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*Energy Ethics: Emerging Perspectives
in a Time of Transition*

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Part II

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Coal Feeds My Family

Subsistence, Energy, and Industry in Central Appalachia

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ABSTRACT

Across Central Appalachia, you can see the message scrawled across bumper stickers, protest signs, and billboards: “Coal Feeds My Family”. The metaphor of coal feeding families is one that stresses the economic importance of this extractive industry to the economy of the industrialized rural mountain South. This essay examines the change in land-human relationships through the lens of food. A contrast is drawn between homesteading’s cultivation of life and coal’s energy economy of the dead. The energy economy of the preindustrial Appalachian farm is shown to be a slight alteration from the energy cycles of the Appalachian forest. The industrial energy economy of coal, on the other hand, severed Appalachian people from their traditional agricultural energy economy, from the results of their production, from the sources of their consumption, and from the very thing, the sun, which made the preindustrial economy possible. The coal energy economy was not only made possible through various technological innovations in production and consumption, but also by certain social relations and political structures. These relations and structures remain relatively intact, in spite of the rapid disintegration of the coal economy, and their inertia explains the popularity of the slogan “Coal Feeds My Family”.

Keywords: coal; energy; Appalachia; food; farming; transition; industrialization; technology; ethics; non-human relations.

1. INTRODUCTION

Across Central Appalachia, you can see the message scrawled across bumper stickers, protest signs, and billboards: “Coal Feeds My Family”.

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Slightly less popular than the more correct slogan “Coal: it keeps the lights on”, the metaphor of coal feeding families is one that stresses the economic importance of this extractive industry to the economy of the industrialized rural mountain South. It’s a message that gains much of its strength from the persistent and pervasive backdrop of Appalachian poverty; coal keeps my family from hunger, coal keeps my family from food stamps. In this part of the world, the energy economy that’s been built around coal sends deep roots into the everyday lives of people – all the way to the dinner table.

The very idea of being “pro-coal” is a relatively recent phenomenon; it can be taken as a symptom of the decline of the industry. As recently as 25 years ago, the predominant discourse was within the playing field created by the economics of industrial coal – strip mining vs. deep mining, workers vs. operators, etc. The coal economy, recently the field upon which disputes have been waged, has become a side or position to take in a new, different, economic dispute. Because the entire energy economy of industrial coal is now precarious, one can now be “pro-coal” in the way that one was formerly “pro-miner” and “anti-operator” in the field created by coal.

It seems, then, an auspicious time to put the entire coal energy economy of Appalachia in perspective, to compare it to what went before it. Anthropocentrically considered, much can be made from the changes of industry, and the ripples it spread in the form of changes in economy, in politics, in human health, and so on. But we ought also to consider this change in energy patterns from a non-anthropocentric perspective. We ought to examine the change in relations between people and the non-human characters of their landscapes.

In this essay, I examine the change in land-human relationships by examining the relations people have to their food. In particular, I contrast the manner in which homesteading focuses on cultivating life, on bringing a landscape to life, and on energy cycles that are grounded in life cycles with the manner in which coal mining, and its industrial use, is an energy economy based on the dead. Along the way, I attempt to shed a bit of light on why coal is seen as a source of nourishment, and what it means for the nonanthropocentric relationships of Appalachia that it is.

2. WHAT IS ENERGY?

Let us pause for a moment, however, and attempt to understand what energy is. Vaclav Smil tells us that “By far, the most common definition of energy is ‘the capacity for doing work’” (2006, 8). Smil advises us to

understand “work” to mean “any process that produces a change ... in an affected system” (2006, 8), to remind us that our bodies work even when we are not conscious of this work. Energy, then, is what allows for changes in physical systems – ecosystems, individual bodies, solar systems, and the like. But Smil also says that, since the nineteenth century, there has been an increase in “the frequency of the term’s misuse” (2006, 2). He writes that it is “used ubiquitously and loosely as qualifiers for any number of animated, zestful, vigorous actions and experiences [...]”. Devotees of physical fitness go one step farther and claim (against all logic and scientific evidence) that they are energized *after* a particularly demanding bout of protracted exercise” (2006, 2). Let us forget, for a moment, that metaphor is a perfectly acceptable use of language – did Smil mean that the term energy had been misused at an increasing crest-per-second ratio? Rather, I think it important to recognize that not all limits on the capacity to do work are purely physical. Perhaps “devotees of physical fitness” are letting us know that they have increased willpower to produce changes in physical systems after exercise, and that a lack of will was their primary inhibitor before exercise.

