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Edith Wharton's Resource Aesthetics and the Dawn of the American Energy Crisis

ALAN ACKERMAN

Situating Edith Wharton in the context of America's accelerating petro-culture, this essay argues that her novels critique a society that takes for granted high-volume, nonrenewable energy, and specifically revolutionary new kinds of energy: petroleum, natural gas, and the fossil-fueled power stations necessary for the large-scale, continuous production of electricity. Attention to the idiom of energy in *The House of Mirth* and its mirror text, *The Custom of the Country*, along with Ida Tarbell's *History of Standard Oil* and Theodore Roosevelt's conservationism, sheds new light on assumptions about moral agency, personal freedom, changing modes of thought, and the environment between 1880 and World War I. The essay shows how Wharton's allegorical treatment of Lily Bart and Undine Spragg anticipates the notion of externalities or consequences of industrial activities that affect outside parties but are not reflected in the cost of production.

We have become great because of the lavish use of our resources. But the time has come to inquire seriously what will happen when our forests are gone, when the coal, the iron, the oil, and the gas are exhausted, when the soils have still further impoverished and washed into the streams, polluting the rivers, denuding the fields and obstructing navigation.

Theodore Roosevelt, speech at Conference on the Conservation of Natural Resources, 13 May 1908

The aesthetic is at once … the very secret prototype of human subjectivity in early capitalist society, and a vision of human energies as radical ends in themselves.

Terry Eagleton, *The Ideology of the Aesthetic*

Lily Bart, the doomed protagonist of Edith Wharton's 1905 novel *The House of Mirth*, discovers too late that she has wrongly "been accustomed to take herself … as a person of energy and resource."[1] I read this line, which seems a commonplace for personal wherewithal, as an allegory for America's burgeoning energy use at the dawn of the twentieth century. In doing so, I aim to advance the work of others in the field of energy humanities who have

English Department, University of Toronto. Email: alan.ackerman@utoronto.ca.

[1] Edith Wharton, *The House of Mirth* (New York: Penguin, 1986; first published 1905), 268.

urged us to consider how specific ways of using energy shape culture and vice versa. Patricia Yeager, for example, asked in a 2011 editor's column for *PMLA* what happens if we "make energy sources a matter of urgency to literary criticism?" We have only to look at recent postapocalyptic fiction and film to see what has been largely taken for granted, that human societies are organized around specific energy resources and technologies, that we are not only part of a dynamic ecosystem but also capable of depleting it and, in the process, harming ourselves. Yeager wonders whether thinking about energy's "visibility or invisibility" might change the way we read, what we read for, and whether there might be an "energy unconscious" like Frederic Jameson's "political unconscious."[2] In her short column, these questions remain rhetorical, a prompt to the kind of analysis I aim to provide in the pages below. Attention to the idiom of energy – including energy anxiety – in *The House of Mirth* and *The Custom of the Country* (1913) will shed new light on assumptions about moral agency, personal freedom, changing modes of thought, and the environmental imagination between 1880 and World War I. Thinking about energy involves anxiety because people think about it almost exclusively in the context of limitation. The exponential growth of an industrial economy after 1870, with developments in electricity, the networking of homes, central heating, and more reliable internal combustion engines (among other things), required substantial new inputs and forms of energy on a constant basis. In consequence, as Wharton's exceptionally anxious friend Henry Adams wrote in *The Education of Henry Adams*, theirs was a moment of radical transition in which "mechanical energy had … converted itself into thought."[3]

Edith Wharton charts the tragedy of Lily Bart in terms of resource depletion within a wasteful, energy-intensive economy that was transforming the landscape as well as the human experience of time and space. Many read Lily allegorically, as a poetic construct signifying broader sociopolitical themes. In the eyes of her love interest Lawrence Selden, Lily is "the victim of the civilization which had produced her," and, he imagines, she "must have cost a great deal to make."[4] That civilization may be defined narrowly as the turn-of-the-century New York leisure class, more broadly as American, or as a new world of industry, commerce, and materialism. Criticism follows Wharton's own oft-quoted explanation of Lily's symbolic importance in her memoir, *A Backward Glance*: "A frivolous society can acquire dramatic significance only through what its

[2] Patricia Yaeger, editor's column, "Literature in the Ages of Wood, Tallow, Coal, Whale Oil, Gasoline, Atomic Power, and Other Energy Sources," *PMLA*, 126, 2 (March 2011), 305–10.

[3] Henry Adams, *The Education of Henry Adams* (Boston: Houghton Mifflin Company, 1961; first published 1906), 399.

[4] Wharton, *House of Mirth*, 7, 5.

frivolity destroys."[5] Yet, to most, the stakes seem more than frivolous. "Change the word 'frivolous' to 'materialistic,'" wrote one critic in 1957,

> and the story of Lily Bart assumes a larger significance. Edith Wharton was one of the first American novelists to adopt the possibilities of a theme which since the turn of the century has permeated our fiction: the waste of human and spiritual resources which in America went hand in hand with the exploitation of the land and the forests.[6]

It is not necessary to change Wharton's words to understand *what* this society destroys as the human, spiritual, or "natural" resources consumed by a heedless petro-culture. The scrapping of the protagonist is foreshadowed from the opening pages, as the "American craving for novelty" frames the observation that there is "nothing new about Lily Bart."[7] America's is not a culture of conservation.

"The energy question is, at its core, a human question," writes Imre Szeman, "that concerns accounting for the quality of human experience under the fossil fuel economy, reckoning with the increasing precarity of life under fossil fuels … The energy question centres on the values that frame our lives."[8] Active selves shape their world through concrete representations, performances, and objectifications. Wharton's work not only resists the abstraction of early modernism but also highlights the danger of abstraction in human terms, exploring sources of value as such: economic, moral, and aesthetic. She takes an anthropological interest in diverse cultures' modes of valuing, from modern capitalist to feudal aristocratic societies, a project in fiction that exposes idealist impulses to materialist realities. Influenced by extensive reading in ethnography, sociology, philosophy, and evolutionary science, Wharton recognized that value is contingent, not absolute or static, and commented in her journal that it was "salutary now and then to be made to realise '*Die Unwerthung aller Werthe*' ['the re-evaluation of all values']."[9] Alone at the end, Lily finds that "her standard of values had changed."[10] But it would be more accurate to say that her earlier idealist "theory of values," of which she becomes conscious only when altered circumstances cause her to compare herself to a friend, failed to account for concrete particularity, including the material processes of which she herself is a product.

[5] Edith Wharton, *A Backward Glance* (New York: D. Appleton-Century Company, 1934), 207.
[6] Blake Nevius, *Edith Wharton: A Study of Her Fiction* (Berkeley: University of California Press, 1957), 55.
[7] Wharton, *House of Mirth*, 6, 3.
[8] Imre Szeman, *After Oil* (Edmonton: Petrocultures Research Group, 2016), 13.
[9] Quoted in R. W. B. Lewis, *Edith Wharton: A Biography* (New York: Harper & Row, 1975), 230.
[10] Wharton, *House of Mirth*, 318.

Lily's "story," as she calls it (it's also called a "tragedy" in the novel), corresponds historically to increased press coverage of the Standard Oil Trust, spurred by Ida Tarbell's muckraking series in *McClure's* between 1902 and 1904, as well as the coal strike of 1902, and America's painful negotiations with its energy industries in these years are a crucial subtext. The society of *The House of Mirth* and of *The Custom of the Country*, in which people "were always coming and going" and "buildings are demolished before they're dry,"[11] takes high-volume, nonrenewable energy for granted and, specifically, revolutionary new kinds of energy: petroleum, natural gas, and the fossil-fueled power stations necessary for the large-scale, continuous production of electricity. "I apprehend," Henry Adams wrote to his brother Brooks in 1902,

> for the next hundred years an ultimate, colossal, cosmic collapse; but not on any of our old lines. My belief is that science is to wreck us, and that we are like monkeys monkeying with a loaded shell; we don't in the least know or care where our practically infinite energies come from or will bring us to … It is mathematically certain to me that another thirty years of energy-development at the rate of the last century, must reach an impasse.[12]

Wharton is never so pessimistic and, in fact, often delighted in the technological innovations of her age. Nonetheless, reading her novels in this context can help us to reevaluate the energy crisis that defines a historical period, beginning with the Second Industrial Revolution in the 1870s.

