixen" (17). We do not learn Jean's motivations, her feelings, or her plans for the future. Instead we learn about her observable actions. This primarily empirical, surface-level description might be best understood as ethological.

Ethology, first popularized in its contemporary usage by Nikolaas Tinbergen in 1950, seeks to predict future animal behavior by way of close observation and subsequent interpretation. The key tool for this

process is the ethogram, "a time budget of the various activities" in which an animal or species engages (Ristau 132). Ethograms were distinct from the work of naturalists like Charles Darwin or Jean-Henri Fabre because they used specialized syntax. Instead of writing ordinary action words like "see" and "feel," which tend to have some association with subjective experience, early ethologists like Konrad Lorenz talked about animals' "specialized escape and defense reaction" or "innate releasing mechanism" (qtd. in Herman 216). In these mechanistic locutions, researchers sidestepped questions of phenomenology in favor of material causation (qtd. in Herman 216). Yet as Parikka Jussi explains, although the early phases of animal ethology yielded relatively mechanistic understandings of the relationship between bodies and milieus, contemporary ethologists "evaluate bodies not according to their innate, morphological essences, but as expressions of certain movements, sensations, and interactions with their environments (xxv). In other words, the commitment to close empirical observation has remained, but contemporary ethology is more concerned with dynamic relations than linear accounts of cause and effect.

It is in this latter form that ethology relates to recent debates around critical method and the politics of description. As I suggest above, description has been a relatively unfashionable topic in literary criticism, not least because it is often seen as inherently conservative. Close observation of the extant world, George Levine explains, runs the risk of "metaphysical complicity with things as they are" (4). Or, as Nathan Hensley puts it in a more explicitly damning indictment of contemporary methods, models like distant reading and surface reading that "borrow their authority from the sciences" (61) forgo the feather-ruffling critic as hero model and instead transfer power to an external object world (77). In "deferring uncritically to objects," these methods ensure a "reiterative, even positivistic relationship to items under observation, since any merely descriptive method must perforce narrate in other terms what already is" (63). Describing the existing world, in other words, runs the risk of implicitly endorsing it—injustices and all. When Hensley talks about "perforce narration" of what already is and Levine worries about "metaphysical complicity," they engage in the humanist tendency

to posit an improbably neutral understanding of description.[6] Yes, a truly neutral description might bleed troublingly into positivism. But description is inevitably inflected by perspective, intuition, values, and prior knowledge. Even in its barest, more objective forms—and sometimes especially in those—it has the power to unsettle the naturalized sense of reality's material conditions. *Happiness*' ethological description works in tandem with its plot-level endorsement of "seeing what's there" to suggest the dynamic potential of objective attention.

Throughout the novel, Forna consistently depicts the complex systems of interaction between organisms and environments while maintaining a distancing or surface-level gaze. The novel's description of the psychology conference, for instance, sounds almost like an Animal Planet voice-over about watching academics in their natural habitat: "Atilla shouldered open the tall oak doors, stepped inside and took a seat in the back row. Kathleen Branagan in the same row leaned forward until she was in his eyeline. Atilla touched his fingers to his forehead. He raised his right buttock and pulled free the flyer beneath, which gave the order of papers to be presented for the day" (Forna 227). Atilla, described primarily in discrete body parts (shoulder, fingers, buttock) is portrayed as moving through space and interacting with his fellows without his observable gestures being given cultural context. While not precisely in the ethological register of "specialized escape and defense reaction," Forna's language has a similarly distancing effect. It is not that Kathleen leans forward to say hello to her colleague, but she occupies "his eyeline," and he touches his head. It is not that Atilla wants to see what is going on or is curious about the speaker or is uncomfortably seated, but instead "he raise[s] his right buttock and pull[s] free the flyer." This version of empirical description begins to gesture toward its disruptive potential: the distancing gaze of the merely observable defamiliarizes human behavior.

While Forna's description makes the familiar motions of everyday life unfamiliar, she also lets static objects work disruptively without immediately harnessing them into figurative service. There are often collections of things in *Happiness* that work metonymically, harboring lively chains of associations even as the text remains purely descriptive. When Attila visits his old mentor Quell, for instance, he looks around the

room assessing its ambiance: "Every surface was covered with objects. Framed photographs by the score. A lacquered box. A pen on the display stand. China figurines. The cut-glass decanter Quell was at that moment holding. Medals and trophies awarded by the governments of various nations. A snow globe, a cheap souvenir, struck a discordant note among so much good taste" (Forna 206). In a similar vein, the narrator describes installation artwork made from objects plucked from the Thames at low tide, findings

> displayed in a cabinet of curiosities inside the new gallery. Plastic toys, oyster shells, clay pipes, buttons, rusted chains, more than one letter in a bottle, false teeth, bricks, hobnail boots, bottles and fragments of glass, and the bones of horses. Rib bones, femur, scapula, fragments of the skull, whole jawbones. The fractured skeletons of animals that had once worked the city, pulling carts, carriages and bags, consigned to the waters of the river. (185)

Both of these object lists are notable for their curation—they are gathered according to an organizing principle of taste or provenance. And as Hensley suggests, curation, especially when it comes to aesthetics, is a process worthy of suspicion. Curators of culture are often "guardians of the status quo whose political interest in reproducing dominant regimes of value finds voice in a discourse of appreciation, a burnishing of the already-there" (Hensley 64). A curatorial reading or writing practice, in this sense, is "neutered of its ability to disrupt conceptually its source material," inevitably confined to a "cozy relation to the given" (65). These object lists, read in the tradition of mimetic realism, might work as exercises in selective appreciation of the extant.