Whenever we speak of something so thickly veined with human value judgments as are ethics or economies, we cannot help but push our lexicons beyond the precisely-delineated limits of scientific terminology. Accordingly, even though I primarily wish to speak of the manner in which Appalachian economies have functioned by changing physical systems, I doubt I will be able to hew so close to the bone without neglecting important elements of the discussion. I will be using the term “energy” to refer to the capacity to do work, whether that capacity is rooted in brute physical systems, in cultural norms, or in social relations.

3. THE ENERGY ECONOMY OF THE PRE-INDUSTRIAL APPALACHIAN FARM

My understanding of the energy economy of the preindustrial farm, and especially its ethical components, borrows much from a similar discussion in Wendell Berry’s *The Unsettling of America*. There, Berry makes a quasi-distinction between “mechanical energy” and “biological energy”:

The moral order by which we use machine-derived energy is comparatively simple. [...] The energy goes in as ‘fuel’ and comes out as ‘waste.’ This principle sustains a highly simplified economy having only two functions: production and consumption. The moral order appropriate to the use of

biological energy, on the other hand, requires the introduction of a third term: production, consumption, *and return*. It is the principle of return that complicates matters, for it requires responsibility, care ... In an energy economy appropriate to the use of biological energy, all bodies, plant and animal and human, are joined in a kind of energy community. [...] They are indissolubly linked in complex patterns of energy exchange. They die into each other's life, live into each other's death. [...] And this exchange goes on and on, round and round, the Wheel of Life rising out of the soil, descending into it, through the bodies of creatures. (Berry 1997, 85-6)

The biological energy circle, the wheel of life, which Berry is here talking about is an agricultural circle; the creatures which rise out of the soil are predominantly crops and domestic animals, and they return to the soil their manures and their corpses. But Berry describes the wheel in an ecological manner, reminiscent of Aldo Leopold in his essay "Round River": "The current is the stream of energy which flows out of the soil into plants, thence into animals, thence back into the soil in a neverending circuit of life" (Leopold 1966, 188). Berry is not arguing that preindustrial farmers had a complex theoretical grasp of scientific ecology, just that the practices of preindustrial farming were rooted in and responsive to ecological reality in a way which the practices of the mechanical energy economy are not.

The energy economy of the Appalachian farm was not primarily a moneyed, cash economy, but one of subsistence agriculture. In *Where There Are Mountains*, Donald Edward Davis tells us that "as late as 1869, a small but significant majority of mountain farmers had not accepted the concept of agriculture as a market-driven, profit making business" (Davis 2000, 142). Likewise, Thomas Hughes wrote in 1881 that "An Englishman, who came here lately to found some manufactures, left in sheer despair and disgust, saying he had found at last a place where no one seemed to care for money" (Hughes 1881, 63-4; cited in Gaventa 1980, 50). This is not to say that no commerce at all went on in pre-coal-boom Appalachia; Antebellum Kentucky was the third-largest producer of iron goods, and there were around 3000 slaves working at industrial salt furnaces in West Virginia's Kanawha Valley (Davis 2000, 150; Moore 2014, par. 11). But the vast majority of people lived in Appalachia through subsistence homesteading and did not farm in order to participate in market economies.

Although various types of livestock were important to the economy of the Appalachian farm, "it was crop production that interested mountain families most or at least occupied much of their labor around the homestead" (Davis 2000, 136). The stream of energy that spread from

the sun through the soil entered the bodies of fruits, vegetables, and grains before it entered the bodies of Appalachian people. This passion for plant cultivation combined with the physiographic diversity of the Appalachian region result in an abundance of different crop foods. In fact, “southern and central Appalachia has the highest documented levels of agrobiodiversity in the U.S., Canada and northern Mexico” – there is more diversity of food crops in Appalachia than in anywhere in North America, save for the area in Mexico where corn was domesticated (Veteto 2011, 3).

Of these plants, the one which best exemplifies the manner in which the biological energy economy structured the daily lives of Appalachians is corn:

Corn was not only important as a primary foodstuff, it was central to mountain subsistence culture. Corn was ground into meal and made into whiskey; its husks and leaves were woven into hats, dolls, mops, and chair bottoms. Corncobs served as primitive toilet paper, fire starters, bowls for tobacco pipes, and hog and cattle fodder. The harvesting of corn also greatly influenced social relations, bringing neighbors and communities together for annual fall cornshuckings. Cornshuckings, or “frolics” were ritual celebrations, yearly events in which community members assisted friends and neighbors in the gathering and preparation of the annual corn harvest. (Davis 2000, 137)

Corn, here, does not simply feed the family of the mountaineer. It also provides those other things that make life comfortable and meaningful, and it binds individuals into communities. Corn grants this because it is carefully cultivated, drawing on the energy of the sun, and those derivatives of solar energy that lie in the soil and the bodies of mountain people and draft animals.