Wharton, like Adams, saw her own life within the contours of radical technological and economic change. She was born in 1862, three years after the Drake oil well in western Pennsylvania launched the American oil industry and twenty before Thomas Edison established his first coal-fired power station in Manhattan. Her husband, Teddy, bought his first car in 1904. *The House of Mirth* opens with a sighting of Lily in Grand Central Station, then undergoing a renovation that would replace steam engine service with a terminal for cleaner and faster electric trains – indicating some awareness of spillover costs associated with fossil fuels – and make it the biggest in the world. The primary motivation of the developers, however, was economic, not environmental or health-related, transforming the station, in the words of the chief engineer, "from a nonproductive agency of transportation to a self-contained producer of revenue – a gold mine, so to speak."[13] The decade-long project to

[11] Edith Wharton, *The Custom of the Country* (1913), in Wharton, *Novels* (New York: The Library of America, 1985), 621–1014, 1003, 982.

[12] Henry Adams, *The Letters of Henry Adams*, 6 vols., ed. J. C. Levenson, Ernest Samuels, Charles Vandersee, and Viola Hopkins Winner (Cambridge, MA: Harvard University Press, 1988), Volume V, 400.

[13] Chief Engineer William J. Wilgus quoted in Sam Roberts, *Grand Central: How a Train Station Transformed America* (New York: Grand Central Publishing, 2013), 73.

enlarge Grand Central was approved by a board that included Cornelius and William Vanderbilt, William Rockefeller, and J. P. Morgan – all prominent members of Wharton's milieu. The reader sights Lily there for the first time "in the act of transition." She stands out from rush-hour traffic as a refreshing vision, yet is less incongruous than she may appear. She is always in transition. Lily starts the novel waiting for a train and ends lifeless in a boarding house.

A radiant twenty-nine years old in the first chapter, her story dramatizes the destructive capacity of a culture involved in a structural transformation to an unsustainable high-energy system that had been picking up steam from roughly the time of her birth in the 1870s. The adjective "radiant," a familiar term for transmitting light or heat, appears five times in Book One of the novel, always in reference to Lily, starting on the first page – "Selden had never seen her more radiant." – and not once in Book Two. Lily's proves to be a dark or at least deeply paradoxical radiance, anticipating Horkheimer and Adorno's remark that "the wholly enlightened earth is radiant [*strahlt*] with triumphant calamity."[14] Moreover, Wharton links Lily's own abstraction of the earth, having "grown up without any one spot of earth being dearer to her than another," to her ultimate loss of strength – not just "material poverty" but a "deeper empoverishment [*sic*]" and "inner destitution."[15] In this respect, Lily, like her doppelgänger Undine Spragg in *The Custom of the Country*, who marries, in turn, old-money New York, a French aristocrat, and an American capitalist, represents an emblematic break from Old World particularism to New World freedom, for better and mostly for worse. Undine, whose initials are U. S., takes a similar allegorical journey, though hers is characterized by "success" and Lily's by "failure" – terms that Wharton is at great pains to interrogate. Failure has connotations of ugliness and impoverishment, but success can seem equally "squalid."[16] Whereas Lily fails to marry a rich man or to secure her economic future – yet arguably preserves her "real self" – the "conspicuous beauty" of Apex City weds a series of men, each wealthier than the last, culminating with the billionaire "Railroad King" Elmer Moffatt (to whom she had been briefly married in poorer days before the novel began). Yet she remains perpetually restless and dissatisfied, measuring success by "her power of making people do as she pleased."[17] She is an unvaryingly "radiant creature," who reads about herself in the New York *Radiator* (the title is Wharton's invention, but it is worth mention that the

[14] Max Horkheimer and Theodor W. Adorno. *Dialectic of Enlightenment: Philosophical Fragments*, ed. Gunzelin Schmid Noerr., tr. Edmund Jephcott (Palo Alto: Stanford University Press, 2002), 1. [15] Wharton, *House of Mirth*, 318. [16] Ibid., 112.
[17] Wharton, *Custom of the Country*, 970.

American Radiator Company was established in 1892). Her beauty is as vivid as "the brightness suffusing it." One lover feels the "tempestuous heat of her beauty." For Undine, no lights are too bright, no fire too hot, and "no radiance was too strong."[18]

At the beginning of *The House of Mirth*, Selden's gaze registers Lily as a nonhuman resource. At first she refreshes his eyes like a cool stream. Then, he imagines her aesthetically as a ceramic doll; "a fine glaze of beauty … had been applied to vulgar clay." But he checks himself: "a coarse texture will not take a high finish." In Lily, he feels certain, "the material was fine." Selden's quasi-Marxian meditation on the refining of Lily's "material" ("ugly people must … have been sacrificed to produce her"[19]), and how it is "brightened by art," draws attention to the work of culture and the resources that fuel it, suggesting an analogy, developed later, that associates Lily with a cultivated landscape. The reification of Lily under the gaze of the male speculator (with connotations of romance and finance), the questions of value and costs of production, indicate the much-discussed theme of "conspicuous consumption" and Wharton's debt to Thorstein Veblen's 1899 *Theory of the Leisure Class*, which details the "ancillary" role of women as both consumers and consumed in modern society. But questions of cost and value also point beyond the marriage market of high-society New York to a critique of instrumental reason in a techno-utopian culture and a problem inherent in what recent ecocritics have called "resource aesthetics." This curious coinage sounds like an oxymoron and points to contradictions in our ways of thinking about both resources and aesthetics.

In a 2016 special issue of the journal *Postmodern Culture* on *Resource Aesthetics*, the editors acknowledge the difficulty of defining their terms independently, let alone together. The juxtaposition generates immediate tensions: resources are functional, a reserve of materials or money, which can be converted into energy to perform work. People *use* resources to *do* things. Aesthetic experience, on the other hand, is often supposed to be disinterested, impractical, and irrational (there's no accounting for taste). At least according to Kant, aesthetic pleasure does not involve the desire to *do* anything. So what do these words mean together? The editors' introduction, "Toward a Theory of Resource Aesthetics," is more suggestive than definitive:

> Resource aesthetics can be said to provoke the contradictions between the instrumental and the beautiful, the literal and figurative, extraction and its representation, in a way that might return the question of visibility to a consideration of the material requirements of aesthetic production, while at the same time insisting on the aesthetics of resource extraction and the recognition of infrastructure as form. Or, to put that

[18] Ibid., 691.

[19] Wharton, *House of Mirth*, 5.

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another way, by thinking the figural iterations of resources and the literal face of aesthetics, the aesthetics of resources alongside the aesthetic as resource.[20]

This passage is gestural, not programmatic. Yet, despite its vagueness and contradictions, the phrase "resource aesthetics" may help both to shed light on key problems in Wharton's work (e.g. how to read her protagonists' beauty as a resource to be used or cashed in) and to critique unexamined assumptions that have governed human relations to the material world, particularly in a New World, American context since the second half of the nineteenth century. It also points to an understanding of allegory not as a transparently coded system of signs but as a contentious negotiation between things and ideas. Allegory is not a simplistic illustrative technique or "figural iteration" but a mode of critique and site of tension between immanence and transcendence. Wharton's economic–environmental allegory supplements her naturalistic plots; the psychosocial narrative level of Lily's and Undine's "stories" both signifies other levels of meaning and mixes with them. To treat a human being as a means, rather than an end in herself, is to render "a person of energy and resource" allegorical.

Aesthetic objects, like Lily, who stands out from the "afternoon rush," appear detached from the dense flux of quotidian material experience. Lily is a "figure" of the ideal, of "purity," abstracted from the welter of the real: "Her vivid head, relieved against the dull tints of the crowd." But, of course, Lily is part and product of her material reality, and Selden's way of seeing her designates her as a site of inquiry into contradictions between the instrumental and the beautiful, concreteness and abstraction, resources and capital. I read *The Custom of the Country* as a mirror text of *The House of Mirth*. Undine Spragg's socioeconomic ascent, powered by her remarkable energy, presents an inverted image of Lily's depletion and decline. Reflecting on each other, the two novels suggest an ambivalent commentary on the culture of fossil fuels. Undine's beauty is a mirror image of Lily's; putting it to use, she is determined not to *be* dominated but to dominate. Early in *The Custom of the Country* she sees "at a glance that she did not know how to use her beauty" and sets about to rectify her lack of imagination. As she grows older Undine gives herself up "to the scientific cultivation of her beauty," which she uses ultimately to arouse the "aesthetic emotions" of a billionaire industrialist. So does their beauty offer, as Terry Eagleton suggests, "a vision of human energies as radical ends in themselves which is the implacable

[20] Brent Ryan Bellamy, Michael O'Driscoll, and Mark Simpson, "Introduction: Toward a Theory of Resource Aesthetics," *Postmodern Culture*, 26, 2 (Jan. 2016), at https://muse.jhu.edu/article/635537, accessed 21 Feb. 2018.

enemy of all dominative and instrumentalist thought," or, as he also suggests, does it inscribe the body "with a subtly oppressive law"?[21]

