WES BERRY

Switching on Light Bulbs and Blowing Up Mountains

Ecoliteracy and Energy Consumption in General Education English Courses

I'M A NATIVE KENTUCKIAN teaching Kentuckians, a strange bird in higher education where so many teachers find employment far from their roots. Having a background similar to many of my students—religious, provincial, basketball obsessed—I'm uniquely situated to develop courses in which students can better understand their native state.

I'm also aware of the complexities bound up with this word *native*. Shawnee people roamed my home county, called "Barren," long before I did. I've found their arrowheads near the creek bordering my grandfather's farm. And does merely living in a place make one "native"? Wes Jackson's essay collection *Becoming Native to This Place* suggests that nativity requires more than establishing residency: it requires knowledge of place gained from long-term dwelling and interaction. Jackson urges universities to educate students in "homecoming": "Our task is to build cultural fortresses to protect our emerging nativeness. They must be strong enough to hold at bay the powers of consumerism, the powers of greed and envy and pride. One of the most effective ways for this to come about would be for our universities to assume the awesome responsibility to both validate and educate those who want to be homecomers—not necessarily to go home but to go someplace and dig in and begin the long search and experiment to become native" (97).

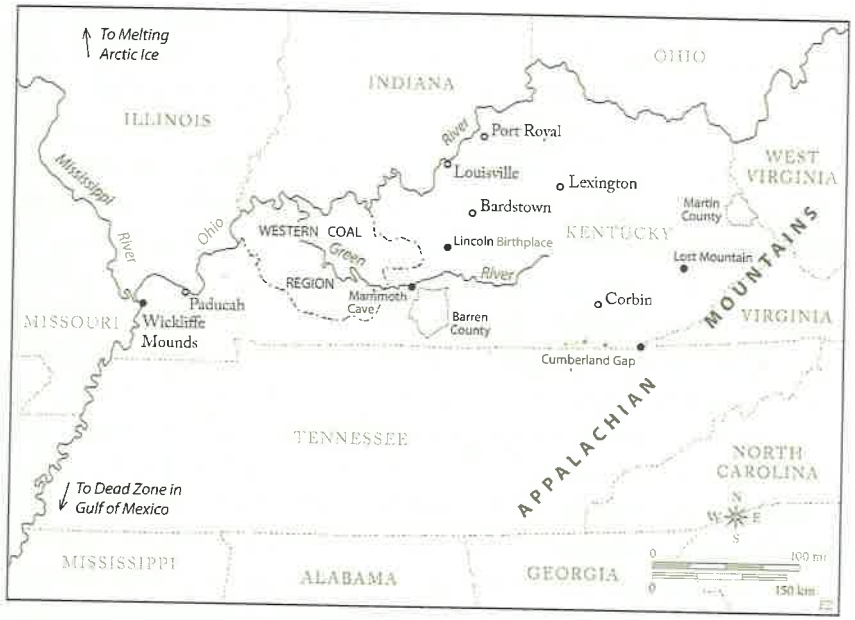
Bioregional thinker Wendell Berry, never one to use fancy language or claim allegiance to "isms," summarizes succinctly the requirements for such

nativity in his essay "Conservation and Local Economy," a vision he revisits frequently in his work:

> In our relation to the land, we are ruled by a number of terms and limits set not by anyone's preference but by nature and by human nature:
>
> I. Land that is used will be ruined unless it is properly cared for.
> II. Land cannot be properly cared for by people who do not know it intimately, who do not know how to care for it, who are not strongly motivated to care for it, and who cannot afford to care for it.
> III. People cannot be adequately motivated to care for land by general principles or by incentives that are merely economic. . .
> IV. People are motivated to care for land to the extent that their interest in it is direct, dependable, and permanent.
> V. They will be motivated to care for the land if they can reasonably expect to live on it as long as they live. They will be more strongly motivated if they can reasonably expect that their children and grandchildren will live on it as long as they live. In other words, there must be a mutuality of belonging: they must feel that the land belongs to them, that they belong to it, and that this belonging is a settled and unthreatened fact.
> VI. But such a belonging must be appropriately limited. . . . there is a limit to how much land can be owned before an owner is unable to take proper care of it. (3–4)

Put in scholarly terms, Berry advocates here what Berg and Dasmann call, in their bioregional tract "Reinhabiting California," "living-in-place," defined as "following the necessities and pleasures of life as they are uniquely presented by a particular site, and evolving ways to ensure long-term occupancy of that site" (399).