4. THE WILDNESS OF THE ENERGY ECONOMY OF THE APPALACHIAN FARM

Berry’s description holds for the energy economy of preindustrial Appalachian farms, most of which were small homesteads that raised both plants and animals. But these mountain farms were deeply woven into the mountain landscape, and the energy circuits which Appalachian farmers participated in were often as wild as domestic. The frontier log cabin is a symbol of this deep weaving; mountain homes were directly made of the forest (see Davis 2000, 104-5). Appalachian homesteaders did not only rely on the energy of the living organisms they reared, but

hunted for food and fur, fished, and gathered foods and medicines from the surrounding forests. Appalachian agriculture was a wild agriculture, an agriculture that harvested crops that needed no sowing or tending.

Part of the wildness of Appalachian agriculture is a necessity of the landscape; mountain topography was never as suited to mass production of cash crops in the manner of the agriculture of the deeper South or the Midwest. This geological truth still dictates the shape of the Appalachian farm. The average farms of Michigan (179 acres), Kentucky (164 acres), and West Virginia (157 acres) are all roughly the same size. But Michigan, a non-Appalachian state, has per-farm average annual sales of \$102,710, while the partially-Appalachian state of Kentucky averages \$56,586 and the entirely-Appalachian state of West Virginia averages \$25,051. This is largely because more of the Appalachian farm is, of necessity, forested hillside – in Michigan, the average farm is less than 12% woodland, the average Kentucky farm 22%, and the average West Virginia farm is almost 40% (2007 Census of Agriculture). Preindustrial Appalachian agriculture was even more forested: of the average 100-300 acre farms of the Blue Ridge Mountains in the early 19th century, “two thirds or more [was] left completely forested” (Davis 2000, 125).

One of the things that this meant is that much of the eating and being eaten – much of the energy exchange – of the preindustrial Appalachian farm happened in the forest. This is an energy economy that was highly interspecies, and dependent on fecund wild processes. Before the blight destroyed the American chestnut, the trees were so plentiful that “for a month or two each fall, hogs ran loose to feast on chestnuts and other mast littering the forest floor” (Davis 2000, 195). Hog were not the only livestock raised on wild feed; cattle drovers let their herds loose on the mountainsides, where “the additional feeding of the cattle herds was only necessary under extraordinary conditions” (Davis 2000, 133). The trees of the forest produced maple syrup, and wildflowers produced honey (Davis 2000, 144-5). And Appalachian rivers were not only regular sources of fish, but, also, of freshwater mussels and their pearls (Davis 2000, 186-90).

The wild sources of food and fuel for the Appalachian homestead were powered by the same soil-and-water based cycles of solar energy as were the domesticated crops. Just as wet summers could ruin a potato crop, over-warm springs could lead to a slender harvest of maple syrup. But they were not seen, at the time, as two different realms powered by the same source. Rather, the Appalachian forest was considered part of the farm; the farm was set in the forest. The harvest of the chestnuts by the hogs was not disconnected from the harvest of chestnuts by the

farmers, nor from the harvest of the hog. The settlers of the Appalachian mountains were certainly the source of several varieties of ecological disturbance. But the energy economy of the Appalachian farm – its patterns of production, consumption, and return – was not but more than a slight alteration from the energy cycles of the Appalachian forest.

5. THE END OF THE PREDOMINANCE OF BIOLOGICAL ENERGY

This section and the next describe the three interrelated ways that the sun-based energy economy was largely supplanted at the end of the nineteenth century. First, the relationships between the settlers and the land base of the solar economy were disrupted as land speculators used various methods – legal and illegal – to take ownership of the land from these small homesteaders and transfer it to large land holding companies. Second, the rapid establishment of the coal energy economy and its associated lifeways disrupted the lifestyles, skills, and habits of the sun-based economy. Finally, the coal economy's technological character severs the solar economy's rootedness in the process of living, dying, and decay that Berry calls the wheel of life.

Most of these speculators wanted the land in order to profit from the mineral wealth beneath it. The speculators leased the mineral rights, which were often purchased separately from the folks still living on the land, and often leased the surface rights to railroads and developers. "Thus", writes John Gaventa, "the mountaineer often 'voluntarily' sold his land [for little ...] for while the agents wanted the land, the mountaineers were more interested in community harmony. To them, there seemed to be plenty of land for everybody" (1980, 53). By the time it became evident that there was not plenty of land for everybody, the land could not be purchased back at prices which they could afford – often, not at any price – the land's worth was now tied to the value of the minerals beneath it.