The aesthete Selden both speaks of freedom and epitomizes oppression. He takes an impersonal yet "luxurious pleasure" in "the modelling of [Lily's] little ear, the crisp upward wave of her hair – was it ever so slightly brightened by art?"[22] Lily is drawn to him by her similar aesthetic education, her "instinctive resistances, of taste, of training" in dry formalism.[23] Is Selden's aesthetic detachment morally superior to the sexual desire Lily's beauty excites in others? What is the best way to value beauty, and to what degree can it be termed a possession? These questions point to core themes in Wharton's representation of a wasteful culture. Even to speak of aesthetics presumes a culture with a capacity for material waste. "If beauty or comfort is achieved," Veblen wrote, "they must be achieved by means and methods that commend themselves to the great economic law of wasted effort."[24] Beauty, he suggests, is the product of "surplus energy."[25] Acknowledging his pleasure in "the decorative side of life," Selden echoes Veblen and anticipates Eagleton's assertion that the aesthetic is "a vision of human energies as radical ends in themselves," lamenting "that so much human nature is used up in the process" of cultivating beauty rather than used as a means toward social or personal betterment. Explaining his view that human beings are part of nature's resources, he expresses conflicted impulses between instrumentalism and formalism: "If we're all the raw stuff of the cosmic effects, one would rather be the fire that tempers a sword than the fish that dyes a purple cloak. And a society like ours wastes such good material in producing its little patch of purple!"[26] Waste is a central trope in many of Wharton's works. In *The House of Mirth*, Lily's fate hinges on what she does with a letter taken from a "brimming" wastepaper basket, the detritus of a rival's affair. She burns it. More important, she herself becomes a form of waste, "stranded in a great waste of disoccupation." Lily's beauty inspires diverse responses, from idealization to lust, that also characterize attitudes toward natural resources. Without balancing the conflicting impulses, appreciation and desire, formalism and instrumentalism, the rational pursuit of pleasure and actual sensuous enjoyment prove equally destructive forms of objectification.

Starting with Selden catching sight of Lily, Wharton's resource aesthetics center on acts of seeing, of being seen, and of occlusion. The optical and deeply gendered vocabulary that has shaped industrial America's attitudes

[21] Terry Eagleton, *The Ideology of the Aesthetic* (Oxford: Blackwell, 1990), 9.
[22] Wharton, *House of Mirth*, 5. [23] Ibid., 104.
[24] Thorstein Veblen, *The Theory of the Leisure Class* (New York: Oxford University Press, 2007), 58. [25] Ibid., 135, 136. [26] Wharton, *House of Mirth*, 70.

toward natural resources was largely formulated by Ralph Waldo Emerson in the decades prior to and including Wharton's birth. As Emerson put it in his late lecture "Resources" (1864), "We like to see the inexhaustible riches of Nature, and the access of every soul to her magazines."[27] Wharton admired Emerson, but, in terms of resource aesthetics, Emerson provides an anatomy of masculine love and exploitation, of "husbanding" resources,[28] to which she offers a corrective. For Emerson, there is an intrinsic delight in the "plastic power of the human eye."[29] *Art*, he explains, is the mixture of man's will with the materials of nature. To regard nature as an artist is paradoxically to *compel* nature "to emancipate us."[30] With its aesthetic treatment of natural resources – from fire and wind to steam and coal – *Nature* theorizes a relationship between man and the creative energy of the earth that is purposive and harmonious but also forceful. Nature is "fluid, it is volatile, it is obedient."[31] Nature can be put to a variety of human uses; those of a lower order fall under the rubric "Commodity," those of a higher order, "Beauty," but the line between the two is fine and even permeable. "The influence of the forms and actions in nature," according to Emerson, "seems to lie on the confines of commodity and beauty."

The value of natural resources depends on the *male* gaze and on distinction ("the difference between the observer and the spectacle, – between man and nature"), anticipating a key theme in *The House of Mirth* (e.g. Selden calls Lily "a wonderful spectacle"), and Emerson frames the relationship as a romance in an extended metaphor in the chapter "Beauty":

> Nature stretcheth out her arms to embrace man, only let his thoughts be of equal greatness. Willingly does she follow his steps with the rose and the violet, and bend her lines of grandeur and grace … A virtuous man is in unison with her works, and makes the central figure of the visible sphere.[32]

In Selden, to whom Lily has "a kind of wild-wood grace … as though she were a captured dryad subdued to the conventions of the drawing-room,"[33] Wharton critiques the exploitative, male-centered ideology implicit in Emerson's Commodity–Beauty pairing, situating both uses of nature within the context of industrial capitalist accumulation. Ideally, for Emerson, "All the parts incessantly work into each other's hands for the profit of man.

[27] Ralph Waldo Emerson, "Resources," in *The Later Lectures of Ralph Waldo Emerson*, 2 vols., ed. Ronald A. Bosco and Joel Myerson (Athens: University of Georgia Press, 2001), Volume II, 340–59, 240.

[28] *The Letters of Ralph Waldo Emerson*, 10 vols., ed. Ralph L. Rusk and Eleanor Tilton (New York: Columbia University Press, 1939, 1990–1995), Volume IV, 107.

[29] Ralph Waldo Emerson, *Nature* (1836), in Emerson, *Essays and Lectures* (New York: The Library of America, 1983), 5–49. [30] Ibid., 33. [31] Ibid., 48. [32] Ibid., 17.

[33] Wharton, *House of Mirth*, 13.

The wind sows the seed; the sun evaporates the sea," and so on;[34] but the language of "profit" undoes idealism and harmony. The pleasures of the "transparent eyeball" tip easily into the opacity confronting a detached perspective, as *The House of Mirth* vividly illustrates. Selden's thoughts fall far short of "greatness," and his appreciation of Lily is only marginally more "virtuous" than that of her predatory admirers. An attitude of pleasurable speculation has characterized representations of New World resources from Columbus's time to our own. To Emerson, the globe is a "great factory," and, as few will deny, "this world belongs to the energetic."[35] Dominion of nature is inextricable from aesthetic appreciation.

"Toward a Resource Aesthetic," its authors suggest, designates "a matter of critical method, of interpretation." We might describe such a methodology as a form of materialism that takes idealism as its subject. It aims to deconstruct the opposition between inner and outer nature and to critique technological activity that objectifies nature, whether in a formalist or an instrumentalist attitude of domination. Most important, it acknowledges an objective reality that is both outside human cognition and historically contingent. As Horkheimer and Adorno argue in *Dialectic of Enlightenment*, instrumental rationality is premised on a domination of nature and turning subjectivity to objective uses, which inevitably leads to the destruction of humanity and the assimilation of all forms of culture into an industrial model: "anyone who resists can survive only by being incorporated."[36] This is precisely what Lily refuses to do and what Undine does in spades when she marries the president of the Apex Consolidation Company. Whether Undine, who is "fiercely independent and yet passionately imitative,"[37] is beyond good and evil or has most fully internalized conventional morality, with its colonizing approach to material resources, remains open to question.

Deeply versed in aesthetic theory, Wharton herself represents the aesthetic as a contradictory socioeconomic construction, one that is associated both with the highest form of subjectivity, an end in itself, and with a project that can challenge a prevailing capitalist ideology. Hermione Lee comments, for example, that Wharton's early nonfiction – *The Decoration of Houses* (1897) and *Italian Villas and Their Gardens* (1904) – takes up "a complex cultural argument about America at the turn of the century. One of the key topics in this argument was the morality of taste, something that interested her very much."[38] Lily and Undine literally embody this complexity, as subjects and objects, as both creators of beauty and *objets d'art* themselves. Often described

[34] Emerson, *Nature*, 12.
[35] Emerson, "Resources," 240.
[36] Horkheimer and Adorno, *Dialectic of Enlightenment*, 104.
[37] Wharton, *Custom of the Country*, 633.
[38] Hermione Lee, *Edith Wharton* (London: Vintage, 2007), 120.

by her friends as "the beautiful Miss Bart," Lily herself is an aesthete ("how she loved beauty!"), with "an artistic sensibility which made her feel herself their superior."[39] Resources are extracted, abstracted, and ultimately, in their highest – or least instrumental – form, aestheticized. The beautiful Lily, who seems to epitomize the freedom and autonomy of the bourgeois subject, ends the novel in "the rubbish heap." Far from being a Marxist, Selden is an enabler of, and parasite on, the capitalist order that produces and consumes her. Yet his reflections in the book's opening pages raise questions about resources that, in Stephanie LeMenager's terms, are often "hidden … in plain sight."[40] A "glaze of beauty" requires a kiln's high heat, and it takes for granted a set of material forces and social relations. In short, Wharton's figurative language of "resources" raises questions about the cost of "aesthetics."

