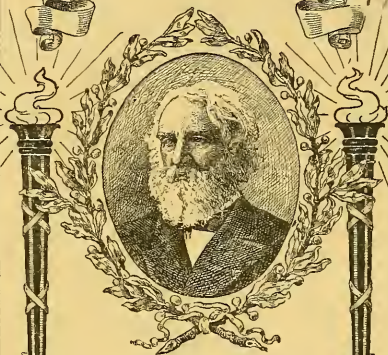




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VOLUME XIV

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THE HISTORY OF

LENNY DAVY THOMPSON

OF THE

STATE OF MASSACHUSETTS

IN THE

Concord Elms (page 136)

THE WRITINGS OF
HENRY DAVID THOREAU

JOURNAL

EDITED BY BRADFORD TORREY

VOL. I

NOVEMBER 1, 1855—AUGUST 15, 1856



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JOURNAL
VOLUME VIII

THE JOURNAL OF HENRY DAVID THOREAU

VOLUME VIII

I

NOVEMBER, 1855 (ÆT. 38)

Nov. 1. Thursday. P. M. — Up Assabet, a-wooding.

After a rain-threatening morning it is a beautiful Indian-summer day, the most remarkable hitherto and equal to any of the kind. Yet we kept fires in the forenoon, the warmth not having got into the house. It is akin to sin to spend such a day in the house. The air is still and warm. This, too, is the *recovery* of the year, — as if the year, having nearly or quite accomplished its work, and abandoned all design, were in a more favorable and poetic mood, and thought rushed in to fill the vacuum. The river is perfectly smooth. Whole schools of *little* minnows leap from the surface at once with a silvery gleam. The wool-grass, with its drooping head and the slender withered leaves dangling about its stem, stands in little sheaves upon its tussocks, clean dry straw, and is thus reflected in the water. This is the November shore. The maples and swamp oaks and willows are for the most part bare, but some of

the oaks are partly clothed yet with withered ones [*sic*]. I see one white maple quite thick and green, and *some* black willows are thinly clad with *green* leaves, and many yellowish leaves are seen on the salallows rising above the bare button-bushes. Yet I see no painted tortoises out, and I think it is about a fortnight since I saw any.¹

As I pushed up the river past Hildreth's, I saw the blue heron (probably of last Monday) arise from the shore and disappear with heavily-flapping wings around a bend in front; the greatest of the bitterns (*Ardeæ*), with heavily-undulating wings, low over the water, seen against the woods, just disappearing round a bend in front; with a great slate-colored expanse of wing, suited to the shadows of the stream, a tempered blue as of the sky and dark water commingled. This is the aspect under which the Musketaquid might be represented at this season: a long, smooth lake, reflecting the bare willows and button-bushes, the stubble, and the wool-grass on its tussock, a muskrat-cabin or two conspicuous on its margin amid the unsightly tops of pontederia, and a bittern disappearing on undulating wing around a bend.

The wood I get is pretty rotten. The under side of an oak which has lain for years on the miry bank is turned almost to mould, — in this I find ants, — while the upper is hard and dry. Or else it is stumps whose fangs have so rotted off that I can kick them over at last, but then I must shake out a half a peck or more of mould. I made out to get one great and heavy stump

¹ See forward, Nov. 11.

to the water twenty rods distant by ant-like turning it over and over laboriously. It sunk my craft low in the water. Others are boughs which in the winter fell or were dragged down by the ice, their tops in the water and their butts on shore. These I saw off where they dip into the water, though the saw pinches.

Returning in the twilight, I see a bat over the river.

Nov. 4. P. M. — To Hill by Assabet.

This forenoon the boys found a little black kitten about a third grown on the Island or Rock, but could not catch it. We supposed that some one had cast it in to drown it. This afternoon, as I was paddling by the Island, I saw what I thought a duck swimming down the river diagonally, to the south shore just below the grassy island, opposite the rock; then I thought it two ducks, then a muskrat. It passed out of sight round a bend. I landed and walked alongshore, and found that it was a kitten, which had just got ashore. It was quite wet excepting its back. It swam quite rapidly, the whole length of its back out, but was carried down about as fast by the stream. It had probably first crossed from the rock to the grassy island, and then from the lower end of this to the town side of the stream, on which side it may have been attracted by the noise of the town. It was rather weak and staggered as it ran, from starvation or cold, being wet, or both. A very pretty little black kitten.

