

How Stone Walls Became a Signature Landform of New England

Originally built as barriers between fields and farms, the region's abandoned farmstead walls have since become the binding threads of its cultural fabric



Dividing the estimated length of 240,000 miles of stone wall by the geographic area of the New England heartland yields about six linear miles of stone per square mile of land. KenCanning/Getty Images



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As I turned into the farm that once belonged to the poet Robert Frost, the steady hum of tires on pavement gave way to the crunching gravel of the driveway before the silence of a solitary parked car.

Ignoring the Derry, New Hampshire, historic white clapboard house and barn, I walked in the opposite direction to examine the most famous stone wall in the United States. This knee-high,

tumbled-down, lichen-crusting stack of boulders, slabs and cobbles inspired one of America's most enduring poems, Frost's "Mending Wall." When published in 1914, the poem immediately drew attention to the barriers that divide us from one another and to the unseen forces of nature that undo what we have done.

*Something there is that doesn't love a wall,
That wants it down.*

These lines resonated so strongly with President John F. Kennedy in 1962 that he sent the aging poet to meet with Soviet Premier Nikita Khrushchev in Moscow to ameliorate Cold War tensions that would soon escalate into the Cuban missile crisis.

Yes, we humans need our boundaries, borders and barriers. The political edges of sovereign states. Physical razor-wire fences of prisons. The legal restraining orders of personal safety. The psychological doors we close to find time alone. But at the most fundamental level, our need for one another trumps our need to exclude one another. History shows that even the strongest walls built to gate off empires, nations and cities—Hadrian's Wall in Britain, the Great Wall of China and the Berlin Wall—eventually become ruins.

Robert Frost and his wife, Elinor, lived at this farm in Derry, New Hampshire from 1900 to 1909. Suzanne Kreiter/The Boston Globe via Getty Images

The fieldstone walls of Frost's New England farm are typical of those throughout the region because they emerged from the same cascade of natural and human processes. Glaciers scatter uncrushed rock. People cut down old-growth forests to create an agrarian society. Stone appears in fields and pastures. Farmers scuttle and dump that waste to wooden fence lines and eventually stack that stone into crude walls to maximize arable space, mark property boundaries and help with fencing. During this slow, multigenerational process, walls became formidable barriers between adjacent fields and neighboring farms.

Robert Frost and his wife, Elinor, moved to the farm in October 1900. The property was purchased by his paternal grandfather to give the financially struggling young family a place to reboot their lives. They lived there in rural seclusion until 1909, when they moved to an in-town apartment nearer Pinkerton Academy, where Frost had found a job teaching English. At this stage in his career, Frost was an unpublished poet, chicken farmer and schoolteacher.

Looking back from 1952, Frost wrote that those early years at the farm became "the core of all my writing." More specifically, we know that its stone walls inspired "Mending Wall" because there is no good alternative and because the poetic descriptions match on-the-ground reality.

Though smaller than most at 30 acres, Frost's farm was typical of New England at the time, having a clapboard house, shed, barn and garden near the road, and fields, pastures, an orchard and a woodlot, all graced by low stone walls.

In Frost's case, the real-life adjacent farm belonged to Napoleon Guay, the "old-stone savage" who "moves in darkness," as the poem goes, reciting the old adage that "good fences make good

neighbors.” Frost believed otherwise, aligning himself with the unnamed “something” that wants walls torn down, the forces of nature working to erase what we’ve done.



The fieldstone walls of Frost’s New England farm are typical of those throughout the region because they emerged from the same cascade of natural and human processes. Dina Rudick/The Boston Globe via Getty Images

With exquisite irony, Frost blamed frost heave, the “frozen-ground-swell” that lifts and tips walls unevenly and “spills the boulders in the sun” to create “gaps.” He also blamed “hunters” with their “yelping dogs” who knock stones down during the chase. Completely ignored was the most potent enemy of New England’s historic walls in that epoch and ours: weedy vegetation. The vines, brambles and saplings growing where fields and pastures once stood pull the piles of stones apart. During windstorms, the trunks of falling trees take bites out of walls, and their limbs whisk stones down to the soil.

Frost’s “something” includes the crystal-by-crystal disintegration of every single stone by the physical and chemical weathering taking place beneath the blotchy, colorful patina of lichens, moss, fungi and microbes. Weathered stones poised on the tipping point of balance can be knocked loose by the weight of a fox, a gust of wind, the rumble of a truck, the rare seismic rattle or the leaching of a single molecule.

Given enough time, all of New England's walls are destined to tumble down and be redeemed by the soil from which they came. Order must give way to disorder. After falling to the soil, the linear concentration of stone is fated to slowly re-disperse over the broader area from which it came, and to be reburied by the same organic processes that covered the original glacial litter beginning with an abrupt warming about 15,000 years ago.