But Forna's descriptive curation, like many object descriptions in the realist tradition, uses metonymic association to significantly more destabilizing effect. Her empirical gaze describes the surfaces of things even as those things work to disrupt static categories of objecthood. Quell's living room decor, encountered in the context of his work in international conflict zones, metonymically indexes middle-class comfort (the density of tchotchkes) and the violence of colonialism (lacquered boxes,

old medals). The objects dredged from the Thames exceed their categories even more readily: Forna's gesture to the accumulated body parts of working animals allows the curiosity cabinet to serve as a launchpad for imagining London's past ecologies of multi-species labor. In a return to Bartosch's call to attend to the "energy of stories," here we find the energy history of animal workers inscribed and described in seemingly inert objects. This description, in turn, becomes a formal key to the novel's own energetic expansion: seeing what is there becomes the first step toward seeing what was and what might be. This is less an instance of deferring uncritically to objects and more an example of the way curated objects themselves can denaturalize what we take to be true about the world.

Forna's novel evokes the past via the relatively subtle material histories of collected objects, but it also evokes the future through much more explicit speculative biology. In an instance of ethological description attuned to what might be, Jean and the street performer Osman walk through London talking about the 2007 action film *I Am Legend* and imagining the city "given back to nature" (Forna 131). "First thing," she says, "the water level would rise. The drains would get all blocked up, nobody to work the pumps that stop the sewers and the subway from filling up with water, nobody to man those huge flood barriers. One big surge would likely breach the riverbanks" (131). Jean is then distracted by a Chinese ailanthus, which prompts her to consider the possibility of a return to biodiversity in London. "But maybe that wouldn't happen," she continues to herself, "maybe England would become a mass of Japanese knotweed and giant hogweed with tree of heaven forests" (132). Then she turns to Osman again: "You know, when Trafalgar Square was excavated one hundred and fifty years ago they found an ancient riverbed and it had hippo bones in it. There was evidence of elephants and lions. Hyenas. Hippos once wallowed in Trafalgar Square" (132). In this conversation, Forna layers a speculative future upon a surprising past. She uses shared cultural objects (a Will Smith movie) and proximal visual objects (ailanthus trees) to catalyze multi-temporal imaginings. As Jean and Osman traverse London's streets and move toward the intimacy of friendship, they are also wrapped in an intimacy with other times and

places. The novel inscribes wallowing hippos, geographically associated with the African savanna, within the indexical heart of London, a spatial collapse that works alongside posthuman imaginings to disrupt the boundaries between the possible and the actual.

II. Metabolic Description: The Dynamism of Dinner

If *Happiness*' ethological attention both defamiliarizes patterns of behavior and detaches objects from fixed points in time, its moments of metabolic description help move the novel through space. One of Forna's most common techniques for diegetic expansion is close attention to the everyday practice of cooking and eating. In a flashback to before her divorce, for instance, Jean tracks coyotes in Massachusetts. As she digests her field dinner of canned hotdogs she thinks about "how on Saturdays Ray liked to cook curry" (Forna 45). She imagines him "thirty miles away in their Greenhampton kitchen, a ball game playing on the old portable TV in the kitchen while he grated ginger, ate poppadoms and rummaged through the cupboards looking for the containers of cumin and coriander and fenugreek among the ketchup, French's and Folgers" (45). The expansion in this passage works on two levels. More overtly, by marking the scene of dinner preparation as "thirty miles away," Forna's narrative not only follows two separate character tracks but also begins to articulate the distance and terrain between them. Instead of highlighting the confined space of her tent in the woods, the narrator situates the tent in a larger space, thirty miles from the domestic labor of Jean's family life. Second, Ray's culinary cosmopolitanism suggests a wider spatial expansion. As Jean eats canned hotdogs, an American dinner if there ever was one, Ray hunts among the markers of American foodways for curry ingredients, a dish originating on the Indian subcontinent but attached to multiple and hybrid culinary traditions. On Saturdays, Ray eats curry—a dish not from "here." His domestic "hunting," narratively juxtaposed with the area's legacy of wolf-hunting and Jean's coyote-tracking efforts, becomes a toothless echo of the violence of colonial expansion. Thirty miles from the woods and thousands of miles from the origins of poppadoms, Ray's domestic space gets inscribed within geohistorical circuits of trade and species extinction.

Forna also uses a version of this consumption-centric technique to great effect in her depictions of urban space in London. A passage that begins with a relatively standard description of a child at a restaurant on the top floor of a high-rise with her nose pressed against the glass demonstrates the combination of multi-species attention and energy circuits that expands the narrative space. "To the young girl," Forna writes,