The cynic in me wants to say that my students' native place is the computer screen and text windows of their cell phones, since that's where they often place their attentions. Even in a largely rural state like Kentucky, where some of my students have lived on farms and experienced outdoor play during childhood, electronic media now occupies much of their days. I'm pretty sure my students spend more time on Facebook than they do observing details of the world outside of the numerous screens that hold them captive. In short, teaching bioregional ideals to today's wired students poses special problems. I'm no longer amazed that my students, growing up in a major coal-producing state, don't realize that over 90 percent of the electricity they use to power their computers comes from coal. Fewer



Kentucky and notable energy regions

understand how that coal is mined. Hardly any of them know that Kentucky's per capita electricity use is much higher than the national average because of so-called cheap energy linked to our abundant coal supply. Students should know that when they flip on that light switch, a mountain is exploding somewhere in Appalachia—and they should understand the connection. Mountaintop removal mining (MTR) is burying our streams, and Appalachian coal burned at power plants in Kentucky and many other states is linked to fast-melting ice in Alaska. You would think college students would know these things, but few of my students do, and few of them are learning this urgent information in other courses.

Knowing one's energy sources is an essential part of knowing where one's at, and even though I'm a teacher of writing and literature—subjects not easily aligned with learning about energy sources (the specialization of geologists and engineers)—I have knitted together successful English classes centered on the motif of energy economics (supply and demand). My home state is blessed with a strong environmental writing base, including prominent writers with conservationist/agrarian/social justice visions: Wendell Berry, Silas House, Barbara Kingsolver, and Erik Reece. In teaching upper-level literature courses, I also choose fictions that feature

regional settings and thematic land-use issues by writers representing various parts of Kentucky, such as Harriet Arnow, Jesse Stuart, James Still, and Bobbie Ann Mason. Every two years I teach a course called "Kentucky Literature," which is a perfect venue for exposing students to agrarian issues. But I don't want to wait every two years to disseminate ecological literacy, so I've developed ways of working such learning into my regular writing classes that all students at the university have to take—classes like "Freshman Composition" and "Introduction to Literature." The most effective method I've used to capture students' attention and get them to see connections between their own places and the broader world is to focus on our fossil-fueled economy and their own roles in it.

Energy consumption in an English class? This ain't "Environmental Science"! What the durn hell?

Getting students to think honestly about their places takes some work. It's far easier for them to see their home state as a collection of symbols than as a network of particular regions with unique plants and animals, soil formations, language patterns, and economies. The symbols that create the "Kentucky myth" include Daniel Boone, Colonel Sanders, and horses. Those savvy to the tourist packaging of our state may also name mint juleps, hot browns, and the Hatfield-McCoy family feud. An incredible number of people of my home state consider themselves to be "property of" the University of Kentucky basketball program—a rabid loyalty that may for many fans surpass actual devotion to one's place. A postcard I picked up in "Bourbon Capital" Bardstown, Kentucky, encapsulates humorously some of my state's identity baggage: "You Know You're from Kentucky," says the headline, "If you can spit tobacco juice and talk at the same time"; "If the trim on your car is duct tape"; "If the bathroom is located 75 feet behind the house"; "If you consider a saw and washboard to be musical instruments"; "If your sister is also your cousin and your aunt"; "If your idea of 4th of July fireworks is a shotgun and box of shells." *The Onion* ran a story in 2003 with the headline "Iraq, Kentucky Vie for World Shooting-into-the-Air Supremacy." No surprise that when I ask students to tell me about their home state, they make a sort of redneck shopping list that includes many of the aforementioned stereotypes. Since cultivating a bioregional imagination involves knowing how human identity is bound up with places, beginning courses with a discussion of Kentucky mythology makes sense. Kentucky-the-myth carries a fair amount of beauty (horse farms) and heroics (Abe Lincoln), combined with a sense that, as a people,

we somehow missed modernity, especially those backward folks of the eastern mountains who, limited by vertical geography, just can't quite make it over the next ridge to discover what is happening in the broader world of commerce—good things like shoe manufacturing and bonded whisky. In my literature and writing courses, we begin by evoking the myths—which lures many students into the discussion immediately, because most of them love talking about their home state—after which we make the shift to texts that deal honestly with regional land-use issues.

I don't fool myself into thinking my students are getting a bioregional education in my courses. A bioregional education requires a long time of getting-to-know, and in my courses we have less than four months. Besides, my students come from many parts of Kentucky, other states, and foreign countries. There is not one bioregion we hold in common. Moreover, the best bioregional education is hands-on and multidisciplinary. While I've attempted to get students into the field by taking them on trips to local organic farms and on hiking trips in Mammoth Cave, the experiential component is more difficult to achieve in English courses than, say, biology courses. Of necessity, my approach is more general, addressing issues that are connected to students, issues that students usually don't realize they are connected to—like the link between their energy use and MTR mining and its effects.