Not all land acquisition happened in such an ethically ambiguous manner, however; some land was acquired through clearly illicit means. Gaventa writes that:

[...] some of the mountaineers were burned out if they would not sell. One old miner presented the deed of sale from his father to the Company. The deed bore a signature of his father's name – but, said the miner, his father could not write. [...] Another resident [...] tells how his father was jailed, supposedly for fighting, and had to post the title to his land for bond [...]. The title was never recovered. (1980, 54)

Though these methods of land acquisition are clearly illegal, it was rare for mountain people to win a court case against the well-oiled legal machines of the land holding companies (Gaventa 1980, 54). Gaventa's argument is that these original land acquisitions created a system of power relations – economic, political, and even cultural – that continues in the present era. This system operates not only through explicit, brute, use of power by the landholders. The brute political or economic power is enshrined in institutions – again, economic, political, and cultural – in such a way that the powerholders merely need to mobilize this institutional bias, often times through “non-decisions” (Gaventa 1980, 14-5). In turn, this institutionalization of power relations, Gaventa claims, can result in “an unconscious patter of withdrawal, maintained not by fear of power of A, but by a sense of powerlessness in B” (1980, 17). As the industrial coal economy became more and more sedimented, the miners and other workers felt less and less able to take control over its shape. One of the features of the industrial energy economy of coal is that it powered not only by the energy of the mineral coal itself, but, also, by a sense among people living within it that the ability to produce change in the system – material, economic, political, and cultural – is monopolized by those in positions of power in that system. Average working people do not have the energy to change their economy.

The second way that the circuit of the biological energy economy of the Appalachian farm was disrupted was through the actual establishment of the coal economy. Gaventa writes of the establishment of Middlesborough, KY:

In two years, twenty million dollars flowed into the transformation of this valley. By the end of 1889, a city had grown up. Where three years before there had been sixty families in a hamlet along Yellow Creek, there were now some 5,000 people. Where there had been an economy of relatively self-sufficient agriculture, there were now sixteen operating industries (with forty-one more planned), and six banks. [...] Reported coal production in Claiborne county leapt from none in 1889 to 135,558 tons from five mines three years later. (1980, 56)

This rapid and radical change in the landscape and settlement patterns was also a rapid and radical change of the energy economy. Much of the energy used to create this new economy came from people – “labourers, ditch-diggers, construction workers, and miners”, in Gaventa's words (1980, 57). In the particular case of Middlesborough, most of these people “were attracted from the farms and ‘hollows’ of the rural region”, so that the change in energy economies was also, for many Appalachians, a change in occupation and in lifestyle (Gaventa 1980, 57). Although, in

other parts of Appalachian coal country, the mines were worked by large influxes of immigrants from Eastern and Southern Europe, and African-American economic migrants looking for better opportunities than could be found in the deeper South, the lifestyles of all Appalachian residents, new and old, were drastically changed by the birth of this new economy (Fones-Wolf and Lewis 2002).

Former homesteaders and new migrants took to these new trades – took their places in the new coal energy economy – not only out of hope for a more prosperous and stable future. As mentioned above, much of what had once been farmland was no longer available for such a use; it had been purchased by the land holding companies. These companies worked hard to sediment the structures of this new economy, making sure that they maintained a place of prominence in it. Gaventa tells us that the British company which founded Middlesborough “owned the land and the minerals, which it would lease but would not sell; and also the railroads, upon which distribution of the products depended” (1980, 57). The transformation from a relatively egalitarian mountain farming economy required the creation of a new class of laborers: miners. This was accomplished not only by denying the former farmers their land – their soil; the backbone of the energy economy of the farm – but also by denying them, and other new migrants, all but the slimmest of chances at upward mobility.

6. PRODUCTION IN THE INDUSTRIAL ENERGY ECONOMY

To flesh out the second manner in which the agricultural energy economy was disrupted, and to discover the third, we need to examine what Berry found to be the two components of industrial economies: production and consumption. To do this, we may take a slight detour to discuss the work of the philosopher Albert Borgmann on modern technology. Borgmann claims that modern technology is distinguished from its pre-modern predecessors by its diremption of means from ends. He defines modern technology not as a number of machines or industrial assembly-lines, but as “the characteristic way in which we today take up with the world” (Borgmann 1984, 35). We get our food technologically, we communicate technologically, we make our livelihoods technologically and we even think about other people technologically. We have technological lives individually and technological institutions collectively.

This mode of living in the world directs us to engage with “devices” rather than with “things”. More precisely, we engage ourselves with commodities; “what distinguishes a device is its sharp internal division

into a machinery and a commodity produced by that machinery” (Borgmann 1984, 33). Commodities are alienated and decontextualized from their process of production; “the machinery of a device has a tendency to become concealed or to shrink” (Borgmann 1984, 42). A “device” is contrasted with a pretechnological “thing”, which “is inseparable from its context”, both social and material (Borgmann 1984, 41).