New England's climate is abruptly warming again, this time in response to human-caused climate change, mainly since the time Frost raised his chickens by day and drafted his poems at night. With warmer and wetter conditions, frost heave will be less potent, and chemical weathering will be more so. Physical weathering will be exacerbated by the greater thermal expansion of hotter rocks, and by the more frequent soakings and dryings of thunderstorms. Stronger winds and more-stressed-out trees will send more blowdowns crashing against walls. On balance, we've likely accelerated their disappearance.

I've visited the poet's old farm many times as a tourist, speaker and researcher. Though I was originally trained as a card-carrying geologist with special expertise in glacial and tectonic processes, my current scholarship involves the enhancement of environmental history using physical evidence, most notably what can be learned by close inspection of stone walls.

During my most memorable visit, a violent summer thunderstorm knocked out the power, and we could hear large branches falling in the woods. So, instead of giving a slideshow lecture, I opened the barn doors to let the light in, read a selection of Frost's poems and explored the earthly matters within each.

It was during that trip that I discovered that, when composing "Mending Wall," Robert Frost apparently conflated two very different walls on opposite sides of his former orchard. The territorial wall of "good fences make good neighbors" aligns with its western edge as a knee-high, strong, double wall made mostly of well-fitted, straight-edged slabs and blocks. This is where Frost allegedly met his neighbor to "walk the line / And set the wall between us once again." This is where the poet asked himself: "What I was walling in or walling out, / And to whom I was like to give offense."

On the opposite side of the field is a thigh-high, single stack of potato-shaped boulders and cobbles that's quite unstable. "Some are loaves," says the speaker, "and some so nearly balls / We have to use a spell to make them balance." This eastern wall is less about fencing than about the ceaseless struggle between order and disorder that forced frequent maintenance.



The unity of New England's stone fabric pays no attention to state boundaries, but perfect attention to the regional geology. Thomas H. Mitchell/500px/Getty Images

When “Mending Wall” was being drafted, Frost’s farm abutted a dirt and gravel road about two miles southeast of Derry’s village center. This town was like most in New England at the time, having a largely rural agricultural population of a few thousand souls surrounding hydropowered mills and road intersections. Named after a county in Ireland, Derry is located about 42 miles northwest of Boston and 12 miles southeast of Manchester, the state’s largest city.

This was a time of transition. Automobiles and tractors were just beginning to replace horses and oxen. Industry was expanding. Agriculture was faltering. Property values were crashing. The openness of the regional landscape of fields and farms was closing to become a patchwork of woodlands with residual clearings. The last of the wooden rails that formerly surmounted Frost’s stone walls were rotting away, and nature’s “something” was coming to reclaim the exposed stones.

What had been utilitarian farm architecture was becoming symbolic stone archaeology. Frost’s lucky timing capitalized on this landscape transformation to launch his career. “Ghost House,” another of his poems, is about the cellar hole of a vanished wooden house. “Pan With Us” mentions the tints and tarnishes that time brings to walls. “Star in a Stone Boat,” “Fire and Ice” and “Of the Stones of the Place” can be read as meditations on the mysteries of deep time told by stone when our attention is no longer focused on agriculture.

Reading Frost’s oeuvre convinces me that he wanted New England’s walls *down* as barriers between neighbors but *up* as artifacts to be enjoyed and venerated as touchstones to a simpler past, a time when our culture was more connected to the land. They fulfill in our hearts what the landscape historian J. Brinckerhoff Jackson called our “necessity for ruins.” As with a slow-

burning candle, an old stone wall in the slow process of being reclaimed by nature gives us a clock and calendar to measure the passage of time at the scale of millennia, rather than of centuries, decades, years, hours or minutes. Touching a sun-warmed stone placed on a wall many generations ago by a living, breathing human helps us bridge the separation between the frenzied complexities of modern life and the slower gestalt of the past.

In a second exquisite irony, the fieldstone walls that were once barriers at the scale of farms have become binding threads for rural New England's regional cultural identity. "There are old stone walls elsewhere," I wrote two decades ago in my book *Stone by Stone*, "but only in New England do they rise above the level of architectural ornaments to the status of landforms. Kentucky has its caves, Florida its coral reefs, Louisiana its bayous, Arizona its canyons, Minnesota its lakes, the Pacific Northwest its volcanoes, and New England its stone walls. The landscape would simply not be the same without them."

Why is New England uniquely blessed? The answer is simple: the Venn-diagram overlap of three discrete factors. Hard rocks, glacial soils and family farms. The hard rocks are crystalline igneous and metamorphic masses created deep within the root of the ancient Appalachian Mountains by scalding heat and extreme pressure. The glacial soils contain a litter of stones broken from the fractured bedrock by the Laurentide ice sheet, dispersed broadly, and let down on the land like a shroud during final melting between about 20,000 and 15,000 years ago. The family farms of new England were part of a widespread agrarian culture dominated by livestock and tillage fields that began with European settler colonialism in the early 17th century and required many fences to manage separate parcels of land.