> everything about the city was new. Right now she was watching a bird. To the child the bird looked like a sky diver, falling through the air with outstretched arms: wings spread, beak down, feet angled backwards, its feathered body shivered and shook against the wind, flight feathers rippled. Once or twice a wing dipped as if the bird was a tightrope walker who had momentarily lost and regained balance, now the bird was lifted on a thermal and set back again seconds later. The child blinked and watched. She did not try and tell her parents. She stood as still as the hovering bird. . . . Six hundred feet below a pigeon departed the world. The pigeon, which had been pecking at the discarded crust of a pasty from the West Cornwall Pasty Company booth by platform six in the station, was flying away with a piece of pasty in its beak when it was hit at two hundred miles an hour by the falcon and promptly fell to earth, to be snatched back up in the raptor's claws a split second later. The falcon carried the pigeon eastwards, parallel to the riverbank, over the city's municipal buildings in the direction of Tower Bridge, where it turned south. . . . The falcon flew until it arrived at the abandoned gas works on the Old Kent Road where it perched on a metal strut and with its beak tore open the pigeon's heart. (86–87)

As in the example with Roy, several forms of expansion take place in this passage. The child's parents are sitting "among the ruins of afternoon tea" (85), the quotidian labor of eating again serving as the hinge for an expansion of diegetic space. This time, however, the setting expands along multiple axes. The tea-taking family is on the "thirty-second floor of the building known as the Shard" (85)—a height that allows their daughter to look in a reasonably straight line at the falcon riding currents of air.

But from this airy perch, the narrator suddenly plunges downward with the falcon's attack, "six hundred feet below" on a pigeon who has just snagged a bite of pasty.[7] From there, the trajectory of expansion becomes horizontal again, as we follow the falcon and pigeon east, "parallel to the riverbank, over the city's municipal buildings in the direction of Tower Bridge, where it turned south." The bird flies until it reaches "the abandoned gasworks on Old Kent Road where it perche[s] on a metal strut and . . . open[s] the pigeon's heart"—an action that sends a single drop of blood down (the vertical axis again) to where Atilla is standing with Jean.

In this section, Forna maps urban space in a way that maintains its dynamism and multi-dimensionality. While, as King suggests, "description [can become] dilatory" and even serve to halt forward narrative motion (465), Forna's description emphasizes the more dynamic pleasures of flow. Forna's ethological description of the falcon, initially mediated through the gaze of the young girl before the bird flies free of her attention, initially seems to arrest the forward movement of the plot. We learn nothing about Jean and Atilla, the primary characters, in this moment. But instead of a narrative pause, the narrative depicts an active subplot, the drama of the pigeon's death and the falcon's dinner emphasizing the lively energy flows of the urban landscape. In this way, *Happiness* uses formal strategies for moving through continuous space. Whereas Ghosh understands fictional settings as "constructed out of discontinuities" and inevitably disconnected from the outside world (*The Great Derangement* 59), Forna stylistically encourages a mode of attention to the novel's material objects that evokes a continuous and connected setting. Parallel to the writerly gaze's movement from subject to subject, a material interchange takes place: by virtue of metabolic conversion, pasty becomes pigeon becomes falcon. Description in the novel emphasizes the dynamism of maintenance and challenges a vision of the world that is stable and unchanging.

III. Urban Metabolism and Anti-Individualist Materialism

As Erik Swyngedouw suggests, in contrast to "other fashionable metaphors that attempt to fuse together heterogeneous entities—like networks, assemblages, rhizomes, imbroglios, collectives," metabolism

conveys "a sense of flow, process, change, transformation and dynamism in addition to the 'inner-connectedness' suggested by the other tropes" (22). Building on Swyngedow's argument and my discussion of metabolic description above, this section brings *Happiness*' ecological assemblages together with metabolism's conceptual legacy. Foregrounding metabolic exchange, I argue, reveals an anti-individualist materialism that challenges the novel's fantasy of liberal cosmopolitanism—a fantasy intimately bound to contemporary oil imaginaries.

This fantasy of liberal cosmopolitanism is most apparent at the level of plot. Forna tells a story of London as a cosmopolitan city, a place where multinational bonds of romance and friendship flourish and where each person develops their individual skill set to further a vibrant collective whole. For instance, a professionally and nationally varied group of individuals collaborate to find Tano: American Jean uses her understanding of animal behavior to predict Tano's movements, Ghanaian Atilla uses his knowledge of the human psyche, and Nigerian Olu uses the experience and infrastructure from his security job. Their successful endeavor depicts what Amanda Anderson calls a John Stuart Mill-style "faith in the ideal of self-development"—a model of "individual fulfilment" and "harmonious diversity" that she cites as liberalism's conventional markers (3). In the popular press, this conventional liberalism is something of a selling point. As David Schuman writes,

> *Happiness*'s globalist worldview will reassure its readership—its heroes are the American expat, the doctor without borders, a plucky group of runaway-finding immigrants, and a skulk of scrappy, charmingly-named foxes using strategies of assimilation and camouflage to make a life for themselves in a world they never made. Its villains are rigid immigration laws, a right-wing radio host, and local bureaucrats.

For the right audience, there is something pleasurable about a realist novel that envisions a form of copacetic globalization.