Moreover, the focus on Kentucky isn't exclusive—at different times we've studied texts such as the documentary film *Oil on Ice*, dealing with oil production in the Arctic, and read testimonies by Appalachian dwellers outside of our state about the effects on coal mining in their places. Furthermore, this focus on energy economy can be tweaked to appeal to students all over the country, whether your energy source is coal, nuclear, or hydroelectric, because it involves investigative work that requires students to learn how their region is connected to other regions. For example, a power plant in Monroe, Michigan, burns coal from Black Mountain, Kentucky. Monroe is near Toledo, Adrian, and Ann Arbor, sites of colleges and universities; perhaps students at those midwestern schools power computers using coal from Appalachia. Understanding one's energy sources and the connections between regions—and discovering beneficial texts to support this understanding—is paramount to this pedagogy.

In "Interpreting Bioregionalism: A Story from Many Voices," Doug Aberley notes that the "bioregional story can only be learned through long participation in local and continental bioregional gatherings, and by

assimilating ideas penned in ephemeral journals and self-published books that rarely appear in libraries or mass distribution outlets" (13). I assume Aberley is alluding to books akin to the *Foxfire* series that documents the folkways of southern Appalachia, or local fishing reports and agricultural extension newsletters, or maybe the cookbook put out by local homemakers. As a teacher of literature, I'm responsible for boosting my students' knowledge of books that have literary merit. I realize that *literature* is a slippery term; accordingly, I begin my "Introduction to Literature" courses by asking students to define it. Almost always, a student says that literature is words on a page, broadly conceived, so that there's literature of economics, literature of the medical field, etc. Other students think literature is limited to imaginative prose and poetry. In his 1949 Nobel Prize speech, William Faulkner said good writing deals with "the problems of the human heart in conflict with itself." This definition could apply to much writing about consumer society, from *Walden* to *The Great Gatsby* to *Into the Wild* to *Lost Mountain*. After all, don't many of us live paradoxical lives, desiring clean air but enjoying our mobility fueled by airplanes and cars? Don't we value our computers that operate on the juice from strip-mined coal and relish delicious coffee shipped from South America, even while deploring climate change? Salman Rushdie says, "Literature is where I go to explore the highest and lowest places in human society and in the human spirit, where I hope to find not absolute truth but the truth of the tale, of the imagination and of the heart" (62). Again, much writing about our economic and ecological predicament, like Lester Brown's *Plan B* series and most essays by Wendell Berry, while not conventionally literary, live up to the spirit of Rushdie's description, especially the part about exploring the highest and lowest places in human society, which investigative work into our energy economy reveals.

In choosing books for my literature and writing courses, I interpret literature broadly, not confining text selections to fiction and poetry, and this opens up possibilities for bioregional pedagogy. At my university, the boilerplate goals of "Introduction to Literature" include "examining representative works in the major genres of literature with attention to different time periods, cultures and diversity," and also "thinking and writing critically about literature." This course description allows for flexible content. I interpret "literature" as "story" and "narrative," which makes room for memoirs, journalistic prose, and documentary film, in addition to the standard fiction, poetry, and drama. What benefits students and society most? Having them read another canonical short story from an anthology or having them learn urgent issues of interspecies health care (you know, how to live in peace and health on this small planet)? The two don't have to be mutually exclusive—there are canonical stories in literature anthologies that are instructive, that can make students better for having read them—but we have limited class time, and if we believe Bill McKibben and other climate change heralds, then we also have limited time to make drastic changes in how we produce and consume. Creating courses that allow students to analyze their own consumption is vital pedagogy.

Even considering my generous assessment of what deserves placement on a literature syllabus, I nevertheless would not include many of the aforementioned fishing reports or cookbooks or even the *Foxfire* books in most English classes. However, feeling the urgency of our world ecological predicament and the need to educate consumers in this nation where our energy usage is grossly out of balance with our population, I have used more regularly books and film that may seem a bit strange to traditionalists of English studies: books like Erik Reece's *Lost Mountain: A Year in the Vanishing Wilderness*, a piece of environmental journalism; the essays of Wendell Berry; and documentary films like *Sludge*, produced by a Kentucky community-based filmmaking organization called Appalshop (see Appalshop.org) and *Kilowatt Ours: A Plan to Re-energize America* by Nashville filmmaker Jeff Barrie. Students thus get exposed to narratives that have the added benefit of teaching them something useful about being a human in this world that is being consumed far too quickly.