To clarify these concepts, Borgmann contrasts a wood-burning stove with a central heating plant. The machinery of a central heating plant is complex, efficient, and hidden from the eyes of almost all who benefit from its existence. The commodity of this plant is heat. The heat is consumed without the consumers knowing, except perhaps vaguely, how it was produced. We push a button on the wall and the room becomes warmer. The machinery can, and does, change continually and consistently; coal fired heating plants become replaced by machines that burn natural gas. Means and ends are drastically separated from each other (Borgmann 1984, 42-4).

A woodstove, on the other hand, is a thing: “the experience of a thing is always and also a bodily and social engagement with the thing’s world” (Borgmann 1984, 41). Every thing is connected to and inseparable from a practice or set of practices. Certain things and practices – focal things and practices – give structure and meaning to our lives. Borgmann chose to use the term “focal thing” because “a focus gathers the relations of its context and radiates into its surroundings and to inform them” (Borgmann 1984, 197). In contrast to the heating plant, “the fireplace constituted a center of warmth, of light, and of daily practices” (Borgmann 1984, 196). The line between work and leisure is blurred in our interactions with things, and they always produce several inseparable commodities (using the term more loosely) which are, in turn, inseparable from the material and social practices which engendered them:

Thus a stove used to furnish more than mere warmth. It was a focus, a hearth, a place that gathered the work and leisure of a family and gave the house a center. Its coldness marked the morning, and the spreading of its warmth marked the beginning of the day [...]. It provided for the entire family a regular and bodily engagement with the rhythm of the seasons that was woven together of the threat of cold and the solace of warmth, the smell of wood smoke, the exertion of sawing and carrying, the teaching of skills and the fidelity to daily tasks. (Borgman 1984, 42)

On this Borgmannian account, focal things, and the practices by which we engage with them, make us who we are, help us know who we are, and make us happy to be who we are. “Technological progress” is nothing more than a series of attempts to disburden us of the often ardu-

ous practices connected to focal things by replacing these things with devices. The danger of contemporary technology lies in our loss of the ability to find meaning in, connection to, and knowledge of the machines and practices which produce these commodities.

The production of stuff to meet basic needs in our technological era takes this form diagnosed by Borgmann. Berry's description of industrial agriculture is a good place to begin analyzing the diremption of production from consumption in technological farming. He writes "the more quantifiable [farming] skills became, the easier they were to replace with machines. As machines replace skill, they disconnect themselves from life; they come between us and life" (Berry 1997, 91). Berry is here talking about the way that farming has become a parade of devices for farmers, and how this has resulted in a loss of focal practices and of meaning – of connection to life.

But, for all the reasons previously discussed, industrialization in most of central Appalachia did not result in an energy economy of industrialized agriculture. It resulted in an energy economy of coal production – mining. In this economy, Appalachian miners, and the mines they worked in, became an element of the machine-part of the devices that delivered electricity, heat, and steel to modern America. The necessary severing at the heart of the technological energy economy of coal results in Appalachian people being severed both from their traditional, thingly, agricultural energy economy and, at the same time, both from the results of their production and from the sources of their consumption.

Of the daily labor in the new economy, Ronald Eller tells us "the work was dirty and usually tiring, much like that with which they were accustomed on the farm. Yet the work routines, job discipline, safety conditions, and environment of the company town provided a marked contrast to traditional agricultural life" (1982, 128). As late as the 1930s, much of the miners' work was done by hand, with the aid of simple tools like hammers, picks, shovels, drills, and black powder (Eller 1982, 129). As the twentieth century progressed, mining became more and more mechanized. But, at least in these early days, the brute physicality of the job was similar to farming.

The biggest contrast between the labor of mining and the labor of farming was the former's distant relationship to what Berry called "the wheel of life" – the natural process of birth, living, and dying; the movement of the seasons; the need to care for soil and living things. Listen to what Eller can tell us of the miners' relationship to sunlight: "The miner's day started long before daylight and often ended well after dark. In the early morning hours, the miners set out for the mines carrying

their lunch pails and water bottles and wearing lard oil lamps to light their way” (1982, 129). While the rising and setting of the sun – far apart in the summer; closer together in the winter – were the guideposts that structured the lives of Appalachian agrarians, this movement was utterly unnoticeable to the Appalachian coal miner underground.

The energy economy of the Appalachian farm, and the world it created, was erased by three severing acts. First, land acquisition and speculation severed people from their land base; severed farmers from their farms. Second, these newly impoverished former farmers needed work, and the work available to the – the work of a coal miner – was technological in Borgmann’s sense. Miners were not understood as agents standing apart from the coal-producing machines; rather, they were treated as part of the machinery that delivered the commodities of heat, electricity, and steel to the rest of America. Even to the extent they consumed these commodities, they were severed from the production process in a way which was not the case for their earlier consumption of their farm-grown produce. Third, the labor of their new jobs took place underground, and by this means they were also severed from the very source of the old energy economy and of the wealth of meaning and focal practices tied to it: the sun.