But this liberal fantasy, as scholars in the energy humanities have thoroughly established, is closely tied to the oil imaginary. As Dipesh Chakrabarty notes, "[t]he mansion of modern freedoms stands on an

ever-expanding base of fossil fuel use. Most of our freedoms are energy intensive" (208). The basic tenets of liberal political philosophy—individual fulfillment, economic expansion, harmonious diversity—were first imagined in the context of consistently growing energy resources. Mark Simpson criticizes this framing as one of what he calls "lubricity": the vision of a "frictionless world contingent on the continued, intensifying use of petro-carbons from underexploited reserves in North America" (289). Simpson critiques lubricity as contributing to the "contemporary mobility regime that, idealizing smooth flow, mystifies so as to maximize the violent asymmetries of movement and circulation globally" (289). If *Happiness* sometimes participates in this vision of lubricity—Atilla slips effortlessly across the globe under the banner of diplomacy and glides around Southern England in a Jaguar—it also registers friction. Much of the context for Atilla's London excursion is provided through flashbacks to his work in the 2009 conflict in Iraq, and the violence of these scenes recalls the persistent rhetorical sleight of hand whereby the promise of democracy obscures the true motives of extraction. To the extent that it evokes oil as an absent presence, *Happiness* puts petroleum in vexed but intimate relation to liberalism. For all the implicit violence of the geopolitics of oil as indexed by the novel's references to fossil fuel-driven military conflict, the promise of the self-actualized individual (the diplomat, the president, the successful immigrant) remains.

Food in Forna's novel sometimes reinforces this image of individuals as cosmopolitan consumers. Ray's curry, Jean's hotdogs and bulgar salads, Tano's maple syrup at a hotel breakfast, and Jean and Atilla's dinner at an Ethiopian restaurant all contribute to the text's self-conscious cosmopolitanism. The edible, beyond serving as descriptive filler or a marker of the real, becomes a convenient shorthand for the bounties of globalization: diverse characters eat diverse foodstuffs and are collectively nourished. But just as Forna insists on the material links between individuals in the falcon passage above, her deployment of literary foodstuffs does not merely index cosmopolitanism abstractly. Food in the novel signifies spatial expansion linked to specific bodies and places. The novel resists the dematerialized version of the global

that—among other things—allows energy to appear as a commodity without consequence.

For instance, in a scene at the beginning of the text, when Jean is returning from one of the group's first attempts to find Tano, the narrative cuts to "three miles distant," where a "dog fox crossed Waterloo Bridge" (Forna 96). In its jaws, the fox has "the bone of a Berkshire pork chop, the remainder of which rested, along with the side order of sautéed mushrooms, the Dorset crab starter and a quantity of decent claret, in the belly of a fund manager now headed due west in the back of a cab" (96). The fox, unaware of the westward motion of the rest of the pork chop, climbs "the stairs to the open terraces of the National Theatre" until it reaches the third level, jumps on one of the raised flower beds, and buries the bone (96). As with the pasty from the West Cornwall Pasty Company, this passage describes a cluster of reasonably proximate provenances—the Dorset crab, the Berkshire pig. This scene also provides a loose equivalent to the falcon "flying eastwards"—this time the fund manager headed "due west" in the back of the cab. As with Jean's thinking about her husband "thirty miles distant," here she is "three miles" from the scene of the fox and its bone. Taken together, these details create a zooming out effect—they perform a pedagogy of attention that asks the reader to mentally link multiple places and notice the violence of consumption. Jean, the fox, and the fund manager are occupying—and indeed moving through—separate spaces. Instead of mapping a static global network, Forna's unique descriptive attention creates a dynamic landscape attached to mobile observers.

These observers are rendered doubly mobile through Forna's metabolic description. Instead of allowing the taxonomy of characters to remain stable (fund manager, fox), the novel highlights digestion to open up space for ontological connection. The narrative style draws attention to the identity transfer at the heart of eating—the way crab and pork for dinner entails incorporating an animal into oneself. Describing the pork and claret in the belly serves as a graphic reminder of the death and disintegration that undergird the maintenance of life and the porousness of bodily existence. In highlighting these aspects, I follow a growing body of work that takes eating to be an exemplar of new materialist theories

and, consequently, a challenge to standard formations of the liberal subject. As Lisa Heldke and Raymond Boisvert explain in *Philosophers at Table*, "all formulations that begin with single, separate, auto-sufficient entities, formulations quite common in the standard philosophical context, are out of bounds for a perspective that takes the stomach seriously" (170). Considering consumption in any rigorous way requires acknowledging bodily vulnerability and the fluid boundaries between organism and environment.[8]

For this reason, while relatively unaddressed in energy humanities contexts, food and eating provide excellent case studies for new materialist scholarship. According to Jane Bennett, "enhanced alertness to edible matter can contribute to a theory of vital materiality" (40). For Stacy Alaimo, "trans-corporeality," or the understanding that the human is ultimately inseparable from the environment, might be best explained through eating (12). She argues that the transformation of animal and plant to human flesh provides a "route through person and place" even as it challenges those categories as discrete entities (12). Food, then, provides a useful illustration for new materialism's conceptual infrastructure of connectivity, assemblage, and mesh.[9] It is rhetorically useful for both its straightforward materiality and ontological mutability—a basil plant becomes pesto, becomes dinner, becomes body. But where it proves most relevant to the discourses of energy humanities—and, to my mind, where it becomes most powerful as a political analytic—is in the context of metabolism.

As Cara New Dagget points out, metabolism and energy both arose as concepts in the 1840s and were conceptually twined from the start: "One of the so-called discoverers of energy, the German doctor Julius von Mayer, even arrived at the notion of the conservation of energy through a metabolic (and imperial) approach, observing sailor's blood on a Dutch colonial ship and hypothesizing that human bodies required less oxygen to maintain blood heat in the tropics" (115). Metabolism, from the Greek for "change," foregrounded the way "the overriding stability of organisms relied on constant chemical and physical changes" (116). To put this fact in the context of this essay, metabolic description performs a parallel function: it both represents the continuity

of the already-extant and exposes the dynamic energy exchanges that enable that continuity. Crucially, however, metabolism as a historicized concept does not enable this exchange to occur without friction—it is "always already about bodies and their survival" (Davies 839). Following Alexander Wehiliye's argument that, contra paradigms of liberalism, "suffering and enfleshment [are] integral to humanity" (14) and that humanity is "hungered into being" (136), I believe a focus on metabolism offers a framework for an embodied energy imaginary. *Happiness*' many scenes of eating provide a counter-discourse to the fossil-fueled liberal vision that obscures the material frictions of consumption.