It is a dark, almost rainy day. Though the river *appears* to have risen considerably, it is not more than nine or ten inches above the lowest summer level, as

I see by the bridge. Yet it brings along a little drift-wood. Whatever rails or boards have been left by the water's edge the river silently takes up and carries away. Much small stuff from the pail-factory.

The winter is approaching. The birds are almost all gone. The note of the *dee de de* sounds now more distinct, prophetic of winter, as I go amid the wild apples on Nawshawtuct. The autumnal dandelion sheltered by this apple-tree trunk is drooping and half closed and shows but half its yellow, this dark, late, wet day in the fall.

Gathered a bag of wild apples. A great part are decayed now on the ground. The snail slug is still eating them. Some have very fiery crimson spots or eyes on a very white ground.

Returned, and went up the main stream. Larches are now quite yellow, — in the midst of their fall.

The river-brink — at a little distance at least — is now all sere and rustling, except a few yellowed willow leaves, though beyond in the meadows there is some fresh greenness, but cattle seem to stray wider for food than they did. They are turned into the meadows now, where is all the greenness. New fences are erected to take advantage of all the fall feed. But the rank herbage of the river's brink is more tender and has fallen before the frosts. Many new muskrat-houses have been erected this wet weather, and much gnawed root is floating. When I look away to the woods, the oaks have a dull, dark red now, without brightness. The willow-tops on causeways have a pale, bleached, silvery, or wool-grass-like look.

See some large flocks of *F. hyemalis*, which fly with a clear but faint chinking chirp, and from time to time you hear quite a strain, half warbled, from them. They rise in a body from the ground and fly to the trees as you approach. There are a few tree sparrows with them. These and one small soaring hawk are all the birds I see.

I have failed to find white pine seed this year, though I began to look for it a month ago. The cones were fallen and open. Look the first of September.

From my experience with wild apples I can understand that there may be a reason for a savage preferring many kinds of food which the civilized man rejects. The former has the palate of an outdoor man. It takes a savage or wild taste to appreciate a wild apple.¹ I remember two old maids to whose house I enjoyed carrying a purchaser to talk about buying their farm in the winter, because they offered us wild apples, though with an unnecessary apology for their wildness.

Nov. 5. I hate the present modes of living and getting a living. Farming and shopkeeping and working at a trade or profession are all odious to me. I should relish getting my living in a simple, primitive fashion. The life which society proposes to me to live is so artificial and complex — bolstered up on many weak supports, and sure to topple down at last — that no man surely can ever be inspired to live it, and only “old fogies” ever praise it. At best some think it their duty to live it. I believe in the infinite joy and satisfaction of help-

¹ [*Excursions*, p. 313; *Riv.* 385.]

ing myself and others to the extent of my ability. But what is the use in trying to live simply, raising what you eat, making what you wear, building what you inhabit, burning what you cut or dig, when those to whom you are allied insanely want and will have a thousand other things which neither you nor they can raise and nobody else, perchance, will pay for? The fellow-man to whom you are yoked is a steer that is ever bolting right the other way.

I was suggesting once to a man who was wincing under some of the consequences of our loose and expensive way of living, "But you might raise all your own potatoes, etc., etc." We had often done it at our house and had some to sell. At which he demurring, I said, setting it high, "You could raise twenty bushels even." "But," said he, "I use thirty-five." "How large is your family?" "A wife and three infant children." This was the real family; I need not enumerate those who were hired to *help* eat the potatoes and waste them. So he had to hire a man to raise his potatoes.

Thus men invite the devil in at every angle and then prate about the garden of Eden and the fall of man.

I know many children to whom I would fain make a present on some one of their birthdays, but they are so far gone in the luxury of presents — have such perfect museums of costly ones — that it would absorb my entire earnings for a year to buy them something which would not be beneath their notice.

P. M. — To foot of Fair Haven Hill *via* Hubbard's Grove.

I see the shepherd's-purse, hedge-mustard, and red clover, — November flowers. Crossing the Depot Field Brook, I observe the downy, fuzzy globular tops of the *Aster puniceus*. They are slightly tinged with yellow, compared with the hoary gray of the goldenrod. The distant willow-tops are yellowish like them in the right light.

