USING LITERATURE TO TEACH ENERGY-RELATED SOCIAL PROBLEMS

by Darryl Hattenhauer

Civilization depends on energy use, and the farther along a society is on the scale from hunting and gathering, to agriculture, to industrialism, to post-industrialism, then the higher will be that society's energy use. If art imitates life and life depends on energy, then art implicitly tells us about the social factors involved in energy use. This essay discusses some of these social factors that accompany the getting and spending of energy. The primary energy exchange is in nature, where the sun and earth interact to determine climate and natural resources, the basis of human environment. Obviously nature is one of the most common subjects of art, and environment one of the major energy issues. That considerations of nature lead also to considerations of politics, religion, economics, and education can be seen in American literature, where the myth of a new world and virgin land has been accompanied by America's own versions of the universal conflicts between authority and egalitarianism, upward mobility and stability, voluntarism and regulation, church and state, progress and timelessness, affluence and frugality, machine and garden, industrialism and agriculture, free market and planning, centralization and decentralization, ecology and growth. So on the one hand, this essay only re-plows old ground. But there are no new frontiers, no new world, in the ecological sense that we've always tilled the same earth and will continue to live or die by that limitation, and in the archetypal sense that there is nothing

new under the sun.

But there may be rebirth. This essay returns to the organic, pre-modern view that humans have one environment and that one of our tools for living in it is art. The art form discussed here is literature. Since this piece takes up the theme of the social issues raised by the energy crisis, the literature discussed is organized chronologically as a reflection of the growth of energy use. In drawing from these suggestions on using literature to explore energy related issues, you could include as much as you like about the elements of literature, although this essay stops short of such considerations.

Today's students are possibly the first generation to understand that progress can be regressive. What they don't understand is not only that this notion has been suggested repeatedly for centuries, but also that the doubters of science and technology were conservatives. The Faust legend is a good place to start exploring the counter-progressive tradition, and Marlowe's play may be the best version. Ask the students to consider whether some matters should be known by none, some, or all of the people. Would humankind be better off without the discovery of nuclear power? Would we be better off if only a few knew of it? If all should know, should all have access to nuclear technology? Doesn't widespread access as a means to controlling a dangerous technology lead to its misuse? Doesn't limited access? Progressives and optimists need to ponder such ironies if they are to realize that all avenues might lead to a very dead end.

Frankenstein is a good novel to continue with. As in the

legend of Faust, the notion of original sin, a concept long out of fashion with progressives, suggests limits to progress. If students claim that all knowledge is good and only the misapplication of it is bad, let them consider how to stop the misapplication. Once an Einstein appears, can a Teller be far behind? In this context, the proponents of the counter-reformation seem not perverse but wise. But even if we can sympathize with the efforts to bury the forbidden fruit of Galileo, should we try to prevent humans from thinking? And how accomplish such an end? Frankenstein shows how the innocent, well-intentioned scientist can use his creations, his technology, as a scapegoat to deflect criticism from his innate depravity. Victor sublimates his evil side into his doppelganger, who must absorb the punishment, as if it's not the theory or scientist that's at fault, but only a mistake in the results, the results being something that doesn't count. But if the monster and technology are evil, it's only because humans are. A machine is neutral. It performs only what humans have it do (so far). Guns don't kill people, people kill people, but the more guns you have, the more corpses.

Another theme in Frankenstein relevant to our energy-intensive, high-technology affluence is our self-deification. We perform tasks previously reserved for God. Obviously technological advances prevent human suffering in the short run. But the implications for the long run, while only suggested in Frankenstein, are unmistakable in Hawthorne's "The Celestial Railroad," a redux of John Bunyan's "A Pilgrim's Progress." In this nineteenth-century tale, only

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the old-fashioned Christians still walk from the City of Destruction to the Celestial City; the moderns ride on a train, their guide a Mr. Smooth-it-away. The Hill of Difficulty has been defeated with a tunnel; the Valley of the Shadow of Death is illumined with gas lamps. In Vanity Fair, the modern city on a hill, liberal theology reigns. As the passengers shift from train to ferry to finish the trip, Mr. Smooth-it-away is revealed as the devil. In his Civilizing the Machine, John F. Kasson concludes that in this tale, "the road to hell is paved with good inventions." (New York: Penguin, 1976, p. 49).