Early in *The House of Mirth*, we are told that Lily's "last asset" and only "raw material" is her beauty. Her friend Gerty Farish regards her loveliness as "a natural force," while recognizing that Lily's heedless use of her "power" must "despoil" others.[41] Here too, the moral value of energy has a gendered dimension. Invariably positive when associated with men, the rhetoric of "energy" is equivocal in describing women. Numerous female characters in the book are intensely energetic. Lily sighs, for instance, "to think what her mother's fierce energies would have accomplished" in advancing her marriage prospects, "had they been coupled with Mrs. Peniston's resources." Yet her horrible, resentment-driven mother is also characterized by her "crude passion for money," while her aunt simply drains her: "there was a static force in Mrs. Peniston against which her niece's efforts spent themselves in vain." Lily, we are told, "had abundant energy of her own, but it was restricted by the necessity of adapting herself to her aunt's habits."[42] Edith Wharton herself was widely regarded by both contemporaries and later biographers as a person of extraordinary energy, though the former were apt to regard energetic women, less sympathetically, as bossy and headstrong. In a letter to Henry James, Henry Adams referred to her "feminine energy," and James himself was – or at least played at being – taken aback by her intensity. He called her an "Angel of Devastation" and, as if Wharton herself were a high-powered motor, spoke semi-humorously of the "iridescent track of her devastation."[43] R. W. B. Lewis comments on Wharton's "almost unbelievable

[39] Wharton, *House of Mirth*, 110. Others have discussed Lily as commodity; cf. Lois Tyson, "Beyond Morality: Lily Bart, Lawrence Selden and the Aesthetic Commodity in *The House of Mirth*," *Edith Wharton Review*, 9, 2 (Fall 1992), 3–10.

[40] Stephanie LeMenager, *Living Oil: Petroleum Culture in the American Century* (New York: Oxford University Press, 2014), 66. [41] Wharton, *House of Mirth*, 166. [42] Ibid., 38.

[43] Adams, *Letters*, Volume VI, 269; Henry James, *The Letters of Henry James*, 4 vols., ed. Leon Edel (Cambridge, MA: Harvard University Press, 1984), Volume IV, 525.

energy."[44] However, a late chapter of *The Letters of Edith Wharton*, which Lewis coedited, is entitled "The Costs of Energy,"[45] a theme more deeply explored in Lee's biography. The narrative arcs of numerous Wharton works chart a course from energy to depletion. At the end of *The Age of Innocence*, which is set in the 1870s but concludes close to the date of publication in 1920, Newland Archer's wife May waits for him, "radiating the factitious energy of one who has passed beyond fatigue."[46] Wharton herself continually oscillated between energy and exhaustion. "For a woman who was so often ill," writes Lee, Wharton "showed phenomenal energy."[47] No one's energy is limitless, though many in *The House of Mirth* suffer from this illusion.

The word "energy" derives from the Greek *energeia*, which means activity or potentiality. For Aristotle, energy meant being awake. Ancient philosophers adapted Aristotle's word *energeia* to describe energy in matter, as a kind of *élan vital*, and to denote vital qualities in individuals and societies. Energy as such is invisible; what we see are its effects in matter, from which we deduce a common definition of energy as capacity for work. Wharton uses the term this way, and for her there is always an economy of energy. In *The Custom of the Country*, the word appears mostly in relation to Undine's old-New York husband, the weak and financially strapped Ralph Marvell, whose "partners were quick to profit by his sudden spurt of energy," but who, worn down by "mechanical drudgery" and lacking the resources of (or demanded by) his ex-wife, kills himself. Lily's limited resources are applied to the aesthetic work of cultivating her beauty (her key resource), but her creativity is also constrained by concrete, local factors of which she often seems unaware. Lily's tragedy is to incur a terrible debt for which she pays with her life, overdosing on a drug with which she hopes to still the "supernatural lucidity of her brain," and going to sleep forever. The greater the expenditure of mechanical energy around her, the less her own internal resources. One of the problems in *The House of Mirth*, as in the broader culture, is that women seem a resource for use.

Lily's own, often unconscious, assumptions about life in the fast lane are material and moral. In the second chapter, on the train from New York to a country estate, she encounters the first of her *über*-rich suitors, Percy Gryce. The speeding train flings her into his arms, signifying the impact of modern, mechanized transportation on human relationships, including

[44] Lewis, *Edith Wharton*, xii.

[45] "The Costs of Energy: 1919–1927," in *The Letters of Edith Wharton*, ed. R. W. B. Lewis and Nancy Lewis (New York: Charles Scribner's Sons, 1988), 415–507.

[46] Edith Wharton, *The Age of Innocence* (1920) in Wharton, *Novels* (New York: The Library of America, 1985), 1015–1302, 1287.

[47] Lee, 88.

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courtship. Linking herself to the commodification of American ideals, she aims (unsuccessfully) to become "what his Americana had hitherto been: the one possession in which he took sufficient pride to spend money on it."[48] After struggling to generate conversation with the dull-witted young man – in Wharton's words, "to set his simple machinery in motion" – Lily touches on this "last resource," the topic of his Americana and the aestheticizing, or fetishizing, of America. Gryce reads reviews of American history solely in the hope of finding his own name, a form of narcissism that indicates a paradoxical liberation from particularity along with an oppressive logic of simplification and abstraction. The Gryce collection, of which he is excessively proud, is the largest, most valuable in the world, and it is the direct product of a mechanical invention that Wharton deftly disparages for its hostility to the natural environment. Gryce's father, Jefferson Gryce, had made a fortune "out of a patent device for excluding fresh air from hotels." The first modern electrical air conditioning unit had actually been invented in 1902. As Wharton comments in *A Backward Glance*,

> That I was born into a world in which telephones, motors, electric light, central heating (except by hot-air furnaces), X-rays, cinemas, radium, aeroplanes and wireless telegraphy were not only unknown but still mostly unforeseen, may seem the most striking difference between then and now; but the really vital change is that, in my youth, the Americans of the original States, who in moments of crisis still shaped the national point of view, were the heirs of an old tradition of European culture which the country has now totally rejected.[49]

However debatable Wharton's assessment of European tradition vis-à-vis American novelty, *The House of Mirth* shows that these categories of change – the technological and the moral – are inextricable. The age was also that of the most energetic politician in American history. Republican President Theodore Roosevelt, whom Wharton remembers as "a friend" in *A Backward Glance*, was, in her words, "so alive at all points, and so gifted with the rare faculty of living intensely and entirely in every moment as it passed, that each of those encounters glows in me like a tiny morsel of radium."[50] Henry James described him as "a wonderful little machine: destined to be overstrained."[51] The nature writer John Boroughs compared him to an electric battery. One Senator called Roosevelt a "steam engine in trousers"; to another observer he was "a volcano of electricity."[52] In 1905,

[48] Wharton, *House of Mirth*, 49. [49] Wharton, *A Backward Glance*, 6–7. [50] Ibid., 317.
[51] Henry James, *Selected Letters*, ed. Leon Edel (Cambridge, MA: Harvard University Press, 1974), 16 Jan. 1905, 360.
[52] Francis E. Leupp, *The Man Roosevelt: A Portrait Sketch* (New York: D. Appleton & Company, 1915), 289.

less than two weeks after his second inauguration, Wharton had dinner at the White House, seated at the President's right hand.

The energetic Roosevelt was not only the iconic but also the pivotal figure of America's ramped up petro-culture. Hardly an enemy of big business, despite his trust-busting, Roosevelt began his presidency by resolving a labor dispute in the coal industry – then the primary source of energy in America, heating nearly every building in the urban Northeast – but he also contested prevailing assumptions about America's unlimited resources, setting the terms for future debates. In his first address to Congress in December 1901, he preached the conservation of resources, which became a major theme of his administration. At a meeting of the Society of American Foresters in March 1903, he insisted that the primary object of his forest policy was

> not to preserve forests because they are beautiful though that is good in itself; not to preserve them because they are refuges for the wild creatures of the wilderness though that too is good in itself but the primary object of the forest policy as of the land policy of the United States, is the making of prosperous homes.

He returned often in 1903 to "home-making" as the principal justification of his policy for preserving "a steady and continuous supply of timber, grass, and above all water." He spoke from "the standpoint … of the far-seeing citizen, who wishes to preserve and not to exhaust the resources of the country, who wishes to see those resources come into the hands not of a few men of great wealth, least of all into the hands of a few men who will speculate in them; but be distributed among many men."[53] Distinguishing between the beautiful and the sustainable, Roosevelt emphasized economy, touching on one of Wharton's central themes, home-making, and acknowledging diverse interests that the idealistic Selden elides. Roosevelt attempted to balance energy and economy on the fulcrum of aesthetics in a conservation address at Stanford University in 1903: "There is nothing more practical in the end than the preservation of beauty, than the preservation of anything that appeals to the higher emotions in mankind."[54] Deploying aesthetics to promote resource conservation, deconstructing the instrumentalist–formalist opposition, Roosevelt's speech illustrates how aestheticizing resources could shape national policy.