At Hubbard's Crossing I see a large male hen-harrier skimming over the meadow, its deep slate somewhat sprinkled or mixed with black; perhaps young. It flaps a little and then sails straight forward, so low it must rise at every fence. But I perceive that it follows the windings of the meadow over many fences. I pass a great white pine stump, — half a cord in it and more, — turned up out of a meadow. I look upon it with interest, and wish I had it at my door, for there are many warm fires in that. You could have many thoughts and tell many stories while that was burning.

Walked through Potter's Swamp. That white birch fungus always presents its face to the ground, parallel with it. For here are some on an upright dead birch whose faces or planes are at right angles with the axis of the tree as usual, looking down; but others, attached to the top of the tree, which lies prostrate on the ground, have their planes parallel with the axis of the tree, as if looking round the birch. When the epidermis is cracked, apparently as they grew, they are watered handsomely with white streams an eighth of an inch wide above. They have remarkably thick necks. They protrude through a rent in the bark, carrying it along with their necks, a little way.

The brightness of the foliage generally ceased pretty exactly with October. The still bright leaves which I see as I walk along the river edge of this swamp are birches, clear yellow at top; high blueberry, some very bright scarlet red still; some willows; *Viburnum nudum*, fresh dark red; alder sprouts, large green leaves. Swamp-pink buds now begin to show. The late growth of the pyrus is now checked by the frost. The bark of many frostweeds is now cracked or burst off, and curled backward in five or six strips for about an inch, leaving the woody part bare at, or an inch above, the ground, sometimes five or six inches above the ground. I *suspect* the frost is the dying breath of the weed congealed.

I am pleased to see that the lower and larger four or five leaves of the water andromeda on the edge of the meadow next the swamp are pretty commonly turned a dark scarlet now, just as they fall, confirming my old impression. I have not observed for some years.

A nest made very thick, of grass and stubble, and lined with finer grass and horsehair, as big as a kingbird's, on an alder, within eighteen inches of ground, close to the water, at Cardinal Shore. The alder had been broken down at that height by the ice, and the nest rested on the stub ends. I took a few dead leaves out and to my surprise found an egg, — *very pale greenish-blue*. Probably the *wood thrush*,¹ if not the olivaceous one, whose eggs I have not seen described. Not *quite* so big as a bluebird's. This egg popped and

¹ No.

burst suddenly, with a noise about as loud as popping corn, or like a pop-gun, while I held it in my hand in my chamber. It had been addled when new. I had another pop in the chamber some months ago. So you must blow them before you bring them into a warm room.¹

I am puzzled with the lecheas. Are there not four kinds? First, there is the *L. major*, with broad leaves; and second, the *leat*, with fine spreading branches and with *branched* shoots at base. Third, there is the very common one, intermediate in size, with large fruit and linear-lanceolate leaves, now commonly fallen. But I see, fourth (?), this afternoon, one fifteen inches high, half a dozen rods from Cardinal Shore, and stout, with leaves like the third, but fruit very small and *abundant* (there is apparently a little recent-growth opening of leaves at the extremities of it, some radical shoots on stem six inches from ground!); and fifth, close by, a slender one a foot high, with leaves elliptic pointed, one half inch by one sixth, and larger fruit than last, at top and generally. (May be a variety of *L. major*? It has some leaves like it.) It is perhaps the third kind which, when only three or four inches high now, has such dense linear leaves one half inch plus long, pine-tree-like and spreading branches just above radical shoots.²

I find that one of my old oak logs, which was lying on the damp bank of the river, half rotted through below, contained many great black ants gone into winter quarters in those great eaten cells of the rotten wood. Yet this would have been covered with water

¹ *Vide* Nov. 13.

² *Vide* July 30, 1856.

in the winter. Those with wings were three quarters of an inch or more long. They move but slowly when exposed. In one I set up for splitting in the yard, I find a clamshell, carried in by a muskrat.

Nov. 6. A mizzling rain from the east drives me home from my walk. The knawel in the sand on the railroad causeway grows in dense green tufts like the hudsonia, six or eight inches in diameter and one or two high. It is still in bloom. The gooseberry leaves at the end of the currant row, being wet, are a still more brilliant scarlet.

A great many rainy or mizzling days the last fortnight, yet not much rain.

Pennyroyal has a long time stood withered and dark, blackish brown, in the fields, yet scented.