We know now what many miners perhaps did not; that the coal they retrieved from underground was itself created by a solar energy economy – although one that vastly predated the economy of the farm. Plants that died millions of years ago, yet failed become soil, were buried so deep that the pressure from the world above changed them to coal (“How is Coal Formed?”, *Kentucky Coal Education*). The farmer related to the nonhuman world through relations like planting, conserving, tending, harvesting, etc. The farmer had to deal with living things at each stage of the wheel of life. But the miner deals nearly exclusively with plants that are so long dead, dead at the dawn of prehistory, that we often refer to them as minerals rather than dead plants. This is a monumental withering of the sphere of relations between humans and the nonhuman world, and it was accomplished through this tripartite severing that created the coal energy economy ¹.

¹ This tripartite severing results in a co-exploitation: the same economic processes exploit both the miners, the non-mining community members (including the nonhuman members), and the landscape itself. This period of Appalachian history is a rich source for analysis of this co-exploitation, either through the lens of social ecology, environmental justice, ecofeminism, or biocultural conservation. This last, though, would be rather tricky, since Euro-Appalachians are very clear examples of colonial settlers.

7. CONSUMPTION IN THE INDUSTRIAL ENERGY ECONOMY

The process of severing, of diremption, that Borgmann locates at the heart of technological society is often understood as an unalloyed good; we are severed from the hard labor of pre-technological society and delivered to an easygoing commodious existence. But this commodious existence made possible through the development of the industrial coal economy has a catch in the way that consumers are fundamentally dependent on this system for the basic needs of existence. We can see this in coal country through the example of the company store.

As we saw with Gaventa's example of Middlesborough, the rapidity of the birth of the coal energy economy saw the creation of cities and towns where before there were none. Not all of these were independent communities; often times, the coal companies themselves would build, own, and maintain the towns. As Shelly Stewart Burns writes, "Coal companies funded, built, and governed company towns, and maintained control in all aspects of community life" (2007, 3). The mining families rented company-owned houses, worshiped in company-owned churches, and, of course, shopped at company-owned stores for tools, clothing, and food.

The dependence of mining families on the company store was nearly as complete as the dependence of farming families on the forest. But the miners' subsistence was even more precarious. Wages were dependent on faraway market forces, and, of course, a coal economy is based on a non-renewable resource. More profoundly, the anthropocentric character of the coal economy requires a kind of political dependency that was not present in the farm economy: the miners' dinner was dependent on the caprice of the mine owners.

Because the same company which controlled access to all of these basic needs was in charge of setting wages as well as the costs of these needs, they could ensure that their workers lived in a state of perpetual indebtedness. This amounted to a system of peonage, or debt slavery:

In West Virginia and many other states, the indebtedness which led to a state of peonage for immigrants and blacks began when labor contractors, acting for companies or on their own behalf, advanced transportation costs to prospective workers. This advance, known as bringing the men "on transportation", was frequently the first in a series of "advances" the men received. Food, clothing and tools were provided to the workers on their arrival at the work sites, and credits for the cost of these items were entered in books at the company store or commissary. (Bailey 1991, par. 9)

This company system functioned because wages were often issued in a company-created currency, or scrip, that was not accepted outside of the

company store: “The checks are only good at the company store, consequently the system permits the employer to charge him extortionate prices for the goods. [...] Flour selling in many places in this State can be purchased at from \$5.50 to \$6.50 per barrel, while in the company stores the same article sells at \$7.50 to \$8.65 per barrel” (Moran 1890, par. 2). Although the phrase “coal feeds my family” was not to be heard for several decades, this was the beginning of the stark realization by the people of Central Appalachia that their ability to eat was precariously dependent on their collaboration with, and subordination to, the interests and authority of the coal barons.

If we listen to Wendell Berry, the predicament of the miners forced to shop for groceries at the company store is simply one of many ways that the industrial eater is dangerously beholden to outside forces. He writes “we still (sometimes) remember that we cannot be free if our minds and voices are controlled by someone else. But we have neglected to understand that we cannot be free if our food and its sources are controlled by someone else” (Berry 2009, 229). For this reason, Berry is continually calling for a more responsible eating, which includes, when possible, reconnecting with the wheel of life by growing one’s own food.

