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What Would Thoreau Do?

Bill McKibbenJUNE 19, 2014 ISSUE*Walden Warming: Climate Change Comes to Thoreau's Woods*

by Richard B. Primack

University of Chicago Press, 253 pp., \$26.00

Henry James once called Concord, Massachusetts, “the biggest little place in America,” and for its role in both political and literary history the title is probably forever secure. Concord was the site of the second battle of the American Revolution (and the first victory for the colonials), and a few generations later it witnessed a baffling outbreak of literary virtuosity. The Author’s Ridge in the town’s cemetery is as close to an American Pantheon as we will ever have, with the graves of Ralph Waldo Emerson, Nathaniel Hawthorne, Louisa May Alcott, and Henry David Thoreau. In any other town Ephraim Bull, the developer of the Concord grape, would have been a local hero, but here he is not much noticed.¹

Of these Concordians, I think history tends more and more to favor Thoreau, the least known in his day but whose monumental masterpiece *Walden* has steadily risen on the list of the greatest books any American has ever produced.

And Richard Primack, in *Walden Warming*, adds to Thoreau’s legacy by highlighting the increasing value of another aspect of his life, one well known to scholars but not so much to casual readers: Thoreau was a remarkable and systematic naturalist. He walked many hours each day across his Concord domain: “I think that I cannot preserve my health and spirits, unless I spend four hours a day at least—and it is commonly more than that—sauntering through the woods and over the hills and fields, absolutely free from all worldly engagements,” he wrote in his great essay on walking.

The walking of which I speak has nothing in it akin to taking exercise, as it is called, as the sick take medicine at stated hours...but it is itself the enterprise and adventure of the day.

And along with forming the transcendental insights that would power his writing, Thoreau was also assiduous in gathering data: a careful record of the flora and fauna of the region that included, among other things, an almost spreadsheet-like collection of the dates when



Tim Laman

*Ice on Walden Pond; from Richard Primack's
Walden Warming*

hundreds of plants first budded out each spring.

Concord is now an affluent Boston suburb, but Primack and his Boston University graduate students have fanned out across the twenty-five-square-mile town (which includes several large tracts of preserved swamp and forest) spring after spring, duplicating Thoreau's labors. They've learned where dozens of rare plants hide, and made sure that they're on hand to observe their first flowering. The result is one of the best records of the transformative power of global warming—a before-and-after picture of a planet in very rapid transition to a new climatic state.

Take, for instance, the pink lady's slipper orchid. In 1852, the second spring of his careful record-keeping, Thoreau noted the first open flower on May 28. As Primack points out, this is an easy flower to notice opening—"over the course of a week, the flower bud is elevated a foot above ground on a green stalk," and the bud changes from green to pale pink before the "flower pouch puffs out and turns bright pink and the petals flare out to the sides." In 1853 Thoreau saw this show climax on May 20, and between May 24 and May 30 in subsequent years.

For Thoreau, then, "this was a late May species." But today, Primack says, most of the lady slippers would be long-wilted by that date—in recent years it has blossomed as early as May 3. That is, in the scant 160 years since Thoreau wandered the woods recording dates on slips of paper, the spring had moved forward three weeks, at least for the lady slipper.

And many other things too: in Thoreau's day apple trees flowered in the third week of May, but now the blossoms appear as early as April 18. Wood sorrel, with its five-petaled yellow flower, blooms six weeks earlier. "Not all species shifted the same amount," writes Primack. "Some changed by one week, others by two weeks or more, and some species did not change at all. But the general shift toward an earlier flowering is a widespread pattern." Thoreau, in Primack's words, has provided us with a valuable "biological yardstick" against which to measure a changing climate. Or to use Thoreau's more evocative language from *Walden*, Primack has discovered a "realometer" that should allow readers to dig beneath

the mud and slush of opinion, and prejudice, and tradition, and delusion, and appearance, that alluvion which covers the globe, through Paris and London, through New York and Boston and Concord, through church and state, through poetry and philosophy and religion, till we come to a hard bottom and rocks in place, which we can call *reality* and say, This is, and no mistake.

In fact, Primack's work is at least as valuable for its connection to Thoreau, and hence to our feelings, as it is for its science. There was not actually much doubt that spring comes earlier across the hemisphere, or that it's affecting a wide range of plant and animal species. By 2004, for instance, a Cornell team looking at everything from lilacs to Mr. Bull's Concord grapes found that spring came a week earlier than it had just forty years before.

Meanwhile, the USDA keeps recasting its hardiness zones to reflect a warming climate, and some years the change is so striking that everyone notices: in 2012, for instance, an early-spring heatwave described by some meteorologists as the most anomalous weather event in the continent's recorded history caused just about every flowering tree across the north and

east to break into blossom weeks early, with the predictable disastrous result when more normal spring temperatures returned a week or two later. But having Thoreau, the founder of what we now call environmentalism, as a witness for the prosecution is remarkably powerful. Especially so since Thoreau himself would never have thought global warming possible.

It's not that he thought people would protect the natural world—he just thought that that world was so big that humans couldn't systemically damage it. “Most men, it seems to me, do not care for Nature and would sell their share in all her beauty, as long as they may live, for a stated sum—many for a glass of rum. Thank God, men cannot as yet fly, and lay waste the sky as well as the earth!” Now that every cubic meter of the atmosphere carries the unmistakable brand of civilization—400 parts per million of carbon dioxide, and rising—the sky is no longer a refuge. Or consider his gleeful, almost eastern, sense that the great wheel will turn forever:

I love to see that Nature is so rife with life that myriads can be afforded to be sacrificed and suffered to prey on one another; that tender organizations can be so serenely squashed out of existence like pulp—tadpoles which herons gobble up, and tortoises and toads run over in the road.