I can hardly resist the inclination to collect driftwood, to collect a great load of various kinds, which will sink my boat low in the water, and paddle or sail slowly home with it. I love this labor so much that I would gladly collect it for some person of simple habits who might want it. Men ordinarily do not have the pleasure of sawing and splitting their wood even, for while they are buying it an Irishman stands by with his sawhorse on his back, and the next thing I see him in their yards — him and his understrapper — sawing for dear life and two shillings a cut. When I think, too, of the many decaying stumps and logs which the coming freshets will carry off perchance to sea. Rails and posts and bits of boards and boughs are carried far into the swamps.

Nov. 7. Another drizzling day, — as fine a mist as can *fall*.

P. M. — Up Assabet.

I see a painted tortoise swimming under water, and to my surprise another afterward out on a willow trunk this dark day. It is long since I have seen one of any species except the *insculpta*. They must have begun to keep below and go into winter quarters (?) about three weeks ago.¹

Looking west over Wheeler's meadow, I see that there has been much gossamer on the grass, and it is now revealed by the dewy mist which has collected on it. Some green-briar leaves still left, a dull red or scarlet, others yellowish; also the silky cornel is conspicuously dull-red, and others yellowish-red. And the sallow on river's brink (not *cordata*), with a narrow leaf pointed at both ends, shows some clear chrome-yellow leaves atop. The white birches lose their lower leaves first, and now their tops show crescents or cones of bright-yellow (spiring flames) leaves, some of the topmost even *green* still. The black willows almost everywhere entirely bare, yet the color of their twigs gives them the aspect of the crisp brown weeds of the river's brink. How completely crisp and shrivelled the leaves and stems of the *Polygonum amphibium* var. *terrestre*, still standing above the water and grass!

The river has risen a little more, the North Branch especially, and the pail-stuff which has drifted down it has been carried a few rods up the main stream above the junction. It rises and falls very suddenly, and I was

¹ Come out again. *Vide* Nov. 11.

surprised to see the other day a line of sawdust more than a foot above the water's edge, showing that it had risen to that height and suddenly fallen without my knowledge.

Opened a muskrat-house nearly two feet high, but there was no hollow to it. Apparently they do not form that part yet.

I find it good to be out this still, dark, mizzling afternoon; my walk or voyage is more suggestive and profitable than in bright weather. The view is contracted by the misty rain, the water is perfectly smooth, and the stillness is favorable to reflection. I am more open to impressions, more sensitive (not calloused or indurated by sun and wind), as if in a chamber still. My thoughts are concentrated; I am all compact. The solitude is real, too, for the weather keeps other men at home. This mist is like a roof and walls over and around, and I walk with a domestic feeling. The sound of a wagon going over an unseen bridge is louder than ever, and so of other sounds. I am *compelled* to look at near objects. All things have a soothing effect; the very clouds and mists brood over me. My power of observation and contemplation is much increased. My attention does not wander. The world and my life are simplified. What now of Europe and Asia?

Birds are pretty rare now. I hear a few tree sparrows in one place on the trees and bushes near the river, — a clear, chinking chirp and a half-strain, — a jay at a distance; and see a nuthatch flit with a ricochet flight across the river, and hear his *gnah* half uttered when he alights.

A gray squirrel — as day before yesterday — runs down a limb of an oak and hides behind the trunk and I lose him. A red one runs along the trees to scold at me, boldly or carelessly, with a chuckling, bird-like note and that other peculiar sound at intervals, between a purr and a grunt. He is more familiar than the gray and more noisy. What sound does the gray make?

Some of my driftwood is the burnt timbers of a mill, which the swollen river has gleaned for me.

Found in Wheeler's potato-field, which has been burned over to get rid of the weeds before digging, near the Hemlocks¹ by river, a little mouse dead. Whole length three inches (minus); tail hardly seven eighths of an inch, so short (less than half the body) I thought at first it had been bitten off by some animal. General color above, a rust of brown or tawny brown, with mouse-color seen through it; beneath, rather hoary mouse-color, but nowhere white; the fur dark-slate. Snout and head blunt, the latter large. Hind legs longest. Ears quite concealed in the fur. It answers to Emmons's *Arvicola hirsutus*, or meadow mouse, except that it is smaller. Is it a young one? Tips of incisors light-yellow.

Nov. 8. A quite warm and foggy morning. I can sit with my window open and no fire. Much warmer than this time last year. Though there is quite a fog over the river and doubtful weather behind, the reflection

¹ Hemlock cones all closed, but open partly next day in chamber, and *entirely* in a day or two.

of the wool-grass, etc., is quite distinct, the reflection from the fog or mist making the water light for a background.