The proliferation of new technologies in Wharton's world, as in her novel, functions metonymically, illuminating (figuratively and literally) characters' successes and failures. When she reaches her friends' estate at Bellomont,

[53] See William R. Nester, *The War for America's Natural Resources*, 82–84, and 1903 speeches, at www.theodore-roosevelt.com/images/research/txtspeeches/40.txt; www.theodore-roosevelt.com/images/research/txtspeeches/80.txt.

[54] Theodore Roosevelt, "Remarks at Leland Stanford Jr. University," 12 May 1903, at www.presidency.ucsb.edu/ws/?pid=97726, accessed 28 July 2017.

Lily finds that electric light makes her appear "hollow and pale," so she turns out the wall lights and peers at herself between candle flames instead, obliquely implicating the newer, mass-powered technology in her ill appearance. Late in the book, nearing her lowest point, Lily sinks down on a bench "in the glare of an electric street-lamp. The warmth of the fire had passed out of her veins … But her will-power seemed to have spent itself in a last great effort, and she was lost in the blank reaction which follows on an unwonted expenditure of energy."[55] The over-brightness of the inefficient incandescent bulbs, first installed along Broadway between Fourteenth and Twenty-Sixth Streets in 1880, and lit after 1882 by Edison's power station, is inversely related to Lily's depletion. According to Edison, a reporter for the *New York Times* remarked in 1882, the lights "will go on forever unless stopped by an earthquake." Lily has no such luck. One hundred years later, concerns about vast power grids prompted the US Energy Policy Act of 2005. However, by 1901, even Edison had begun to recognize the excessive power demands of built environments and to seek ways to supplement fossil fuels with renewables such as wind.

Edison and Ford also developed an electric car, and the story of how gasoline-powered motors ultimately – but not inevitably – pushed electric vehicles out of the market is a crucial subtext of Wharton's work, in which both gasoline and electric-powered cars appear. A 1911 *New York Times* article on the National Automobile Show at Madison Square Garden claims that women in particular went to examine the four makes of electric vehicles on display. "Small electric runabouts" were popular with women, according to the *Times*, because "early gasoline cars required more strength to crank than most women possessed. Another great advantage of the electric in years gone by was their quiet operation, in comparison with gasoline cars, and this fact alone was responsible for their widespread use by women."[56] Wharton, who loved "motors," might have disputed the assumption about women's strength, but she appreciated the capacity of cars, whether electric- or gasoline-powered, to play a role in women's liberation – at least for those of means. The freedom, in time and space, that cars enabled, however, also involved acceptance of and submission to a socioeconomic regime that not only takes infinite energy for granted but also ignores hidden costs. The dust alone from cars, not to mention the exhaust, had a major impact on

[55] Wharton, *House of Mirth*, 311.

[56] "Electric Cars Attract Attention," *New York Times*, 20 Jan. 1911, accessed 5 June 2017, at http://query.nytimes.com/mem/archive-free/pdf?res=9406E4DA1331E233A25753C2A9679C946096D6CF; https://energy.gov/articles/history-electric-car.

rural roads in particular; in Stephen Kern's words, they "engulfed pedestrians and cyclists and ruined the crop of lettuce farmers."[57]

Electric cars quickly became popular with both sexes, not only for running more easily and quietly but also because they did not spew exhaust. In 1898 Ferdinand Porsche invented the world's first hybrid electric car. Electric cars made up roughly a third of the auto market at the turn of the century, and a fleet of electric taxis served New York City. Wharton's story "The Touchstone" refers offhandedly to the ubiquity and reliability of electric taxis. In 1899, a group of wealthy investors, led by August Belmont (a model for Gus Trenor, the owner of Bellomont in *The House of Mirth*), executives from Standard Oil, and Edison's personal secretary Samuel Insull, founded the Woods Motor Vehicle Company to produce electric cars. Charging stations also evolved in the first decade of the twentieth century to meet demand, and readers can find a model in Mrs. Norma Hatch's electric victoria in *The House of Mirth*.[58] By the 1930s, however, electric cars had been driven off the road by Ford's introduction of mass production of the Model T in 1908, which made gasoline-powered cars more affordable and quicker to market. Another determinant was the exponential increase of Texas crude oil production in the decades following discovery of the "Spindletop gusher" and development of America's first major oil field in 1901. The profit-maximizing logic of private enterprise and the lack of public awareness, let alone laws, to restrict pollution or set limits on the exploitation of natural resources simply deferred clear thinking about an energy crisis that some, such as Edison and Roosevelt, already anticipated.

Economics rather than environmentalism largely shaped early conversation about conservation of resources. In 1908, industrialist and railroad man James J. Hill gave a speech at the White House entitled "The Natural Wealth of the Land and Its Conservation" at the first Conference on the Conservation of National Resources. Following Roosevelt's lead, Hill framed it as a problem of economic waste: "For the first time there is a national protest, under seal of highest authority, against economic waste."[59] Without directly critiquing the fossil-fuel economy, Wharton's allegorical treatment of Lily Bart nonetheless anticipates the notion of externalities or consequences of industrial activities that affect outside parties but are not reflected in the cost of production.

[57] Stephen Kern, *The Culture of Time and Space: 1880–1918* (Cambridge, MA: Harvard University Press, 1983), 114.

[58] Heather Rogers, "Current Thinking," *New York Times Magazine*, 3 June 2007, at www.nytimes.com/2007/06/03/magazine/03wwln-essay-t.html, accessed 21 Feb. 2018.

[59] "The Natural Wealth of the Land and Its Conservation," address delivered by Mr. James J. Hill, White House, Washington, at the Conference on the Conservation of National Resources, 13–15 May 1908, at https://archive.org/details/naturalwealthofloohilluoft.

Lily cannot survive a techno-modernity that whizzes like an express train "with a deafening rattle and roar," and in which, as British welfare economist Arthur Pigou wrote, "costs are thrown upon people not directly concerned, through, say, uncompensated damage done to surrounding woods by sparks from railway engines."[60] The irony is that Lily has ignored those sacrificed "in some mysterious way" for her benefit, yet she becomes the emblematic victim of an economy from which she unconsciously profits. Lily personifies the concept of externalities or nonmonetary "spillover" effects – costs not taken into account or paid for by those who cause the damage. This concept has become central to environmental economics, and Lily's demise instantiates her society's nonmonetary impacts. For instance, her feeling of moral defilement is figured as nature polluted: "Everything in the past seemed simple, natural, full of daylight – and she was alone in a place of darkness and pollution."[61] As Gryce's narcissism is emblematic of the anthropocentric "machinery" of the broader culture, Ford could truly find his name anywhere, thanks to his abstraction of America's resources, linking the assembly line (abstraction of labor) to the fossil-fueled economy's preeminent symbol of abstraction: the Model T. Lily Bart's final, failed attempt to make a living for herself happens on an assembly line in a millinery establishment.

New forms of energy use, from gas ovens to electric lights, define key moments of Lily's decline. Excessive energy consumption metaphorically initiates her death scene: "It was as though a great blaze of electric light had been turned on in her head, and her poor little anguished self shrank and cowered in it."[62] Yet the scene in which Lily is most explicitly identified with an American landscape (despite her lack of "real intimacy with nature") occurs with Selden on the hilly estate of Bellomont in the Hudson Valley. There she seems part of the "harmony of things." She projects herself onto the landscape, or abstracts it to fit her mood: "The landscape outspread below her seemed an enlargement of her present mood, and she found something of herself in its calmness, its breadth, its long free reaches."[63] The romantic pair has a momentary experience of freedom and expanded horizons that leads to a philosophical dialogue. How would Selden define "success," she asks? Success means "personal freedom," he explains, "from everything – from money, from poverty, from ease and anxiety, from all the material accidents. To keep a kind of republic of the spirit."[64] Wharton punctuates this famous "republic-of-the-spirit" conversation with the appearance of a machine in the garden, a motor, "like the

[60] Wharton, *House of Mirth*, 233; Arthur Cecil Pigou, *The Economics of Welfare* (London: MacMillan and Company, 1920), 115.
[61] Wharton, *House of Mirth*, 148.
[62] Ibid., 321.
[63] Ibid., 64.
[64] Ibid., 68.

hum of a gigantic insect." The appearance of the motor does not simply introduce the counterforce of history and materialism into a pastoral idyll. In 1905 the car, unlike the train that Lily takes to get to Bellomont, represents a radically new technology untethered to schedule or track. The motor is a metaphor for "material accident," which ironizes the ineffectual Selden's theorizing of absolute freedom with, in Lily's view, an unwonted "energy of affirmation."