The glorification of the quintessential machine, the train, as a miraculous harnessing of energy for extending the geographic and economic range of human dominance and ease is the theme of Walt Whitman's "To a Locomotive in Winter," which appears in Leaves of Grass. We often regard Whitman as the apex of romantic individualism, though as such he is perhaps a vortex. Here he clebrates the "ponderous," "convulsive," "throbbing," "swelling," "protruding," "fierce," and "lawless" locomotive--this "emblem of motion and power." Such sentiment sounds like an ode to John Wayne rocketing through an Indian village.

For a tale to be trusted, try Twain's A Connecticut Yankee in King Arthur's Court. Recalling the doppelganger in Frankenstein, A Connecticut Yankee implicitly compares Hank and Merlin, and Hank the technocrat comes off as just a more effective magician, though an equally evil one. (However, whereas Victor is knowledgable about theory yet bungles the application, Hank is a very effective ignoramus.) Hank

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The new Spring Convention is built around three program strands, one for each of the instructional levels represented in the Convention audience: elementary, secondary, and college. The college strand focuses on the concerns of teacher education programs but also includes sessions sponsored by the Minnesota Council of Teachers of English on teaching composition and literature in college.

Each of the parallel program strands extends over eleven time periods, Thursday morning (April 15) through Saturday afternoon (April 17). At any given hour, registrants can choose among six to eight sessions aimed at their own teaching level, or they can attend any of the sessions in the other strands. Sessions on as many as seventeen different topics take place at the same hour.

In addition to over 150 concurrent sessions, the Spring Convention features guest speakers at three luncheons and two general sessions. These events are scheduled so that registrants may attend all of them, regardless of program strand.

CONVENTION TIMETABLE

Thursday, April 15

9:00 a.m. - Noon	Concurrent Sessions and Half-day Workshops
12:30 p.m. - 2:30 p.m.	Annual Luncheon, Conference on English Education
1:15 p.m. - 5:30 p.m.	Concurrent Sessions and Half-day Workshops
8:00 p.m.	Opening General Session

Friday, April 16

8:00 a.m. - 9:30 a.m.	Roundtable Discussion Breakfast
10:00 a.m. - 11:00 a.m.	Concurrent Sessions
11:30 a.m. - 1:30 p.m.	Elementary Section Luncheon
12:30 p.m. - 5:00 p.m.	Concurrent Sessions
12:30 p.m. - 1:30 p.m.	Annual Business Meeting, Minnesota Council of Teachers of English
2:00 p.m. - 3:15 p.m.	Annual Business Meeting, Conference on English Education
3:45 p.m. - 5:00 p.m.	Secondary Section General Session

Saturday, April 17

8:30 a.m. - 9:45 a.m.	Elementary Section General Session
8:30 a.m. - 11:30 a.m.	Concurrent Sessions and Half-day Workshops
Noon - 2:00 p.m.	Secondary Section Luncheon
1:00 p.m. - 3:45 p.m.	Concurrent Sessions

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As hosts for the Spring Convention, MCTE and the Local Committee are planning various tours, parties, and special events for our visiting colleagues. One event, "An Evening Out With A Twin Citian," needs volunteers willing to provide escort and transportation to small groups for a dinner or evening out on Friday night, April 16. If you could help and wish more information, please call or write Shirley Vaux, 5805 Arbour Avenue, Edina, MN 55436. Phone: 929-4562

vacillates between original sin and environmental determinism, between nature and nurture--innate depravity and the possibility of social regeneration. This vacillation provides a good opportunity to discuss the limits of education as well as the role of the masses and elites. If humans are innately depraved, what can education accomplish? If we are improvable, aren't some people better at some things than others? If so, shouldn't experts have more power than others? What constitutes an expert?