Motivated by self-preservation, my students' concern for nearby regions elevates when they learn the concept of "living downstream." Accordingly, early in my courses focusing on sustainability we read Wendell Berry's article "Contempt for Small Places," as it succinctly sums up in seven paragraphs the concept of porous borders. Berry begins by noting how newspaper editorials deplore the "dead zone" in the Gulf of Mexico and such practices as MTR mining in eastern Kentucky, adding that "[s]ome day we may finally understand the connections." Berry then states clearly the concept of "living downstream" without naming it as such: "The health of the oceans depends on the health of rivers; the health of rivers depends on the health of small streams; the health of small streams depends on the health of their watersheds. The health of the water is exactly the same as the health

of the land; the health of small places is exactly the same as the health of large places. As we know, disease is hard to confine. Because natural law is in force everywhere, infections move" (7).

Berry's work reinforces the point that the headwater mountain streams buried under the "overburden" of the MTR process are connected with the health of downstream creeks and rivers. Many people are ignorant about their drinking water source—and I'm talking about major rivers, not obscure streams 100 miles from the household—so if my students finish a course knowing more about their water source, then a small step towards bioregional awareness has been taken. If they learn how that water source is affected by what happens in other regions, even better.

Erik Reece's *Lost Mountain* helps students see how a light switched on in central Kentucky is linked to a mountaintop being exploded and leveled in eastern Kentucky. Reece's investigative purpose, he announces early on, is to "see up close what an eastern mountain looks like before, during, and after its transformation into a western desert" (13). Reece documents one year of Lost Mountain's demise and in doing so radiates outward, helping readers understand how this mountain is attached to places far away, to a broader American cultural wrongheadedness, to habitat loss worldwide, and to readers' own dorm rooms and apartments.

Lost Mountain is an eloquent bioregional text with distinctive literary qualities, such as a unique speaking voice, an expertly drawn setting, and an urgent vision. Although it's a collection of essays, the book even has something like a plot, as Reece returns to the mining site each month to observe the destruction, putting himself at considerable risk by doing so (he tells several stories in *Lost Mountain* of thug tactics used by coal company watchmen and coal truck drivers). Reece is well schooled in American conservationist writing, and one hears echoes of Rachel Carson, Aldo Leopold, and Wendell Berry in his arguments. He regularly quotes from E. O. Wilson's work and alludes to Walt Whitman, John Muir, and Robert Frost. *Lost Mountain* can thus serve as a conservationist primer for readers uninitiated in ecological writing. Of additional benefit for my students are Reece's conversations with local residents of Eastern Kentucky affected by MTR.

It seems ridiculous that we share a statewide identity as Kentuckians—a loyal and proud identity in our symbols and heroes (Bluegrass pastures and music, the University of Kentucky wildcat logo, tobacco farming)—but that we citizens outside of the coal mining areas know so little about the

stories of the people whose lives are affected by the industry that supplies our low-cost-per-kilowatt-hour electricity. Reece remedies this by giving voice to the mountain folk whose stories are not often covered in mainstream media, noting that when Martin County, Kentucky, suffered a coal slurry spill in 2000, thirty times the size of the Exxon Valdez oil spill, the *New York Times* "didn't print one word about it" (129). Reece writes about mountain families whose homes are flooded because of increased erosion caused by dynamite blasting of the mountaintops by absentee mining companies. He tells of many people injured and killed by overloaded coal trucks speeding on mountain roads, and of people like Teri Blanton, who grew up in Harlan County, Kentucky, whose children broke out in a "measles-like rash" after bathing because their groundwater was poisoned with vinyl chloride, trichloroethylene, and other "volatile organic contaminants" irresponsibly dumped by the McGraw-Edison Company who was rebuilding mining equipment nearby. Elsewhere, Reece notes that the number of Kentucky children treated for asthma has risen nearly 50 percent since 2000, and how because of "acid rain and acid mine runoff, there is so much mercury in Kentucky streams that any pregnant woman who eats fish from them risks causing serious, lifelong harm to the child she carries" (25). Reece's expose of environmental injustices helps students realize that as consumers of electricity that comes primarily from Kentucky's mountains they are complicit. Guilt can be a prime motivator in changing behavior—maybe not the ideal motivator like empathy and spiritual goodwill, but nevertheless effective. Images and statistics from *Lost Mountain*, students have told me, make a powerful impact, enough to change the way they consume electricity.