The company store is a particularly compelling example of this phenomenon, but Berry does not even seem to have it in mind; he is explicitly writing of “urban shoppers” (2009, 228). Rather, for Berry, our loss of freedom stems less from a lack of ownership than from the severing at the heart of modern technology. Berry writes:

The specialization of production induces specialization of consumption. [...] The passive American consumer, sitting down to a meal of pre-prepared or fast food, confronts a platter covered with inert, anonymous substances that have been processed, dyed, breaded, sauced, gravied, ground, pulped, strained, blended, prettified, and sanitized beyond any resemblance to any part of any create that ever lived. (2009, 228-30)

To put this in more Borgmannian terms, modern technology’s severing of the process of food production into an opaque machinery and a processed food-commodity has severed eaters from the solar-powered wheel of life that brings food into existence. Alienation from this community of living beings makes eaters as dependent on whims of the market economy generally as the turn-of-the-century miners were specifically dependent on the coal barons. What those coal barons accomplished in Central Appalachia through land acquisition has been accomplished globally through the promise of ease and commodious living. We all need wages in order to get groceries.

8. THE MEANING OF THE CHANGE IN ENERGY ECONOMIES

Of course, much has changed since the days of the company store. The perceptive reader will have noticed that the account of the coal energy economy offered here more or less ends with the beginning of the twentieth century. Strikes, walkouts, and uprisings – outside of and within the union – gave miners the ability to challenge the company store model. Labor laws that accompanied the New Deal strengthened the positions of miners. Labor unions created new types of focal practices and communal celebrations that gave meaning to the lives of those communities embedded in the coal energy economy, even if these practices and celebrations were markedly more anthropocentric than the agrarian ones. And finally, largely due to mechanization, the number of people employed as miners has plummeted. With the advent of strip mining and, later, mountain-top removal, “coal companies no longer needed a substantial workforce. Instead, they needed the hills and valleys where these people lived” (Burns 2007, 5). The coal economy is visibly on its way out, along with the communities it created and the solidarities it fostered. As mentioned at the beginning of the essay, the world created within the coal energy economy is precarious as the very existence of a coal-based economy seems unstable.

But patterns of neglect and deliberate manipulation by political and economic powers have ensured that the economic health of – and, accordingly, the ability to get food in – Central Appalachia is still tightly tied to coal. Gwynn Guilford discusses these patterns in a recent article for *Quartz*:

As of 2013, of the 10 largest landowners in West Virginia, none is headquartered in the state, according to a 2013 study by historian Lou Martin and economists at the West Virginia Center on Budget and Policy. In six counties, the top ten landowners control at least half of private land [...]. In 1977, then-governor Arch Moore settled with Pittston [Coal Company], accepting \$1 million – less than a fifth of what West Virginia taxpayers spent on cleanup [after the Buffalo Creek Disaster]. (2017)

The example of Gov. Moore is particularly egregious, because Pittston’s greed and carelessness caused the deaths of 125 people. But Guilford’s article has numerous other examples of how “the elite protect the old guard, a key source of their power and wealth” (2017, par. 5). As we saw with Gavena, part of what allows the energy economy of coal to function is the inability of the vast majority of Appalachians to change the political and economic structures of this economy.

So although the forms have changed slightly since the era of the company store, the fundamental dependence of mountain people on the coal

economy for their well being has not. To move beyond coal, mountain people feel, Appalachia needs to diversify its economy. To diversify the economy, Appalachia needs massive investment in either new economic sectors or the higher education required for entrepreneurship. To pay for these investments, Appalachia needs tax revenue. The bulk of the tax revenue is from coal, so Appalachia is dependent on coal to fund the transition beyond coal. This, then, is what sparks the utterance “coal feeds my family”: a feeling that any possible future manner of eating, and all manner of current eating, is and will only be possible due to coal².

Once the matter is viewed this starkly, the contrast between the environmental ethics inherent in the energy economy of preindustrial agriculture and the energy economy of industrial coal mining stands out clearly. The eating of corn, of chestnuts, and of hogs and cattle fed from corn and chestnuts was a practice that revealed and underscored the connectedness of the wild and the domestic, of care for nonhuman life and care for human life, and of life and death. As Berry said, this energy economy was powered by the sun and rooted in the soil; it gathered different lives together into a wheel. The coal economy, by contrast, is one that severed producer from consumer, eating from care and cultivation, work from the value it created, and the physical energy created by coal from the social and political energy that it enabled. The coal energy economy is powered by and rooted in the long-dead plants, the mineral, of coal. It severs instead of gathering, and its most potent metaphor is a metaphor for the eating of death central to this economy.