However, Selden is not merely ineffectual and blind to the irony of his idealism; he also represents a profoundly destructive attitude. As Jonathan Joseph Wlasiuk shows in his 2011 dissertation "Refining Nature: Standard Oil and the Limits of Efficiency, 1863–1920," American republican ideology was reimagined in the Gilded Age to equate political freedom with laissez-faire economics, with significant ramifications for Americans' relationship with the material world. The Standard Oil Company, he convincingly argues, owed its success to this altered republican ideology and the legal regime that enabled the rise of the corporation and despoliation of the environment. The lawyer, Selden, epitomizes this attitude in his republic-of-the-spirit speech, a republic Lily insightfully critiques as a "closed corporation."[65] As Alan Trachtenberg points out in *The Incorporation of America*, "the rhetoric of success continued to hail the self-made man as the paragon of free labor, even as the virtues of that fictive character grew less and less relevant. Thus, incorporation engendered a cultural paradox."[66] Rockefeller, who incorporated Standard Oil in 1870, brooked no competition. He recognized the duplicity of the rhetoric Selden uses, saying, "The day of combination is here to stay. Individualism has gone never to return."[67] Nonetheless, like Selden, Rockefeller nominally embraced the republican rhetoric of self-discipline and positive thinking. *Success*, a magazine founded by Orison Swett Marsden in 1897, promulgated a will-to-success philosophy that represented success in the acquisition of wealth and power as a virtue in itself. When *McClure's* began exposing Standard Oil's unfair business practices, *Success* published "An Impartial Study of John D. Rockefeller" (8 July 1899). The principal goal of Rockefeller's ruthless drive toward organization and efficiency was the elimination of what Selden calls "material accident."

Contemporaneous with *The House of Mirth*, Ida Tarbell's best-selling *History of Standard Oil*, which had been serialized in *McClure's Magazine* from 1902 to 1904, while ignoring the corporation's massive and devastating impact on the environment, established it as the model of twentieth-century corporate practice, vertical integration, and apparent elimination of production costs, through actual disguising or downloading of those costs to the

[65] Ibid., 71.
[66] Alan Trachtenberg, *The Incorporation of America: Culture and Society in the Gilded Age* (New York: Hill and Wang, 1982), 84.
[67] Ibid., 86.

public. It also inspired Roosevelt to bust Rockefeller's trust following passage of the Hepburn Act (1906), which asserted the federal government's right to regulate interstate commerce. Defining "success" in a way that reflects ironically on Selden's republican idealism, Tarbell cites an 1868 report of the Cleveland Board of Trade: "Each year has seen greater consolidation of capital, greater energy and success in prosecuting the business, and, notwithstanding some disastrous fires, a stronger determination to establish an immovable reputation for the quantity and quality of this most important product."[68] Yet Tarbell's downplaying of environmental costs, such as "disastrous forest fires," also highlights the problem of ignoring such externalities. Many Clevelanders complained of extremely damaging impacts to their health and environment of Standard Oil's practices (well beyond "some disastrous fires"). One composed a poem entitled "Song of the Sick Water-Nymph," which indicates hidden costs of corporate success:

> Faugh! What a smell!
> How can I be well?
> Stinking again,
> Small pipe and main,
> Even large reservoir
> Yields to its power! …
>
> Petroleum, slaughter-house gore,
> To say nothing of acid
> Sulphuric, and how many more
> In our waters placid …[69]

In *The House of Mirth*, nymphs cavort across a flower-strewn sward in *tableaux vivants* funded by the stock-market killings of the Wellington Brys. Lily herself appears, in a *coup de théâtre*, as the neoclassical title figure in Joshua Reynolds's 1776 painting *Mrs. Lloyd Carving Her Husband's Name on the Trunk of a Tree*. It is a moment of triumph. In that pose she inflames the hardly disinterested male gaze of lovers and lechers alike; she *seems* "the real Lily Bart, divested of the trivialities of her little world, and catching for a moment a note of that eternal harmony of which her beauty was a part." Spectators, including Selden, are stunned by her performance of decorative, idealized womanhood. No one can tell where nature ends and artifice begins, for the "real Lily" seamlessly combines "flesh and blood" with "artistic intelligence."[70] She appears to be in "harmony" with a pastoral landscape, staged in a marble

[68] Ida Tarbell, *The History of Standard Oil* (New York: McClure, Phillips, and Co. 1904), 39.
[69] Quoted in Jonathan Joseph Wlasiuk, "Refining Nature: Standard Oil and the Limits of Efficiency, 1863–1920," dissertation, Case Western Reserve, 2012, 16.
[70] Wharton, *House of Mirth*, 134.

mansion on Fifth Avenue. But Lily has commodified herself, trading her supposedly natural resources too cheaply on the sexual market of New York's beau monde (to the extent that Gus Trenor treats her like a high-priced courtesan). In the end, more like the sick water nymphs of Cleveland than the most famous instance of idealized womanhood in New York, the Statue of Liberty, floral Lily will be crushed by a hidden debt she unwittingly incurs. Her own resources prove nonrenewable.

The rise of John D. Rockefeller's Standard Oil, Edison's power grid, and the energy required to power them, haunt the novel and shape Lily's demise. One critic has gone so far as to suggest that floral imagery in the novel was planted in Wharton's mind by John D. Rockefeller Jr.'s notorious 1902 speech, "The American Beauty Rose," in which he asserted,

> The American beauty rose can be produced in the splendor and fragrance which bring cheer to its beholder only by sacrificing the early buds which grow up around it. This is not an evil tendency in business. It is merely the working out of a law of nature and a law of God.[71]

Whether or not she had read Rockefeller's well-known speech or the extensive commentary it engendered, Wharton deploys a similar Darwinian logic and imagery in her novel with a far less salubrious outcome. Lily "had been fashioned to adorn and delight; to what other end does nature round the rose-leaf and paint the humming-bird's breast?"[72] It will surprise no one that late nineteenth-century republican ideology privileged material wealth over environmental health, yet Wharton exposes the hypocrisy – or at least the blind spot – behind Selden's idealistic rhetoric of emancipation. Lily is not free, but Selden is also far more circumscribed than he imagines. The goal of corporate leaders such as John D. Rockefeller Sr. was to free not individuals but corporations not only from government regulation but also from the limits of nature. As the chief counsel of Standard Oil, S. C. T. Dodd, said in 1893, capital would make "all nature subservient to the human race"[73]

Corporations such as Standard Oil convert nature into commodities. Selden regards Lily with a similarly reifying gaze, but Lily herself understands nature only in terms of use-value, as, for instance, "a scene which was the fitting background of her own sensations."[74] Tarbell, whose father had been an independent oil producer and refiner in Titusville, Pennsylvania, driven out of business and into debt by Standard Oil, exposed the unfairness of Rockefeller's highly efficient, monopolistic business practices. Tarbell hated privilege and loved nature (and originally planned to become a biologist), yet she discovered, as

[71] Robert McIlvaine, "Edith Wharton's American Beauty Rose," *Journal of American Studies*, 7, 2 (Aug. 1973), 183–85, 184.
[72] Wharton, *House of Mirth*, 301.
[73] Quoted in Wlasiuk, "Refining Nature," 192.
[74] Wharton, *House of Mirth*, 64.

she put it, that there was "a science of society as well as of botany." Though concerned about the exploitation of the earth's resources, she saw it as a socio-economic, rather than an environmental, problem, concluding that "a trilogy of wrongs" had produced gross inequities: "discriminatory transportation rates, tariffs save for revenue only, and private ownership of natural resources."[75] As Wlasiuk comments, however, "Standard Oil's 'structural power' issued not only from the corporation's influence in the political and economic context, but also from its dominion over nature, the source of all wealth." Lily Bart dramatizes the externalities or hidden costs of such dominion. Another wealthy suitor tells Lily, in making his marriage proposal, "I should want my wife to be able to take the earth for granted if she wanted to."[76] Such is the attitude of Standard Oil, which idealized the earth as available for what appeared the most efficient human use, without accounting for environmental costs. Property lines are not visible in the "pastoral distances." But the republic-of-the-spirit chapter implies that to take the earth for granted is a problem. It takes the war against matter into the idealized landscape; "freedom" comes from the rational subjugation of nature, or aesthetic sublimation of the sensual.

