

Whitney

Smith documents allusions Frost makes to science, nature and technology and places them in a wider context that quickly reveals the scope of the mind-boggling changes witnessed by Frost.

Within five years of Frost's birth in 1874, Bell invented the telephone, and Edison invented the phonograph and light bulb. In 1896, Max Planck discovered quanta; in 1903, the Wright Brothers launched their first powered flight; in 1916, Einstein presented his theory of relativity. By 1944, Frost witnessed the discovery of DNA, and the next year, the development of the A-bomb; the first photocopier in 1958 and the first American in space in 1962.

Why Robert Frost? According to Smith, Frost was a "formidable observer of nature" and an avid sky-watcher who avidly read *Scientific American* and other science books. He refers to more than 100 plant species and dozens of animals, including 35 species of birds. His astronomical poems compose nearly 20 percent of his published work, ranging from the observation of stars and planets to theoretical content like an expanding universe and curvature of space.

I learned that a meteor is an event, rather than a thing. In the poem "A Prayer in Spring," Frost likens a hummingbird to a meteor. Smith: "The comparison to a meteor is appropriate because a meteor is an event – think of a falling star – as is the hummingbird's act of thrusting."

In "Waiting," I learned why there is "the antiphony of afterglow" in "opposing lights of the hour" because "when there is a full moon, the sun and moon are on opposite

horizons for a brief time at sunset."

"Mending Wall" was most likely inspired by the stone walls that Frost observed in Kingsbarns, Scotland, in 1913 when the family was on vacation. Stones removed to cultivate the land often used to make fences that mark property lines. And it may have been more than neighborly to mend the wall between pine and orchard. Smith: "Although wandering livestock consuming pine cones may not have been a concern, the presence of fungal parasites from nearby cones infecting apple trees was a real possibility."

What about the "yellow wood" in "The Road Not Taken"? While most have assumed this poem refers to autumn leaves, Smith takes clues from Frost who always attributed this poem to his walks in the English countryside with Edward Thomas. Smith considers another idea, fields of wild daffodils, citing the West Country Village of Dymock, Gloucestershire, where Frost and Thomas lived, known for its "Golden Triangle" named for its bright wild daffodils. So this poem may be describing an English spring day rather than autumn in New England.

"Fire and Ice" was inspired by Frost's conversation with astronomer Harlow Shapley in 1918, the year both were teaching at Harvard. Smith: "Frost buttonholed Shapley in the faculty lounge and asked him how the world was going to end. Shapley presented the two alternatives – the sun exploding or the sun burning out, which Frost crafted into 'fire' and 'ice.'"

I learned about the English tradition of wassailing a cider apple orchard, a mid-winter ritual of pouring fermented apple beverage on the roots of trees as a shotgun is fired into the air, to scare off birds and ensure a good harvest. In "Acquainted with the

Night," I discovered the many ways the moon is a meticulous timepiece.

In "Iris By Night" Frost writes about a mysterious experience he and Thomas had on one of their daily walks. Smith said Frost's line "a very small moon-made prismatic bow": "The hikers saw either a ring around the moon, a fairly common occurrence, or a lunar rainbow, a very rare one. A ring, or halo, around the moon forms when light is refracted by (broken, or fractured, into different colors) and reflected by (bounced off) ice crystals high in the atmosphere. The halo is observed by looking directly at the moon and is not highly dependent on ground-level weather conditions. A full moon surrounded by a multicolored ring bears a strong resemblance to the pupil and iris of an eye, invoking one of the definitions of 'iris.'"

Frost remained a keen skeptic all his life and was not ready to believe as gospel the next truth espoused by art or science, whether it was questioning the fixed nature of the speed of light or whether the universe is really expanding. In 1930, in an address he gave to the Amherst Alumni Council, Frost alludes to Heisenberg Principle of Uncertainty shortly after Heisenberg visited campus. The Heisenberg Principle states that we cannot know the location and speed of a particle at the same time. In fact, Frost called the uncertainty principle a metaphor "to live by."

It seems that Frost would be pleased with this book that pairs science along with art, as both realms ask us to keep our eyes and minds open for what we think is true may change.

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