Nov. 9. 7 A. M. — Grass white and stiff with frost.

9 A. M. — With Blake up Assabet.

A clear and beautiful day after frost.

Looking over the meadow westward from Merrick's Pasture Shore, I see the alders beyond Dodd's, now quite bare and gray (maple-like) in the morning sun (the frost melted off, though I found a little *ice* on my boat-seat), — that true November sight, — ready to wear frost leaves and to transmit (so open) the tinkle of tree sparrows. How wild and refreshing to see these old black willows of the river-brink, unchanged from the first, which man has never cut for fuel or for timber! Only the muskrat, tortoises, blackbirds, bitterns, and swallows use them.

Two blackbirds fly over pretty near, with a chuck, —either red-wings or grackles, but *I see no red*. See a painted tortoise and a wood tortoise in different places *out on the bank* still!

Saw in the pool at the Hemlocks what I at first thought was a brighter leaf moved by the zephyr on the surface of the smooth dark water, but it was a splendid male summer duck, which allowed us to approach within seven or eight rods, sailing up close to the shore, and then rose and flew up the curving stream. We soon overhauled it again, and got a fair and long view of it. It was a splendid bird, a perfect floating gem, and Blake, who had never seen the like, was greatly surprised, not

knowing that so splendid a bird was found in this part of the world. There it was, constantly moving back and forth by invisible means and wheeling on the smooth surface, showing now its breast, now its side, now its rear. It had a large, rich, flowing, green burnished crest, — a most ample head-dress, — two crescents of dazzling white on the side of the head and the black neck, a pinkish(?)—red bill (with black tip) and similar irides, and a long white mark under and at wing point on sides; the side, as if the form of wing at this distance, light bronze or greenish brown; but, above all, its breast, when it turns into the right light, all aglow with splendid purple (?) or ruby (?) reflections, *like the throat of the hummingbird*. It might not appear so close at hand. This was the most surprising to me. What an ornament to a river to see that glowing gem floating in contact with its waters! As if the hummingbird should recline its ruby throat and its breast on the water. Like dipping a glowing coal in water! It so affected me.

It became excited, fluttered or flapped its wings with a slight whistling noise, and arose and flew two or three rods and alighted. It sailed close up to the edge of a rock, by which it lay pretty still, and finally sailed fast up one side of the river by the willows, etc., off the duck swamp beyond the spring, now and then turning and sailing back a foot or two, while we paddled up the opposite side a rod in the rear, for twenty or thirty rods. At length we went by it, and it flew back low a few rods to where we roused it. It never offered to dive. We came equally near it again on our return. Unless you are thus near, and have a glass, the

splendor and beauty of its colors will not be discovered.

Found a good stone jug, small size, floating stopple up. I drew the stopple and smelled, as I expected, molasses and water, or something stronger (black-strap?), which it *had* contained. Probably some meadow-haymakers' jug left in the grass, which the recent rise of the river has floated off. It will do to put with the white pitcher I found and keep flowers in. Thus I get my furniture.

Yesterday I got a perfectly sound oak timber, eight inches square and twenty feet long, which had lodged on some rocks. It had probably been the sill of a building. As it was too heavy to lift aboard, I towed it. As I shall want some shelves to put my Oriental books on,¹ I shall begin to save boards now.

I deal so much with my fuel, — what with finding it, loading it, conveying it home, sawing and splitting it, — get so many values out of it, am warmed in so many ways by it, that the heat it will yield when in the stove is of a lower temperature and a lesser value in my eyes, — though when I feel it I am reminded of all my adventures. I just turned to put on a stick. I had my choice in the box of gray chestnut rail, black and brown snag of an oak stump, dead white pine top, gray and round, with stubs of limbs, or else old bridge plank, and chose the last. Yes, I lose sight of the ultimate uses of this wood and work, the immediate ones are so great, and yet most of mankind, those called

¹ [Cholmondeley's gift arrived Nov. 30. See p. 25 and *Familiar Letters*, p. 270; Riv. 319.]

most successful in obtaining the necessities of life, — getting their living, — obtain none of this, except a mere vulgar and perhaps stupefying warmth. I feel disposed, to this extent, to do the getting a living and the living for any three or four of my neighbors who really want the fuel and will appreciate the act, now that I have supplied myself. There was a fat pine plank, heavy as lead, I gave to Aunt L. for kindling.