Another issue implicit in A Connecticut Yankee has direct bearing on the energy crisis: the relationship of church and state. Under our present Secretary of the Interior, our national policy is not to conserve energy and natural resources, but to use them faster--this in the name of having the republic follow God's plan. Scholars in many fields show that the state has become sanctified into a "public religion" or "civil religion," and that theology has been debased into little more than wishful thinking and salesmanship in support of ever-increasing energy-intensive production and consumption. You might suggest the inadequacies of a Christian tradition which asserts that the material world is profane, that the earth--in the mind of one who truly understands this hostility for nature, James Watt--is only so much fodder to use before the fiery end, a prophecy lots of us seem to be itching for lately.

In A Connecticut Yankee, then, progress is explicitly stripped down to one element: affluence. Hank More Gun, the prophet of upward mobility through industrial technology, even if we have to fight for it, expresses one of his nation's

central assumptions:

> There are written laws--they perish; but there are also unwritten laws--they are eternal. Take the unwritten law of wages: it says they've got to advance, little by little, straight through the centuries. (New York: Washington Square Press, 1964, p. 263).

A precursor of the taxpayer's revolt (which as of this writing is taking food from children to finance increasing affluence and economic growth) Hank opposes the progressive income tax; he believes a flat percentage--what we now call "across the board"--is the ultimate fairness. Such increasing expectation is, of course, present in Hawthorne's allegory criticizing his own age, but vulgarity of affluence was ubiquitous in the Gilded Age. After the ignoble end in Faust, Frankenstein, "The Celestial Railroad," and A Connecticut Yankee, you can set the stage for later discussion of entropy and the limits of growth.

A final point about A Connecticut Yankee is Twain's suggestion that how one arranges perception--the structuring of what we call facts--is more important than the facts, can hide or distort the facts: "You can't depend on your eyes when your imagination is out of focus." (Washington Square Press edition, 1964, p. 351). Students need to know that science has its own artifice and fiction, that the scientific method does not shed the scales of superstition and tradition, does not come face to face with just the facts. Rather, science invests the same currency of hope and fear, intelligence and error in the balancing act of turning experience into findings. In addition, the alleged objectivity of science is

negated by the aesthetics of science--the penchant for simplicity, elegance, and parsimony. Like the rest of us, scientists track in pollen from their own flower arranging.

One of science's greatest arrangements of steel into cultural symbol is the Brooklyn Bridge. You can excerpt "Atlantis" from Hart Crane's The Bridge and read it while showing slides or prints of Joseph Stella's painting "The Bridge," which likens Brooklyn Bridge to a cathedral, thereby evoking, like the Crane poem, the sanctification of technology. You might also want to discuss the theme of timelessness, which is implicit in Crane, implicit in all the material we've covered, and according to David Noble in The Eternal Adam in the New World Garden, the central myth of American culture. This theme of timelessness can provide both a review and a new application of the works already read. The pursuit of timelessness is a universal tendency that is particularly strong in America, where, with a faustian expenditure of energy, a "new world" was supposed to allow Europeans to escape the limits and pain that had always plagued humans since the fall. History and time, then, are normally a struggle, but the norm would be transcended in the "new world." The struggle and limits were supposedly left behind in time and history after the new man, the American Adam, escaped into timeless, endless felicity and abundance.

Also of interest for its view of the twenties is Sinclair Lewis' Babbitt. This story about the post-progressive return to normalcy in the twenties, with the revitalization of American mission and exceptionalism, deregulation, private

enterprise, individual initiative, and upward mobility speaks to our present day revitalization of rugged individualism and expansion in perhaps the only appropriate mode--comedy. Like Hank Morgan, George Babbitt's attempts to further the American Way are contradictory. His desire to crack down on undesirables in the name of tradition, law, and authority violates the Constitution. And despite his professed egalitarianism, he is a social-climbing elitist, yet castigates the rich as "plutes." Also, he wants his son to succeed but not excell, to be a professional but not an intellectual. Similarly, he believes in laissez faire when it comes to "hand outs," but favors subsidies to business. Amidst all of this contradiction, he is consistent; his choices are always determined by his self-interest.

One of the greatest symbols of timeless felicity, energy, and production is the machine. Eugene O'Neill's "The Dynamo" presents the post-World-War-One questioning of the machine as progress. The protagonist, ridden by dirt fantasies and guilt as a result of his success-oriented parents, confuses the dynamo with both God and his mother. In the Byzantine conclusion, the protagonist shoots his addled girlfriend to protect his purity and, trying to rejoin his mother and the godhead, leaps to his death in the dynamo. Elmer Rice's "The Adding Machine" is another example of the reaction against machines during the interwar era. In this play, the protagonist loses his mechanical job--one that he hates but desperately needs--due to automation, and finally kills his boss.