To the extent that we meet both Atilla and Jean as eating bodies, their character descriptions become sites of codependence and relationality. When *Happiness* first introduces Atilla, he is characterized in terms of appetite. A "man so tall" he appears "to be wading through the crowd," Atilla is in "a reverie" about the "boiled beef *Tafelspitz* and chopped-chicken salad" at his dinner reservation to come (Forna 11). At the theater he has a gin and tonic and orders a vanilla ice cream at intermission, and then, "driven by hunger," he hurries back across the bridge to the restaurant (12). Once seated in his preferred seat by the kitchen door (so as to better observe the waiters and their burdens of dishes), he orders "calf's liver and bacon because both of these things were hard to come by where he lived, and the potted brown shrimps because these, too, were a rare treat" (12). He completes his meal with a carafe of rioja and a "caramel and chocolate pudding, the chocolate sponge dusted with icing sugar" (13). Hunger sated for the time being, Atilla leaves the restaurant, tracing the skyline with his forefinger in the moonlight, "already planning the breakfast he would order in the hotel dining room" (14). Atilla is rendered in terms almost curiously material. He is very, very tall and he is very, very hungry. This emphasis on Atilla's need for metabolic maintenance continues throughout the text. After a concert the next day, Atilla finds himself again in search of dinner. For him, "hunger and impatience were conjoined twins," and after remarking "Food!" aloud to himself, he speeds to a Brazilian restaurant where he orders "*salchichas*, *higado* and *falda* too" (34). Once there, he asks the waiter to play the CD he has just acquired at the concert, and the sound of the singer's

voice fills the restaurant. "This," explains the narrator, "was Attila at his happiest" (34). Gesturing to the intimate linkage between emotional state and material conditions (or, put more colloquially, toward the reality of being hangry), Forna emphasizes corporeal vulnerability. The text suggests that a key component of happiness, before any of the more sophisticated psychological considerations, is having enough to eat.

This concern with the simple necessity of food extends through Forna's depiction of Jean, though in her case relieving hunger is much less explicitly tied to pleasure. When Jean finishes the first consultation on a client's urban garden, she suddenly realizes that she has not eaten all day. To remedy this, she acts efficiently. Jean "found a sushi and salad bar, chose a tub of bulgar salad from the selection in the refrigerated cabinet and paid. Back outside she walked and ate using the plastic fork. At the end of the street she passed a trash can and threw the tub away" (21). Whereas Atilla pleasurably anticipates breakfast as soon as he finishes dinner, Jean is largely uninterested in what she will be eating next. But interested or not, Jean also needs to eat. Later on, feeding Tano his first peanut butter and banana sandwich, Jean remembers how her father used to make that same dish for her as a child, "its creation a fine art: the banana, overripe by a day, smooth peanut butter, Wonder Bread" (218). Musing over having forgotten the combination's pleasures, Jean remembers how her father "had told her that a diet of sardines, spinach and something else, she forgot what, contained every nutrient the human body required. . . . [L]iving alone again[,] . . . she had begun to exist on almost as pared-down a diet" (218). Hunger drives Atilla over the bridge in search of sustenance. It bores Jean, yet she has to heed it anyway.[10]

Throughout the novel, Forna's descriptive metabolics teach a form of attention that sees this bodily necessity alongside and athwart food's metonymic and reality-marking functions. As she tracks hunger and satiation, the violence of falcon hunting and the dispersal of leftovers from a fund manager's supper, food becomes an energy resource that circulates as opposed to a kind of static realist decoration. This notion of food-as-energy is further emphasized by its consistent juxtaposition with London's more conventional material flows. For instance, as Jean

and Atilla walk along the riverfront thinking about Tano, Jean stares at the "faces of children in the crowds, visiting London with their families" (116). The river beside them smells of "dead trees and diesel," and as they pass a row of food stands, "the smell of sausage and caramel peanuts mingle[s] with the dark scent of the river" (116). This passage suggests several scales of metabolism. There is the familiar, individual scale that I have emphasized thus far—Jean and Atilla, hunger roused by the sausage and peanuts, eventually give in to the seductions of the street vendors and buy and eat a bag of chestnuts. Then individual metabolisms are multiplied, the crowd of London visitors each arriving with their own energy needs, collectively driving the vibrant snack business.

This hungry crowd denotes the third and most abstract scale: the scale of urban metabolism. Urban metabolism studies attempts to understand "the sum total of the technical and socio-economic processes that occur in cities, resulting in growth, the production of energy, and elimination of waste" (Kennedy et al. 44). In practice, this often involves a process called "material flow analysis," which quantifies and tracks the inputs, outputs, and storage of energy, water, nutrients, materials, and wastes for a given urban region (Newell and Cousins 703). In describing the Thames' smell of "dead trees and diesel" alongside the waves of traveling tourists, Forna invokes material flows at the level of urban metabolism. This is an instance of scaled-up ethological description: objective observation of organism/environment interactions expanded by scalar analogy until the environment, insofar as it is figured as a metabolic system, takes the role of the organism. On a narrative level, this renders what is conventionally understood as static (the landscape, the material conditions of reality) as both dynamic and mutable. To use Bartosch's terms, the "energy of stories" gets refigured outside the progression of plot as literal "stories of energy" unfold in multi-scalar relation.