That duck was all jewels combined, showing different lustres as it turned on the unrippled element in various lights, now brilliant glossy green, now dusky violet, now a rich bronze, now the reflections that sleep in the ruby's grain.

I see floating, just above the Hemlocks, the large sliding door of a railroad car, burnt to a cinder on one side and lettered in large bright-yellow letters on the other, "Cheshire 1510." It may have been cast over at the railroad bridge.

I affect what would commonly be called a mean and miserable way of living. I thoroughly sympathize with all savages and gypsies in so far as they merely assert the original right of man to the productions of Nature and a place in her. The Irishman moves into the town, sets up a shanty on the railroad land, and then gleans the dead wood from the neighboring forest, which would never get to market. But the so-called owner forbids it and complains of him as a trespasser. The highest law gives a thing to him who can use it.

Nov. 11. P. M. — Up Assabet.

As long as the sun is out, it is warm and pleasant.

The water is smooth. I see the reflections, not only of the wool-grass, but the bare button-bush, with its brown balls beginning to crumble and show the lighter inside, and the brittle light-brown twigs of the black willow, and the coarse rustling sedge, now completely withered (and hear it pleasantly whispering), and the brown and yellowish sparganium blades curving over like well-tempered steel, and the gray cottony mikania.

The bricks of which the muskrat builds his house are little masses or wads of the dead weedy rubbish on the muddy bottom, which it probably takes up with its mouth. It consists of various kinds of weeds, now agglutinated together by the slime and dried confervæ threads, utricularia, hornwort, etc., — a streaming, tuft-like wad. The building of these cabins appears to be coincident with the commencement of their clam diet, for now their vegetable food, excepting roots, is cut off. I see many small collections of shells already left along the river's brink. Thither they resort with their clam to open and eat it. But if it is the edge of a meadow which is being overflowed, they must raise it and make a permanent dry stool there, for they cannot afford to swim far with each clam. I see where one has left half a peck of shells on perhaps the foundation of an old stool or a harder clod, which the water is just about to cover, and he has begun his stool by laying two or three *fresh* wads upon the shells, the foundation of his house. Thus their cabin is first apparently intended merely for a stool, and afterward, when it is large, is perforated as if it were the bank! There is no cabin for a long way above

the Hemlocks, where there is no low meadow bordering the stream.

The clamshells freshly opened are handsomest this month (or rather are most observable, before the ice and snow conceal them) and in the spring.

I am surprised to see quite a number of painted tortoises out on logs and stones and to hear the wood tortoise rustling down the bank. Frogs are rare and sluggish, as if going into winter quarters. A cricket also sounds rather rare and distinct.

At the Hemlocks I see a narrow reddish line of hemlock leaves and, half an inch below, a white line of sawdust, eight inches above the present surface, on the upright side of a rock, both mathematically level. This chronicles the hemlock fall, which I had not noticed, we have so few trees, and also the river's rise. The North Branch must have risen suddenly before the South, for I see much pail-stuff from the Fort Pond Brook, which has been carried eighteen rods up the latter stream above the Rock, or as far as it extends immediately due west there. By "pail-stuff" I mean the curved and grooved pieces which form the sides and the flat ones for the bottom and their trimmings.

High blueberry leaves still conspicuous bright scarlet; also duller and darker green-briar leaves hold on on the Island.

I hear gray squirrels coursing about on the dry leaves, pursuing one another, and now they come in sight, coursing from pine to pine on their winding way, on their unweariable legs, on their undulating and winding course. It is a motion intermediate between run-

ning and flying. I hear but a tree sparrow and a chickadee this voyage.

Nov. 13. In mid-forenoon (10.45), seventy or eighty geese, in three harrows successively smaller, flying southwest — pretty well west — over the house. A completely overcast, occasionally drizzling forenoon. I at once heard their clangor and rushed to and opened the window. The three harrows were gradually formed into one great one before they were out of sight, the geese shifting their places without slacking their progress.

P. M. — To Cardinal Shore.

Going over Swamp Bridge Brook at 3 P. M., I saw in the pond by the roadside, a few rods before me, the sun shining bright, a mink swimming, the whole length of his back out. It was a rich brown fur, glowing internally as the sun fell on it, like some ladies' boas, not black, as it sometimes appears, especially on ice. It landed within three rods, showing its long, somewhat cat-like neck, and I observed was carrying something by its mouth, dragging it overland. At first I thought it a fish, maybe an eel, and when it had got half a dozen feet, I ran forward, and it dropped its prey and went into the wall. It was a muskrat, the head and part of the fore legs torn off and gone, but the rest still fresh and quite heavy, including hind legs and tail. It had probably killed this muskrat in the brook, eaten so much, and was dragging the remainder to its retreat in the wall.