Analogously, there must be a steep cost for Lily to give herself away. The difference between pastoral heights, where lovers fantasize like children, and the "actual world" where motors appear, suggests ways in which mechanical energy converts itself into thought, or can seem at odds with serious thinking. Later, after falling from grace, Lily attaches herself to the nouveaux riches, "as carelessly as a passenger is gathered in by an express train." Wharton frames Lily's demise explicitly as a tragedy, with frequent references to the Greeks, but Lily does not have a moment of *anagnorisis*. She is simply "exhausted" in the end, and, most telling, she yearns "for that other luxurious world, whose machinery is so carefully concealed that one scene flows into another without perceptible agency."[77] Lily's failure, however, is the author's opportunity.

Wharton's subject is precisely the difficulty of making agency perceptible. Where does energy come from? What effects does it produce? If, according to the first principle of thermodynamics, energy can be neither created nor destroyed, where does it go when work is performed or action completed? Energy can change forms, and, as the metaphors of hidden machinery and imperceptible agency imply, it can flow from one place to another. Wharton does not pretend to be a physicist or to intervene in questions of

[75] Robert C. Kochersberger Jr., ed., *More Than a Muckraker: Ida Tarbell's Lifetime Journalism* (Knoxville: University of Tennessee Press, 1994), xlvi.

[76] Wharton, *House of Mirth*, 176.

[77] Ibid., 301.

science and engineering, but her narrative reflects a new, modern reality shaped by massive, invisible forces. She does not offer the technical or formal innovations of modernism – her fiction retains a sequential structure and omniscient narrator – but *The House of Mirth* highlights what is occluded in the total visibility to which the conventional nineteenth-century novel aspired. From its opening in Grand Central Station, with Selden's "surprise" at the sight of Lily, to its conclusion at her deathbed, when the bewildered Selden "felt that the real Lily was still there, close to him, yet invisible and inaccessible," the novel focusses on the limitations of individual points of view. The term "energy" signifies change, but it is often associated with metaphysics. As Canadian scientist Vaclav Smil puts it, "Energy is not a single, easily definable entity, but rather an abstract collective concept, adopted by nineteenth-century physicists to cover a variety of natural and anthropogenic … phenomena."[78] We recognize energy in heat, motion, and light, but we also use energy in simply thinking about it. Wharton extrapolates from the work of mechanics, applying it to any process that produces a change within an affected system.

Concealment of power sources – the invisibility of energy, yet its vital importance – indicates a central problem for characters in a novel, a genre premised on novelty and on realism. *The House of Mirth* turns on a duality of high and occluded visibility. "Brilliant young ladies, a little blinded by their own effulgence," the omniscient narrator remarks, "are apt to forget that the modest satellite drowned in their light is still performing its own revolutions and generating heat at its own rate."[79] The social blindness of young ladies, refracted here through metaphors of light and heat, and the resources that generate these effects, speak to a broader set of assumptions. Henry Adams also recognized in new electric generators a kind of numinous, mysterious power analogous to the cult of the Virgin in medieval Europe, a theory he develops in "The Dynamo and the Virgin," the most famous chapter of *The Education of Henry Adams*. Awestruck at the Paris Exposition of 1900, Adams found in the dynamo a symbol of infinity. As he grew accustomed to the great gallery of machines, the historian "began to feel the forty-foot dynamos as a moral force, much as the early Christians felt the Cross."[80] One might experience the chill produced by an air conditioner or the heat produced by an electric furnace, but energy, the cause of the effect, was "imperceptible to the senses." For Adams, new forms of energy posed a problem for the historian or any teller of stories, akin to the one Wharton describes when "machinery is so carefully concealed that one scene flows into another without perceptible agency." Thus, Adams

[78] Vaclav Smil, *Energy: A Beginner's Guide* (London: Oneworld, 2006), 8.
[79] Wharton, *House of Mirth*, 116.
[80] Adams, *Education*, 380.

"found himself lying in the Gallery of Machines at the great Exposition of 1900, his historical neck broken by the sudden irruption of forces totally new."[81]

Wharton relates "forces totally new" to social change and an evolving worldview. Take the social significance of natural gas in her novels. For much of the nineteenth century, natural gas was used as a source of light (the first well was dug in 1821), but it was difficult to transport without pipelines, which only began to be constructed in a major way in the 1890s, when gas was already giving way to electric lighting. So, here too paying attention to an energy resource in the novel can illuminate aspects of ideology. For instance, at the turn of the century the mansion of Mrs. Peniston is still lit by gas rather than electricity, one sign of her unproductive conservatism. The domestication and aestheticizing of electricity had been promoted among wealthy New Yorkers since the 1890s. Alice Gordon's 1891 book *Decorative Electricity*, for instance, "showed well-to-do ladies how to transform their homes into elegant apotheoses of indirect and romantically installed illumination."[82] The first explicit reference to Miss Peniston's gaslight appears in a scene that literally sheds light on a worker to whom Lily has been all but blind, the charwoman, Mrs. Hansen, who comes to bribe her with a letter found in Selden's garbage: "The glare of the unshaded gas shone familiarly on her pock-marked face." Lily purchases the letter and returns to her room, where she "immediately turned up the gas-jet and glanced toward the grate." She had planned to burn the letter, thinking of Selden's reputation, but she does not, regarding it too as a potential resource of her own rehabilitation. The point is not that turning on the gas is a problem or wasteful but that attention must be paid to both the literal and figurative "machinery" that has been so carefully concealed.

Forms of energy, like personal resources, may not be perceptible, but the reader and characters can extrapolate from their effects. When, in the end, Lily is beyond hope, alone beneath the white glare of an electric streetlamp, she is discovered by a young woman her charity had helped, a survivor now married to a "motor-man." Lily allows herself to be taken to the young woman's apartment, which proves a momentary refuge. There, natural gas proves a comfort, an escape from the harsh electric lighting of the urban jungle. As historian of science Graeme Gooday comments, "Much of the early cultural anxiety about electricity centered on the female body, specifically threats to its physical safety and aesthetic appearance."[83] This single gas jet

[81] Ibid., 382.
[82] Graeme Gooday, *Domesticating Electricity: Technology, Uncertainty and Gender, 1880–1914* (London: Pickering & Chatto, 2008), 7.
[83] Ibid., 6.

implies nostalgia for the home Lily has lost, along with the "making of prosperous homes" central to Roosevelt's logic of prudent resource use. "Nettie Struther's match" makes "a flame leap from the gas-jet above the table," revealing the kitchen to Lily "as extraordinarily small and almost miraculously clean." Nettie's domestication of energy, channeling in the home the product of forces that had left Henry Adams in awe, reflects her own socioeconomic progress and that of American culture, even as it signals the homeless Lily's demise.

Between 1900 and 1915, global energy use exploded, driven by demand for fossil fuels. In these years consumption of coal, petroleum and natural gas in America more than doubled.[84] In 1911, the Supreme Court ruled that Standard Oil was an illegal monopoly and ordered it to be broken into many smaller companies (the biggest of which became Exxon), which fueled competition and, with production of the Model T, accelerated use. This industrial history is immediate background for *The Custom of the Country*, which is full of the language of monopoly in business and in love (e.g. "There was nothing of the monopolist about Mabel, and she lost no time in making Undine free of the Stentorian group and its affiliated branches"[85]). Wharton's novel of comparative customs, economies, and cultural norms centers on Undine Spragg's energy and her insatiable appetite for resources. Her father's fortune is built on the exploitation of natural resources (and on the invention of a hair-waver for which Undine, whose name means "wave," was named). The Spraggs' first two children died from contaminated water, which prompted her father to develop a "pure water" reservoir, along with a power station at the Apex Water-Works; this development in turn enabled him to capitalize on real estate in Apex (a fully capitalized City upon a Hill) before moving to New York to enhance his daughter's social chances, as mining interests and railroads take over Apex, leading to the monopolistic Apex Consolidation Company. Unlike her father, who grows increasingly weary, Undine never stops moving; she is the embodiment of the new fossil-fuel economy. "Custom" is organized around particular energy resources, and her desires illuminate the society's energy unconscious. For example, she is disappointed at her first dinner party among old-money New York by the way in which it is lit and heated: "instead of a gas-log, or a polished grate with electric bulbs behind ruby glass, there was an old-fashioned wood-fire."[86] Undine's beauty is the mirror image of Lily's, but her career is the inverse. Unlike Lily,

[84] Independent Statistical Analysis, US Energy Information Administration, at www.eia.gov/totalenergy/data/annual/showtext.php?t=ptb1601; World Energy Consumption since 1820 in Charts, https://ourfiniteworld.com/2012/03/12/world-energy-consumption-since-1820-in-charts, accessed 27 July 2017.

[85] Wharton, *Custom of the Country*, 638.

[86] Ibid., 642.

who can seem at harmony within a pastoral landscape, Undine, sitting under the wisteria in Central Park, is conscious of "blazing out from it inconveniently."[87] If Lily is the virgin, Undine is the dynamo.