As Primack makes clear with exhaustive research, the idea that nature is so abundant that “myriads can afford to be sacrificed” no longer holds. Indeed, since it takes only a chapter to establish the unremarkable truth that Concord's plants are registering a warming climate, he has plenty of space to explore just what that warming means. In a word: extinction, or at least extirpation, the disappearance from a local area of species once common. Primack and his team can't find bladderworts, which once tinged the lily pads of Walden Pond purple, or any of the mountain mint species that Thoreau described as “prettily purple-spotted flowers swarming with great wasps of different kinds, and bees.” The arethusa orchid is gone from Concord. (Thoreau: “It is all color, a little hook of purple flame projecting from the meadow into the air. A superb flower.”) The rose pogonia, common in Concord as recently as the 1960s, has been reduced to a single specimen: if you want to find it, you need to wade across fifteen feet of “waist-deep bog water and roll [yourself] onto the edge of a floating bog.”

These declines are related to climate change—a computer analysis showed clearly that the plants that had shifted their flowering times the most from Thoreau's time to the present were the ones that had also best maintained their abundance. The “conservative plant species that were still flowering at more or less the same time” were the ones in sharpest decline.

Similar trends are underway around the globe—that's why scientists now gloomily acknowledge that we've entered into the planet's sixth great extinction event.² And Primack dutifully goes on to track the other changes in Concord that Thoreau would instantly note, and that should shock us all: the increase in storms and devastating floods, the rise of mosquito-borne disease, the effects on birds and butterflies, the decline of salamanders—even the direct effects on humans, for instance the slowing times of the Boston Marathon as temperatures rise.

Primack imagines Thoreau returning to Concord fifty years hence, and lays out two scenarios for what he might find. In one, unabated global warming has left “hardly any wildflowers in

the forests,” and sickly trees succumb to invasive species. Much of coastal Massachusetts has “been overwhelmed and destroyed by flooding, and their populations moved inland.” Cod and lobster are no longer found off Boston Harbor—the water is too warm and too acidic. People avoid going outside on summer days, for the mercury routinely tops 100 degrees, and lingers in the high 80s at night.

In a second scenario we’ve figured out that global warming is an international emergency. In fact, “the nations of the world have recognized limits to growth” and gone hard to work; every house in Concord has solar panels; new houses are half the present size and super-insulated; most Concordians “travel by bicycle and public mini-bus.” The Massachusetts coastline bristles with wind turbines. The temperature has gone up, but not as disastrously.

Primack’s work is one more call to that kind of conversion, but it is no discredit to him if one wonders if it will ever take place. Last year my wife and I attended a dinner party in Concord, not far from where Primack located some of his rarest plants. Our hosts were good environmentalists; the other guests were money managers and trustees of colleges with substantial portfolios. By dessert it was clear that they were not yet willing even to take the small step of divesting those portfolios from the fossil fuel companies, despite their entirely sophisticated understanding of the problem. It would require too much work, they said, too much rearranging of investments; in subsequent months the wealthiest colleges like Brown and Harvard have in fact voted to keep sinking part of their endowments in coal, gas, and oil. It was an evening of what I’ve come to think of as Highly Informed Complacency.

Change can come (in recent months, for instance, seventeen of the nation’s leading philanthropic foundations did decide to divest). But it will require not just the warnings of people like Primack, but also the movement-building efforts of outsiders. The writer Wen Stephenson has in recent years published a series of fascinating essays about wandering the woods around Walden and reflecting on climate change—in particular his five-part series in *Slate*, “Walking Home from Walden,” is moving and deep. It’s also led him and others to the jailhouse, as a local organizer of protests against oil pipelines and coal-fired power plants in New England.

These have begun to tell: the Bay State’s last coal-fired power station, and the site of numerous demonstrations, is now scheduled to close; the giant, long-delayed wind turbines in Nantucket Sound may get their final approvals in the months ahead. And last year Michael Brune, the dynamic head of the Sierra Club, published an open letter explaining why the club was ending its 120-year prohibition against engaging in illegal protest. Titled “From Walden to the White House,” it explained that the ongoing climate emergency, and particularly the ongoing fight against the Keystone Pipeline, required more intense engagement than they’ve had so far. “We’ll be following in the hallowed footsteps of Thoreau, who first articulated the principles of civil disobedience 44 years before John Muir founded the Sierra Club,” he wrote.

Indeed, the literary world has long honored transcendental *Walden*, and thanks to Primack scientists are now giving Thoreau’s remarkable journals their due as well. But it’s possible that the essay on civil disobedience will turn out to be his most useful statement of all.

- 1 Nor is—and this is a true footnote—Margaret Sidney, author of the Five Little Peppers children’s books, which were phenomenally popular in the early years of the twentieth century. She actually lived in the house where Louisa May Alcott had grown up—and which the Alcott family had sold to Nathaniel Hawthorne. ↩
- 2 The *New Yorker* staff writer Elizabeth Kolbert’s quite remarkable account of this dawning understanding was published in February under the title *The Sixth Extinction: An Unnatural History* (Henry Holt). See Verlyn Klinkenborg’s review in these pages, March 20, 2014. ↩

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