To reinforce for students how their actions in cave country are linked to lives in other regions, and also to provide some hope after the emotional drain of *Lost Mountain*, we watch a well-edited documentary by Nashville filmmaker Jeff Barrie, whose fifty-five-minute narrative *Kilowatt Ours* traces our electricity usage from raw material to the home. This documentary has proven to be a successful capstone to the energy unit, as it illustrates with striking visuals and personal stories the connections Berry and Reece make in their writings—such things as MTR, global warming, the nuclear power cycle, and mercury pollution. The initial twenty minutes of the film explore serious consequences of our heavy use of coal and nuclear power. Noting that the average American home uses 900 kilowatt hours monthly at the ratio of 1 lb. coal/kWh, Barrie presents a cartoon image of

boxcars filled with coal, extending from coast to coast and back and then circling the earth three times—a striking visualization of the 1.1 billion tons of coal burned each year in the United States. The film presents aerial shots of MTR in Appalachia, an accessible primer on global warming with expert testimony, and a personalized look into the nuclear power industry with an interview of Navajo "elder" Melton Martinez, who explains the incredibly high cancer rate in his community because of exposure to toxic radioactive yellowcake leavings from uranium mining operations. Martinez says, "Everywhere you turn you hear people dying of cancer or having respiratory leukemia, newborns having leukemia. Most of our people don't even have electricity in our Navajo reservation. Most of our elders are gone from here. . . . We're the elders now, and we're only in our 40s." From such examples, students can see connections between the Appalachian people whose lives are disrupted by MTR and the Navajo people who suffer from uranium mining by absentee corporations producing electricity for people far away from the mining sites. Barrie's film also helps students realize their own complicity in these cases of domestic colonialism—that our wasteful energy consumption has much more negative consequences than high electricity bills, including waterways polluted by mercury from coal burning power plants and childhood asthma rates on the rise. The remaining 35 minutes of *Kilowatt Ours* shows how each of us can make positive changes in our consumption, highlighting simple tasks like buying Energy Star electronics, using compact fluorescent bulbs, and sealing air leaks in homes. Barrie looks at homes, schools, and businesses that have become much more efficient by using geothermal technology, daylighting, LED bulbs, and by doing such sensible things as shutting down computers when people aren't using them. In another segment on green power, Barrie interviews a family in Iowa with a private wind turbine and a dairy farmer who generates energy using a methane digester. After watching, we discuss the extent to which the film uses narrative techniques such as plot, setting, characterization, use of symbols, dialogue, and imagery.

In addition to *Kilowatt Ours*, I've shown students video clips from the "America's Most Endangered Mountains" video series on the website iLoveMountains.org, which features interviews with mountain people about how MTR affects their lives, and I've also shown the film *Sludge*, about the massive coal slurry spill in Martin County, Kentucky, in the year 2000. Each text helps students understand more clearly how we are connected bioregionally and how in this global absentee economy we are all "living

downstream." At the end of the unit, students write an essay that analyzes the use of rhetoric in these written and visual works of storytelling.

Assessing my oddball "Introduction to Literature" unit, the following student comment summarizes what others have said regarding their increased knowledge and desire to make positive change:

> In particular I really felt drawn to the film *Kilowatt Ours*. This film stressed the using up of natural resources like coal; and the importance of reducing your use to save the planet. Usually I don't care much about these issues or at least don't do my part. But from this film and discussing it in class, I really had a change of heart; and now I recycle much more and reduce my energy use. One thing the film brought to light for me was *all the ways I could benefit personally* from reducing my use and just how easy it is. This video kept an upbeat non-boring side to what usually is a boring topic. It taught me a lot about the issue and I even found myself taking notes when I wasn't required to do so. I went back home and replaced my light bulbs with more energy efficient ones, as a means to begin reducing my use. (my emphasis)

Note the student's comment about benefitting personally from conservation. Self-interest, whether for economic gain or for improved health, remains a prime motivator for my students, and this energy unit taps into that drive.

In the end, bioregional learning with an energy focus will, of necessity, be expansive and nonprovincial, requiring learning that goes beyond the native soil to see how one's actions here affect people who live over there. The majority of my students wish to remain in Kentucky and deepen their roots here. I'm inspired by how many of them feel an intense loyalty to some place that lies within the political borders of our state, and by how many of them feel proud of our shared symbols. The kind of learning acquired in the energy unit models the "homecoming" that Wes Jackson advocates for university education, as it cultivates a deepening "nativeness" that will, at best, "hold at bay the powers of consumerism . . . greed and envy and pride." It goes beyond our collective symbols, beyond mere living in a place, inching a little further towards a more authentic patriotism, or love of place, that is more responsible because of heightened awareness of how actions in one place are linked to land use in other places. It cultivates a bioregional awareness that students can pack with them if they are relocated to a different state or country—a cosmopolitan care of places that,

like the students' beloved "interwebs" (humorous slang for the Internet), understands no region is an island unto itself.

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