The multi-scalar nature of *Happiness*' metabolic attention means its energy story maintains the friction of lived experience. Even beyond Jean and Atilla, the other characters in the motley crew of Tano-searchers are also directly involved with the regulation of urban metabolism. Abdul, a street sweeper, is charged with keeping the city's arteries passable and curbing vectors of disease. Komba, a traffic warden, maintains

circulation systems, directly regulating the flow of traffic and thus the flow of consuming bodies and resources. Olu, a security guard, modulates circulation at a smaller scale, regulating who passes through the warm space of his lobby. Just as Forna's descriptive attention to food as a circulating energy resource ultimately highlights contingency and relationality, repeated references to Komba, Olu, and Abdul's work draw attention to the considerable labor that goes into maintaining an urban system. Foregrounding and personalizing the labor of maintenance—labor often feminized, degraded, and otherwise rendered invisible—denaturalizes structures of the extant world. Rather than reifying the status quo, Forna's metabolic description instead yields a sense of interdependency and dynamism.

I want to point out, however, that deploying the figure of city-as-organism (the figure upon which urban metabolism discourse depends) is not without its risks.[11] As much as a metabolic framework foregrounds the energy required for the maintenance of a city, the cross-mapping of organism and urbanism may also elide human labor and create the impression of self-regulation. When Forna describes how a "lone street-cleaning vehicle in Aldwych nosed close to the kerb, like a small animal rooting for scraps" before "it lifted its brushes and sped off toward the river" (185), the organismic simile obscures the work of the driver. And while the ecological metaphor can be leveraged for environmental critique and constructing sustainable urban systems, it can also consolidate capitalist notions of circulation and equity. In 1857, for instance, German metabolism theorist Jakob Moleschott described the *Kreislauf des Lebens*, or the "cycle of life," in terms ripe for political and theological analysis:

> What man excretes nourishes the plant. The plant changes the air into solids and nourishes the animal. Carnivorous animals live on herbivorous animals, to fall victim to death themselves and so spread abroad newly germinating life in the plant world. The name 'metabolism' has been given to this exchange of material. We are right not to mention this word without a feeling of reverence. For just as trade is the soul of commerce,

> the eternal circulation of material is the soul of the world. (qtd. in Schmidt 87)

This is a doubly materialist worldview—in the sense that it both attends to the material conditions of production and reveals the processual dynamism of apparently inert matter. Gustatory consumption, here, becomes a kind of commercial exchange—"souls" in both cases are taken from the realm of immateriality and defined as the constant interchange of stuff. Moleschott has a beatific vision of nature's redistributive genius. Framing urban metabolism in these terms risks endorsing the fantasy that individual fulfilment guarantees a mutually beneficial material exchange.

But if Moleschott's thinking underpins a liberal faith in the possibilities of economic exchange, his insistence on the constant metamorphosis of composition also provides a challenge to liberal onto-politics. As Chad Lavin explains, life, for Moleschott, is "not a function of individual bodies, individual will, or individual rationality, but rather emerges from a plenitude of matter that somewhat randomly gathers and disbands to constitute, reconstitute, or deconstitute bodies" (Lavin 52). We are not, to put this in more explicitly political terms, "discrete selves standing sovereign over our bodies; instead we are merely specific organizations of the same matter that surrounds us" (52). This cognizance of material continuity provides an early articulation of the concept of "species being," or an understanding of oneself as a member of a species rather than in primarily individual terms, that would go on to influence political thought from Marxism to contemporary ecological activism (53). It is a moral obligation, Moleschott writes, "to act first and foremost as a member of the species rather than as an individual" (qtd. in Lavin 53). In this articulation, as well as his commitment to process ontology, Moleschott's metabolics challenge both "the ontological and political assumptions underlying the liberal social contract tradition" (Lavin 53). Even as his work celebrates the dynamics of commercial exchange, his thought problematizes the idea that we are "consistent, self-same being[s] over time that can be held accountable for our promises and actions" and "that there is some moral standing to pursuing

self-interest" (Lavin 53). Forna's writing makes a similar case through its specifically nutritive and digestive orientation to consumption. The dynamics of her ethological description, particularly when she follows food chains from pasty to pigeon or fried chicken to fox, start to paint a picture of an anti-individualist materialism. In so doing, she supplements a plot-level endorsement of liberal lubricity with a broadened energy imaginary that challenges the dominance of petrologic.

To be clear, I am not arguing that *Happiness* intentionally engages Moleschott's metabolic thought, nor that the representation of eating necessarily negates the novel's liberal streak. What I suggest instead is that considering *Happiness*' chains of consumption and production reveals a system of exchange and liveliness that serves as a counter-discourse to the text's narrative of global capital and liberal self-fashioning. Food becomes a constant reminder of mutual dependence. To some extent a focus on eating would offer a similar provocation in any given novel, but what is unusual about Forna's text is the extent to which her prose stylistically encourages this kind of attention to material process. Her orientation toward continuities in time and space means that her surface-level description of bodies and places feels dynamic as opposed to static. In simultaneously representing a liberal fantasy of globalization and a metabolic urban ecology that troubles claims to discrete identity, Forna's ethological orientation toward London life makes a case for the energetic potential of description.