If you travel by car on secondary roads down the Atlantic coast, you will see New England's ubiquitous fieldstone walls disappear below New York City's Staten Island, because that's the southern limit of the glacial stone scatter. If you travel west of the Hudson River Valley, you may notice that the hard crystalline rocks of New England give way to the softer sedimentary rocks of upstate New York; strata easily crushed into sand and mud. If you travel northwest from southern Maine into the rugged highlands and conifer forest, stone walls disappear, because this terrain was of limited use for agriculture. Only in the heartland of New England—the 40,000 square miles between the densely settled maritime coast and the sparsely settled mountainous highlands—did all three factors come together.

Prior to the American Civil War, the Puritan New England culture of farms and mill villages extended westward across the glaciated Great Lakes states all the way to the edge of the Dakotas. Historian Colin Woodard dubbed this east-west band "Yankeedom" in his 2011 book *American Nations: A History of the 11 Rival Regional Cultures of North America*. A New England Society of the Northwest opened in Minnesota in 1856, two years before statehood. When Henry David Thoreau visited Minnesota in 1861, he wrote that half the men he met were from his home state of Massachusetts, and that all the lumbermen were from Maine. The steepled churches, town greens, mill dams, lumber mills and sugar maples of these West-migrating Yankees extended all the way to the edge of the prairie. But their fieldstone walls disappeared west of the Hudson River Valley owing to the constraints of geology.

When New England agriculture went into decline, the regional culture—mainly the urban artists, writers and poets of the mid-19th century—began to claim their stony fields and walls as symbols of their ancestors’ hard work and tenacity. Robert Frost caught the crest of this wave with his poem “Of the Stones of the Place,” contrasting his “pasture where the boulders lie / As touching as a basket full of eggs” with the stone-free farm soils of the West, “In wind-soil to a depth of thirty feet, / And every acre good enough to eat.”

Twenty-first-century improvements in mapping technologies, especially lidar sensor imagery, reveal a nearly unbroken latticework of stone walls crisscrossing the region. These walls are the binding threads of a nearly unbroken patchwork quilt of what had once been fields, pastures, woodlots and meadows. Dividing the estimated length of 240,000 miles of stone wall by the geographic area of the New England heartland yields about six linear miles of stone per square mile of land. As with lakes in Minnesota and canyons in Arizona, they’re impossible to miss.

Importantly, each of these binding threads tells nearly the same human story. Of the absence of marked boundaries on Indigenous land prior to their dispossession. Of the courage of pioneering settlers, the backbreaking work of families, the creation of sunny open spaces and the pride of farm ownership. Of the 19th-century economic decline, the devaluation of agrarian life and the wholesale abandonment of rural land. Of the 20th-century healing organic redemption of woodland ecology, the “something there is that doesn’t love a wall.” And of the renewed 21st-century interest in historic stone walls to help anchor us in the storm of modernity.



Given enough time, all of New England’s walls are destined to tumble down and be redeemed by the soil from which they came. Tsp Product/Getty Images

This story is nearly the same in Vermont, New Hampshire, Maine, Massachusetts, Rhode Island, Connecticut and New York east of the Hudson River. The unity of New England's stone fabric pays no attention to state boundaries, but perfect attention to the regional geology. Noticeable differences here and there are governed mainly by the details of the bedrock and glacial stories, rather than by differences in political identity or cultural history.

In our current geological epoch, the Anthropocene, humans have become the dominant geological agency operating on earth. The construction of New England stone walls using the power of animal muscle (human and livestock), is an important part of this story. Their wanton deconstruction to obtain the stone for other purposes using the power of fossil fuels (gasoline and diesel fuel for machines) was something Robert Frost didn't see coming. If he had, I'd like to think he would have written:

*Something there is that doesn't love a wall,
That wants it strip-mined and sold.*

Each wall that disappears is a binding thread being pulled from the patchwork quilt of our shared historic landscape. At some point, things fall apart.

Each stone thread being pulled is also a loss of biodiversity, because each wall is a linear rock desert in an otherwise moist world. Each is a dryland analogous to a nearby wetland. Each offers a boundary in the patchwork of forest ecology, a corridor for animal movement and a home for the creatures seeking hiding places. Such ecological effects extend well beyond individual walls, because opposite sites are sunny and shaded, windward and leeward, and upslope and downslope. These asymmetries create differences in snow cover, soil moisture, storm flow and soil thickness. Finally, the lichens, mosses and microbial mats on walls exist nowhere else apart from bedrock outcrops, often called "ledge," in New England.

Gradual efforts in recent years to preserve these shared historic and ecological legacies—owner by owner, town by town, and state by state—through laws, ordinances and incentives are gaining ground. This gives me hope. Were Robert Frost alive today, perhaps he would have written:

*Something there is that does love a wall,
That wants it up.*