Undine is as inexhaustible as an energizer bunny, consuming anyone and anything that lies in her path, starting with the "desultory" Ralph Marvell, who was raised for a life of "cultivated inaction." Unfit for the modern world, he is (more like Lily) an object of conspicuous consumption for the parvenue. In Ralph's family, "material resources were limited on both sides of the house, but there would always be enough for his frugal wants."[88] Ralph is like a run-down motor, and "when he came home at night the tank was empty"[89] The application of the empty-tank metaphor to a human being indicates the degree to which fossil fuels alter the very conception of humanity. Using up one husband, his wife, whose parents wonder "whence Undine derived her overflowing activity,"[90] simply turns to another. Undine is the resourceful character par excellence; a "monstrously perfect result of the system."[91] Like Lily, her beauty is her principal power source, and she capitalizes on it with a vengeance, cashing in for marriage after marriage after marriage – a pursuit of happiness that privileges pursuit over happiness and promises to go on after the novel's final line, which gestures at "something that neither beauty nor influence nor millions could ever buy for her." After the divorce, Ralph recalls her beauty "no longer as an element of his being but as a power dispassionately estimated."[92] At the thought of their marriage, one friend recognizes that "poor Ralph was a survival" of the preindustrial age, "and destined, as such, to go down in any conflict with the rising forces."[93] While Lily Bart had the idealistic slogan "BEYOND" printed on her stationery, *The Custom of the Country* shows that nothing is beyond Undine.

Incapable of economy, Undine moves to Paris, back to New York, to Paris again, to Reno (for a divorce), and so on. She bears Ralph's son, is distracted by every novelty, spends a fortune (largely her father's), and turns to other men. Undine refuses to be bothered by what Selden called "material accident," but she is hardly what he had in mind as a success. For her, freedom (such as it is) requires the massive unleashing of the productive powers of capitalism, not an aesthetic transfiguration of material life but an occlusion of its unregeneracy: "Her senses luxuriated in all its material details: the thronging motors, the brilliant shops … The noise, the crowd, the promiscuity beneath her eyes symbolized the glare and movement of her life."[94] Mechanical energy has been converted to thought. The proliferation of technology has altered the life of

[87] Ibid., 693. [88] Ibid., 671. [89] Ibid., 810. [90] Ibid., 701. [91] Ibid., 759. [92] Ibid., 908.
[93] Ibid., 807. [94] Ibid., 808.

the spirit. Ubiquitous motors are among its vehicles: "as the motor flew on through the icy twilight, her present cares flew with it."[95] Nothing raises Undine's spirits better than a daily drive in a motor, which is literally what the doctor orders when material cares assail her. After Ralph commits suicide, Undine marries the Marquis Raymond de Chelles, but finds herself unhappily torn between the city of light, specifically the Nouveau Luxe frequented by international high flyers, and his rural estate, pointedly named Saint Désert, to which Undine finds herself largely confined. She chafes under "considerations of economy," as her aristocratic husband applies scientific principles of forestry and agriculture in the hope of turning a profit, while his feckless younger brother, to Undine's dismay, gets to renovate the piping, heating, and illumination of their Parisian *hôtel*. At the chateau Undine personifies gratuitous energy consumption that refuses to be checked, finding satisfaction in "having fires lit in both monumental chimneys" solely to provoke the elderly marquise: "Never before in the history of Saint Désert had the consumption of fire-wood exceeded a certain carefully-calculated measure; but since Undine had been in authority this allowance had been doubled."[96] Refusing to be constrained, Undine epitomizes many "customs" that Wharton loathed, but the recently divorced author also clearly admires her energy and even identifies with her, giving Undine her own nickname, "Puss." Finally, Undine marries the "Railroad King," and her divorce is "railroaded" through the courts, literally and figuratively, as judge and happy couple hastily board Moffatt's special together. That Undine leaves Chelles and weds Moffatt, who with the success of the Apex Consolidation scheme now owns all of Apex, allegorizes not only the incorporation of America but also the marriage of resources and aesthetics. Moffatt is an aesthete as well as industrialist, and Undine's beauty satisfies his sensuality. She yields to his will, as (in Emerson) the earth does to the plastic eye, and "her energies revived like plants in water."[97]

Wharton was not a critic of the new fossil-fuel economy, though elements of critique appear in her work. Ambivalent, she gave voice to the fascination and pleasures of energy innovations and alarm at their consequences. In a 1909 letter she expressed wonder at getting out of her "motor" in Paris and looking up into the air to see

> an aeroplane, high up against the sky … And it was the Comte de Lambert in a Wright bi-plane, who had just flown across from Juvisy – and it was the first time that an aeroplane has ever crossed this great city!! Think "what soul was mine" – and what a setting in which to see one's first aeroplane flight![98]

[95] Ibid., 754. [96] Ibid., 963. [97] Ibid., 990. [98] *Letters of Edith Wharton*, 192.

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Wharton shared in the exhilaration of the petro-culture of speed and power, and her nostalgia for the slower, horse-drawn New York of her youth is shaped by the realization that it is irretrievable. In her autobiography, however, she speaks of the "growing sense of the waste and loss" during World War I connected to new uses of aeroplanes in battle,[99] which explained, in part, why she turned to the world of her childhood (the 1870s) in *The Age of Innocence*. To Sara Norton, the recipient of the letter enthusing about the Wright biplane, she writes of the "turmoil and mediocrity of today."[100] Yet her ambivalence about new forms of energy and the social changes they cause shapes her work's form and themes.

Above – or beneath – all, Wharton recognized what to others had been hidden in plain sight, that energy is the inescapable condition and context for all forms of culture. The transatlantic steamer in *Custom* is the *Semantic*, suggesting a relationship between modern transportation technology and the construction of meaning. Wharton and Henry James playfully named her cars after authors (George Sand and Alfred de Musset). From its opening, when the sight of Lily in Grand Central Station refreshes Selden's eyes, to the moment Lily blows out her final candle, *The House of Mirth* reflects on the human and natural resources fueling culture. The same is true of the luminous, throbbing, motorized world that charges Undine Spragg's adventures and of her refusal to be limited by "considerations of economy." Appearing almost precisely between publication of *The House of Mirth* and *The Custom of the Country*, F. T. Marinetti's "Manifesto of Futurism" opened with an exhortation to sing "l'abitudine all'energia" (the habit of energy), to exalt "l'insonnia febbrile" (feverish insomnia, which is what dooms Lily), and "violente lune elettriche" (violent electric moons);[101] he urged artists to celebrate the man at the wheel, the obliteration of Time and Space, to glorify smoking factories, the speed of automobiles, locomotives, and aeroplanes. "Young and strong" futurists, he declared, wanted no part of the past, and in this respect they sound like earlier Americans, from Franklin to Emerson and Whitman. Though she loved Emerson and, especially, Whitman, Wharton was not of Marinetti's vanguard; she was a conservative, at least in manners and literary style. Like Henry Adams, her feet were planted in an earlier century. Yet, like Adams too (who called himself a "conservative anarchist"), Wharton's dismay at the rapidity of change made her a careful student of it, and there is no escaping – in both Adams and Wharton – an appreciation of what it took to succeed in the high-energy culture. And Wharton did succeed. After 1905,

[99] Wharton, *A Backward Glance*, 363–64. [100] Quoted in Lewis, *Edith Wharton*, 424.
[101] F. T. Marinetti, "Fondazione e Manifesto del futurismo," at www.gutenberg.org/files/28144/28144-h/28144-h.htm, accessed 18 July 2017.

thanks in part to royalties from the book, Wharton purchased increasingly elaborate vehicles for "motor-flights" in New England and France. Her 1908 travelogue, *A Motor-Flight through France*, opens complacently, "The motor-car has restored the romance of travel."[102] Henry James, who loved these rides, gushed to his brother William, "I greatly enjoyed the whole Lenox countryside, seeing it as I did by the aid of the Whartons' strong commodious new motor, which has fairly converted me to the sense of all the thing may do for one and one may get from it." To Wharton, he wrote of *The House of Mirth*, "I wish we could talk of it in a motor-car."[103]

AUTHOR BIOGRAPHY

Alan Ackerman is a Professor of English at the University of Toronto. His books include *Just Words: Lillian Hellman, Mary McCarthy, and the Failure of Public Conversation in America* (2011), *Seeing Things, from Shakespeare to Pixar* (2011), and *The Portable Theater: American Literature and the Nineteenth-Century Stage* (1999).

[102] Edith Wharton, *A Motor-Flight through France* (New York: Charles Scribner's Sons, 1909; first published 1908), 1.

[103] James, *Letters of Henry James*, Volume IV, 373.