Acknowledgements

Many thanks to Elisha Cohn, Christina Fogarasi, and Laura Brown for their careful reading and feedback on earlier versions of this essay.

Notes

1 By "method wars," I refer to the recent (and often acrimonious) conversations about "critique" and "postcritique" carried out in scholarly journals and on academic Twitter. For one account of the specific contours and participants in this conversation, see Love. For another, see Robbins.

2 In an example particularly appropriate to this essay, Moretti goes on to exclaim, "Emma and Charles Bovary are having dinner—could one imagine a more perfect filler?" thus treating a scene of eating as one in which "nothing happens" (77).

3 New materialism's creed, following Iovino and Opperman, might be characterized as "understanding the worlds' material phenomena as knots in a vast network of agencies, knots which can in turn be 'read'" (1). As a critical subfield it is invested in the agency of things—readings of worldly objects that emphasize the relational nature of existence, the porousness of bodies, and the blurring of clear distinctions between organisms and their environments.

4 As Szeman suggests, understanding "the modern as a petrocultural era" means "we need always to be attuned to the complex ways in which energy surplus narrates, shapes and circumscribes our various modes of existence" (285). Szeman continues:

> It is for this reason that adding oil to our analyses is not a choice, but a necessity, and why the energy humanities must not merely foreground oil, coal, electricity, nuclear, etc., but rather the dispositions, expectations, capacities and desires that energy excess makes possible. The horizon of the capitalist world-system, then, is what world energy literature has to concern itself with—much more than with any simple or direct mapping of energy type to literary form. (285)

All of which to say: novels set in the contemporary era are petrocultural whether they directly engage questions of fossil fuel extraction or not.

5 See Ghosh's "Petrofiction."

6 For more on the way literary critics often posit an implausibly neutral form of description, see Marcus, pp. 304–05.

7 The pasty, incidentally, is explicitly marked as coming from the West Cornwall Pasty Company, a name that has its own ties to geographic locality. The company's status as the "UK's largest pasty operator" ("Cornish Soul") and its fifty-plus sites (some, of course, in London) mean that the brand inscribes its own spatial consolidation and expansion.

8 Working more directly in the field of literary criticism, Christou makes a similar point, suggesting that while the "historical, geographical [and] national" implications of literary foodstuffs are widely acknowledged, the ontological implications are less frequently addressed (7). The banality of the phrase "you are what you eat," she argues, has prevented scholars from plumbing the depths of questions like "what can eating tell us about being?" (2).

9 Iovino and Oppermann's introduction to *Material Ecocriticism* provides a particularly good summation of the new materialist ethos: "Developing in bodily forms and in discursive formulations, and arising in coevolutionary landscapes of nature and signs, the stories of matter are everywhere: in the air we breathe, the food we eat, in the things and beings of this world, within and beyond the human realm. All matter, in other words, is 'storied matter.' It is a material 'mesh' of meanings, properties, and processes, in which human and nonhuman layers are interlocked in networks that produce undeniable signifying forces" (2).

10 It might be tempting to read Jean's rediscovery of the joys of peanut butter and bananas alongside her budding relationship with Atilla, sexual possibility and gustatory pleasure accompanying the slow shift from the solo to the social. In one reading, her newly expanded menu might be cast as a reward for moving toward the socially sanctioned norm of heterosexual coupledom. But given Jean's pleasure in her solitude, and her general orientation toward the factual and the functional, it may be that her efficient bulgar-munching is not without satisfaction. I want to emphasize less the shifting social contexts of consumption (we see Jean and Atilla eating Ethiopian food together, Jean and Tano eating popcorn, the whole rescue crew eating meat skewers) than the way Forna consistently marks its necessity.

11 A representative instance is Spencer's 1860 essay "The Social Organism" and his invocation of organismic metaphors to distinguish between "higher" and "lower" societies. For more on Spencer's essay, see Dagget, pp. 117–19.

Works Cited

Alaimo, Stacy. *Bodily Natures: Science, Environment, and the Material Self.* Indiana UP, 2010.

Anderson, Amanda. *Bleak Liberalism.* U of Chicago P, 2016.

Bartosch, Roman. "The Energy of Stories: Postcolonialism, the Petroleum Unconscious, and the Crude Side of Cultural Ecology." *Resilience: A Journal of the Environmental Humanities*, vol. 6, nos. 2–3, 2019, pp. 116–35.

Bennett, Jane. *Vibrant Matter: A Political Ecology of Things.* Duke UP, 2010.

Chakrabarty, Dipesh. "The Climate of History: Four Theses." *Critical Inquiry*, vol. 35, no. 2, 2009, pp. 197–222.

Chang, Elizabeth Hope. *Novel Cultivations: Plans in British Literature of the Global Nineteenth Century*. U of Virginia P, 2019.

Christou, Maria. *Eating Otherwise: the Philosophy of Food in Twentieth-Century Literature*. Cambridge UP, 2017.

"Cornish Soul." *West Cornwall Pasty Company*, westcornwallpasty.co.uk/cornish-soul. Accessed 21 Mar. 2021.