This view of the machine continues in Robert Frost's poem "The Egg and the Machine," which contrasts with the Whitman poem. In Frost, the narrator resents the deification of the machine: "He railed against the gods in the machine." (The Complete Poems of Robert Frost. New York: Holt, Rinehart and Winston, 1949, p. 349). But the narrator's response is impotent and destructive. He considers throwing a turtle egg at the engine, an act that would only reduce the number of the train's opposite, the leisurely turtle.

Time and trains are also the subject of Ray Bradbury's short story "The Dragon." What at first seems like two cowboys riding the range is really two knights hunting a dragon. But the dragon, it turns out, is a railroad train. The two engineers on the train callously run over the knights, who are the engineers' alter egos. The result of energy-intensive industrial technology, then, is self-destruction. The train becomes the archetypal evil to be slain by questing heroes. But in the end the dragon-evil is human, the engineers. This eternal struggle against eternal evil, a struggle that can be neither won nor given up, is what Noble calls the eternal Adam, which is the opposite of the American Adam, the symbol of the mistaken belief that we can, through progress, actually leave behind the mistakes of the past, the limits binding other cultures. The one knight who prophesies that they will fail to slay the dragon of evil, just as all of their predecessors have failed, exclaims, "On this moor is no Time, is only Forever." (in A Medicine for Melancholy. New York: Bantam edition, 1960, p. 8). He realizes too late that eternal limitation is the

human lot, that the eternal dream of heaven on earth, which we pursue in our secular paradise, should remain a dream but has not since the Renaissance and Reformation defined paradise as attainable in the city of man.

In the beginning of "The Sound of Thunder," another Bradbury story, there is "a sound like a gigantic bonfire burning all of time, all the years and all the parchment calendars, all the hours piled high and set aflame." (in Robert J. Gangewere, The Exploited Eden. New York: Harper & Row, 1972, p. 364; originally published in 1952). But the protagonist pays $10,000 to step out of time, age, and death and go back--in the ultimate technology, the time machine--to prehistoric time, when all was new. The promise is to reverse time, to achieve, in the phrase of that unappreciated wit, Henry Kissinger, a "world restored." (World Restored: Metternich, Castlereagh, and the Problem of Peace, 1912-1822. New York: Houghton-Mifflin, 1973). In this reversal, everything would "fly back to seed, flee death, rush down to their beginnings, suns rise in western skies and set in glorious easts...." Yet ironically this flight from death is a flight to death, if all is "returning to the fresh death, the seed death, the green death, to the time before the beginning." (Ibid.) The burden of time in this story is that whatever the time travelers do in ancient times can change the course of history. Despite all precautions, a hunter steps on a butterfly, and the ecological reaction up the food chain into human history brings dictatorship. Also implicit in this story is the issue of government regulation. It is only the

government, not private enterprise, that opposes such risky land use. And again we have the train as the symbol of energy-intensive progress. The dying dynosaur sounds like a "wrecked locomotive," suggesting that human depravity will destroy industrial civilization. (p. 369).

The fiction of Kurt Vonnegut, of course, is a mine of dystopian warnings about the high-energy, high-technology future. Cat's Cradle suggests that the scientific method does not so much extrapolate conclusions as impose them on the facts. But Player Piano is perhaps more useful for social issues exacerbated by the energy crisis. It attacks the myth that energy-intensive affluence can lead to the good life, that the "condition of man improves in direct ratio to the energy and devices for using energy put at his disposal." (New York: Dell, 1974, p. 284; originally published in 1952). As for authority, the engineering elite is lampooned, but so are the masses. The people first elevate a half-wit screen personality to the presidency, and then foment a revolution to depose him. And after destroying the industry, technology, and manufacturing that oppresses them, they cheer when they are able to fix a soft-drink machine. As in A Connecticut Yankee and Babbitt, the professionals become increasingly neurotic under the demands of technology. Ed Finnerty could have been an artist, writer, or architect, but was obliged to become a technocrat. As a result, he becomes a suicidal alcoholic. And the confusion of secular and sacred are here too. For example, Mr. Kroner believes there is no higher calling than engineering and management. Also here is the

full bloom of narcissism, the fruit of self-reliance devolved to self-interest. For example, the protagonist's wife can't understand abstractions without reducing them to terms of her intimates and herself.