² There is a popular perception, reinforced by shallow news coverage of the region, that Appalachian enthusiasm for coal is rooted in a nostalgic resistance to change. Part of this perception seems to stem from an equivocation on the term “conservative” – there is no *prima facie* reason to assume that people who have preferences for traditional forms of religion are thereby required to hold atavistic economic preferences. But the shallowness of this interpretation becomes clear once one attempts to discover what Appalachian are resisting changing to. There have not been any serious attempts on the part of political leaders to offer Appalachians a new economic activity, or activities, to replace coal. In a recent episode of Anthony Bourdain’s *Parts Unknown*, he descends into a deep mine to eat with miners. He asks each of them whether they would prefer a safer job to mining. Each invariably replies that they’d rather not be mining, if any real alternatives existed. It is not at all nostalgic or unreasonable to resist change that would result in impoverishment.

REFERENCES

- 2007 Census of Agriculture. State Profile: Kentucky. https://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/Kentucky/cp99021.pdf.
- 2007 Census of Agriculture. State Profile: Michigan. https://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/Michigan/cp99026.pdf.
- 2007 Census of Agriculture. State Profile: West Virginia. https://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/West_Virginia/cp99054.pdf.
- Bailey, Kenneth R. 1991. "A Temptation to Lawlessness: Peonage in West Virginia, 1903-1908". *West Virginia History* 50: 25-45. http://www.wvculture.org/history/journal_vvh/vvh50-2.html.
- Berry, Wendell. 1997. *The Unsettling of America: Culture and Agriculture*. San Francisco: Sierra Club Books.
- Berry, Wendell. 2009. *Bringing It to the Table: on Farming and Food*. Berkley, CA: Counterpoint Press.
- Borgmann, Albert. 1984. *Technology and the Character of Contemporary Life: a Philosophical Inquiry*. Chicago: University of Chicago Press.
- Burns, Shelly Stewart. 2007. *Bringing Down the Mountain: the Impact of Mountain-top Removal on Southern West Virginia Communities*. Morgantown, WV: West Virginia University Press.
- Davis, Donald Edward. 2000. *Where There Are Mountains: an Environmental History of the Southern Appalachians*. Athens, GA: University of Georgia Press.
- Eller, Ronald D. 1982. "The Miner's Work". In *Appalachia Inside Out*, vol. 1: *Conflict and Change*, edited by Robert J. Higgs, Ambrose N. Manning, and Jim Wayne Miller. Knoxville, TN: University of Tennessee Press. Excerpted from: Ronald D. Eller, *Miners, Millhands, and Mountaineers: Industrialization of the Appalachian South, 1880-1930*. Knoxville, TN: University of Tennessee Press, 1982.
- Fones-Wolf, Ken, and Ronald L. Lewis, eds. 2002. *Transnational West Virginia: Ethnic Communities and Economic Change, 1840-1940*. Morgantown, WV: West Virginia University Press.
- Gaventa, John. 1980. *Power and Powerlessness: Quiescence and Rebellion in an Appalachian Valley*. Chicago: University of Illinois Press.
- Guilford, Gwynn. 2017. "The 100-Year Capitalist Experiment that Keeps Appalachia Poor, Sick, and Stuck on Coal". *Quartz*, December 30. <https://qz.com/1167671/the-100-year-capitalist-experiment-that-keeps-appalachia-poor-sick-and-stuck-on-coal/>.
- "How is Coal Formed?". *Kentucky Coal Education*. http://www.coaleducation.org/q&a/how_coal_formed.htm.
- Hughes, Thomas. 1881. *Rugby, Tennessee; being some account of the settlement founded on the Cumberland plateau by the Board of aid to land ownership*,

- limited; a company incorporated in England, and authorised to hold and deal in land by act of the legislature of the state of Tennessee.* London: Macmillian and Co. <https://archive.org/details/rugbytennesseebe00hughiala>.
- Leopold, Aldo. 1966. *A Sand County Almanac with Essays on Conservation from Round River*. New York: Sierra Club - Ballantine.
- Moore, Catherine Venable. 2014. "O Beulah Land". *Oxford American* 85 (Summer). <http://www.oxfordamerican.org/magazine/item/351-o-beulah-land>.
- Moran, M.F. 1890. "Letter to Edward Robertson, Esq., Labor Commissioner". *First Report of the State Commissioner of Labor, of West Virginia, December 1, 1890*. Charleston: Moses W. Donnally. <http://www.wvculture.org/history/labor/umwadistrict1702.html>.
- Smil, Vaclav. 2006. *Energy: a Beginner's Guide*. Oxford: Oneworld Publications.
- Veteto, James R. 2011. "Apple-achia: the Most Diverse Foodshed in the US, Canada, and Northern Mexico". In *Place-Based Foods of Appalachia: from Rarity to Community Restoration and Market Recovery*, edited by James R. Veteto, Gary Paul Nabhan, Regina Fitzsimmons, Kanin Routson, and DeJa Walker. <https://www.southernsare.org/Educational-Resources/SARE-Project-Products/Books-Manuals-and-Training-Guides/Place-Based-Foods-of-Appalachia>.