Dagget, Cara New. *The Birth of Energy: Fossil Fuels, Thermodynamics, and the Politics of Work*. Duke UP, 2019.

Davies, Archie. "Unwrapping the OXO Cube: Josué de Castro and the Intellectual History of Metabolism." *Annals of the American Association of Geographers*, vol. 109, no. 3, pp. 837–56.

Forna, Aminatta. *Happiness.* Atlantic Monthly, 2018.

Genette, Gérard. "Time and Narrative in *A la recherché du temps perdu*." *Essentials of the Theory of Fiction*, edited by Michael J. Hoffman and Patrick D. Murphy, Duke UP, pp. 121–38.

Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable.* U of Chicago P, 2016.

———. "Petrofiction: The Oil Encounter and the Novel." *Incendiary Circumstances: A Chronicle of the Turmoil of Our Times*, Houghton Mifflin, 2005, pp. 138–51.

Heldke, Lisa, and Raymond Boisvert. *Philosophers at Table: On Food and Being Human.* Reaktion, 2016.

Hensley, Nathan K. "Curatorial Reading and Endless War." *Victorian Studies*, vol. 56, no. 1, Autumn 2013, pp. 59–83.

Herman, David. *Narratology beyond the Human: Storytelling and Animal Life.* Oxford UP, 2018.

Houser, Heather. "Shimmering Description and Descriptive Criticism." *New Literary History*, vol. 51, no. 1, 2020, pp. 1–22.

Iovino, Serenella, and Serpil Oppermann, editors. *Material Ecocriticism.* Indiana UP, 2014, ebookcentral.proquest.com/lib/cornell/detail.action?docID=2120324.

Jones, Christopher F. "Petromyopia: Oil and the Energy Humanities." *Humanities*, vol. 5, no. 36, 2016, pp. 1–10.

Jussi, Parikka. *Insect Media: An Archaeology of Animals and Technology.* U of Minnesota P, 2010.

Kennedy, Christopher, et al. "The Changing Metabolism of Cities." *Journal of Industrial Ecology*, vol. 11, no. 2, 2007, pp. 1965–73.

King, Amy M. "Natural History and the Novel: Dilatoriness and Length and the Nineteenth-Century Novel of Everyday Life." *NOVEL: A Forum on Fiction*, vol. 42, no. 3, Fall 2009, pp. 460–66.

Lavin, Chad. *Eating Anxiety: The Perils of Food Politics.* U of Minnesota P, 2013.

Levine, George. *The Realistic Imagination: English Fiction from Frankenstein to Lady Chatterly.* U of Chicago P, 1983.

Love, Heather. "The Temptations: Donna Haraway, Feminist Objectivity, and the Problem of Critique." *Critique and Postcritique*, edited by Rita Felski and Elizabeth S. Anker, 2017, pp. 50–72.

Lukács, Georg. "Narrate or Describe?" *Writer and Critic and Other Essays*, edited by Arthur D. Kahn, Grosset and Dunlap, 1971.

Marcus, Sharon. "Erich Auerbach's Mimesis and the Value of Scale." *Modern Language Quarterly*, vol. 77, no. 3, 2016, pp. 297–319.

Moretti, Franco. *The Bourgeois: Between History and Literature.* Verso, 2013.

Newell, Joshua P., and Joshua J. Cousins. "The Boundaries of Urban Metabolism: Towards a Political-Industrial Ecology." *Progress in Human Geography*, vol. 39, no. 6, 2015, pp. 702–28.

Ristau, Carolyn A. "Cognitive Ethology." *The MIT Encyclopedia of the Cognitive Sciences*, edited by Robert C. Wilson and Frank C. Keil, MIT P, 1999 pp. 132–34.

Robbins, Bruce. "Not So Well Attached." Review of *The Limits of Critique*, by Rita Felski. *PMLA*, vol. 132, no. 2, 2017, pp. 371–76, doi:10.1632/pmla.2017.132.2.371.

Schmidt, Alfred. *The Concept of Nature in Marx*. New Left, 1971.

Schuman, David. "On *Happiness* by Aminatta Forna." *The Kenyon Review*, 14 June 2018, kenyonreview.org/reviews/happiness-by-aminatta-forna-738439/. Accessed 21 Dec. 2020.

Simpson, Mark. "Lubricity: Smooth Oil's Political Frictions." *Petrocultures: Oil, Politics, Culture*, edited by Sheena Wilson et al., McGill-Queen's UP, 2017, pp. 287–318.

Spencer, Herbert. "The Social Organism." *Westminster Review*, vol. 73, 1860, pp. 90–121.

Swyngedouw, Erik. "Metabolic Urbanization: The Making of Cyborg Cities." *In the Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism*, edited by Nik Heynen et al., Routledge 2006, pp. 20–39.

Szeman, Imre. "Conjectures on World Energy Literature: Or, What Is Petroculture?" *Journal of Postcolonial Writing*, vol. 53, no. 3, 2017, pp. 277–88.

Wehiliye, Alexander. *Habeas Viscus: Racializing Assemblages, Biopolitics, and Black Feminist Theories of the Human.* Duke UP, 2014.

Wenzel, Jennifer. "Taking Stock of Energy Humanities." *Reviews in Cultural Theory*, vol. 6, no. 3, 2016, pp. 30–34.

———. "How to Read for Oil." *Resilience: A Journal of the Environmental Humanities*, vol. 1, no. 3, 2014, pp. 156–61.