The Crying of Lot 49 by Thomas Pynchon, Hawthorne's distant relative, is the most difficult work discussed here, but not so difficult. After all, it was popular campus reading a decade ago, and can be made more manageable if you hand out a plot summary and note where in the text Pynchon provides the same. If we are choking on the excess of wealth, we are doing the same on the excess of information. The theory of Maxwell's demon is an information theory that emphasizes not the accretion of data but the arrangement of it. Oedipa's problem is that she has data without arrangement, facts without artifice. She must arrange her facts in a way consonant with them, but there are several ways to do that. Her hope for explanation comes from art--the oracular painting in which she sees herself, and the play in which she sees history and the trystero. In the setting of Lot 49, even urban planning, or the lack of it, corresponds to the imagination. The urban landscape in this novel is a jungle of hotels, freeways, suburbs--less a place for humans than "a grouping of concepts." The facts of this man-made environment, then, are a projection of the imagination, and the imagination is out of focus. The professionals, no longer just bumbling Babbitts, are gone to alienated psychopaths shooting up the neighborhood and lusting after teeny-boppers. The masses fare no better. Their cars are "projections" of themselves.

(Bantam edition, 1967, p. 7; originally published 1966). Also in Lot 49, death and the past continue to influence the present. A dead man's will sets the whole narration in motion--provides the energy. And the characters are playing out the tradition of an underground mail system that originated in medieval times.

For essays, Walden is useful, as is Joseph Wood Krutch's "Conservation Is Not Enough." But students are tempted to find the appreciation of wilderness to be a sentimental luxury that must yield to the need for more energy. Instead, you can use an essay which explains that according to the laws of physics, especially entropy, exponential growth must stop; there are physical limits to affluence. Such chapter can be found in many energy texts, but my favorite is "Limits" from Energy: Sources, Use, and Role in Human Affairs by Carol and John Steinhart. (Belmont, Ca: Wadsworth, 1974). It explains clearly the physical limits to growth, and is a good middle style prose model. For a useful model of more academic prose, see John William Ward's "The Meaning of Lindbergh's Flight" (in Joseph J. Kwiat and Mary C. Turpie, Studies in American Culture. Minneapolis: University of Minnesota Press 1960). Ward shows that Lindbergh symbolized a joining of attributes that we fear are irreparably sundered: the individual and the teamworker, the simple and the complex, old and new, rural and urban, agriculture and technology, tradition and progress. With Lindbergh we could have it both ways. In the ever-increasing effort to apply technology and energy to transportation, we could preserve the old without succumbing to the sins of the new. And finally, for a model of informal prose, see Wendell Berry's long essay The Unsettling

of America (San Francisco: Sierra Club, 1977). Discussing the relationship of agriculture to energy, technology, and culture, Berry establishes the interconnections of land use, affluence, and alienation, showing the correlations between land exploitation and human exploitation, even in male-female relationships.

THE REFUGEE STUDENT -- BLESSING OR BOTHER?

by Nancy Ward

Southeast Asia, Russia, Iran, Korea -- the refugees keep coming. Maybe there are only one or two in your district, or perhaps there are too many and the names are too "funny" for any individual identity to be recognized. What is your reaction when you are assigned a non-English speaking student in your class? If you are asked first, is your response negative? A reluctant "Yes?" If it is less than an enthusiastic "Yessirree!", you are missing out on an opportunity.

Foreign students threaten your free time, the effectiveness of your standard curriculum, the use of the dependable notes you made last year, and in the midst of all this, they may well make a shambles of your grouping techniques. I propose that they also bring in some healthy fresh air of reality and relevance -- it's exciting to work with people for whom English is a survival skill rather than a required subject that has little to do with "real" life. The secret is to sharpen your communication skills so that the new English-speaker is included a maximum amount of