A fine clear afternoon after the misty morning and heavy rain of the night. Even after all this rain I see the streaming lines of gossamer from trees and fences. From Fair Haven Hill the air is clear and fine-grained, and now it is a perfect russet November landscape, — including the reddish brown of the oaks, excepting where the winter-rye fields and some low meadows show their green, the former quite bright, and also the evergreen patches of pines, edged in the northwest by the blue mountain ridges.

Got the wood thrush's (?) nest of November 5th. It is about five inches [in] diameter from outside to outside, and two and a half within. Outside of some weedy tufts (beneath), weed stems and stubble (some dry galium stems, small), and lined with a little fine grass and horsehair. I found the egg partly concealed by some dry alder leaves which had fallen into the nest.

Nov. 14. Minott hears geese to-day.

Heard to-day in my chamber, about 11 A. M., a singular sharp crackling sound by the window, which made me think of the snapping of an insect (with its wings, or striking something). It was produced by one of three *small* pitch pine cones which I gathered on the 7th, and which lay in the sun on the window-sill. I noticed a slight motion in the scales at the apex, when suddenly, with a louder crackling, it burst, or the scales separated, with a snapping sound on all sides of it. It was a general and sudden bursting or expanding of all the scales with a sharp crackling sound and motion of the whole cone, as by a force pent up within it.

I suppose the strain only needed to be relieved in one point for the whole to go off.

I was remarking to-day to Mr. Rice on the pleasantness of this November thus far, when he remarked that he remembered a similar season fifty-four years ago, and he remembered it because on the 13th of November that year he was engaged in *pulling turnips* and saw wild geese go over, when one came to tell him that his father was killed by a bridge giving way when his team was crossing it, and the team falling on him walking at its side.

P. M. — Up Assabet with Sophia.

A clear, bright, warm afternoon. A painted tortoise swimming under water and a wood tortoise out on the bank. The rain has raised the river an additional foot or more, and it is *creeping over the meadows*. My boat is two thirds full and hard to come at. The old weedy margin is covered and a new grassy one acquired. The current is stronger, though the surface is pretty smooth. Much small rubbish is drifting down and slowly turning in the eddies. The motion of my boat sends an undulation to the shore, which rustles the dry sedge half immersed there, as if a tortoise were tumbling through it. Leaves and sticks and billets of wood come floating down in middle of the full, still stream, turning round in the eddies, and I mistake them for ducks at first. See two red-wing blackbirds alight on a black willow.

Nov. 15. The river rising. I see a spearer's light to-night.

Nov. 16. Minott speaks of the last fortnight as good weather to complete the harvesting, — corn, potatoes, turnips, carrots, etc. It seemed late for harvest, but some of the above crops were not gathered.

A part of to-day and yesterday I have been making shelves for my Oriental books, which I hear to-day are now on the Atlantic in the Canada.

Mr. Rice asked me to-night if I knew how hard a head a goat had. When he lived in Roxbury a man asked him to kill a goat for him. He accordingly struck the goat with a hatchet, hard enough, as he supposed, to dash his brains out, but the goat instantly, with a bleat, leaped on to a wall and ran twenty rods on the wall faster than they could on the ground after him, and he saw him as much as a month afterward none the worse for the blow.

He thinks that muskrats have always, even in the winter, a dry bed in the bank, as well as the wet place to eat in their cabins. Told me again the story of the muskrat which he saw *resting* under the ice, he himself lying flat and still upon the ice and the muskrat having a long way to go from the bank to his cabin. As soon as he stopped with his nose against the ice, a bubble issued from his mouth and flattened out to three inches in diameter against the ice, and he remained for half a minute with his mouth in it. Then drew it in, all but a little, and proceeded.

He spoke of the mud turtle resting on the “river-bush” (meaning the button-bush) in the spring, so near the top of the water that he could put his snout out when he pleased. Has taken them in April formerly, on Fast-Day.

I think that by the "swamp robin" he means the veery.

I see many more nests in the alders now than I suspected in the summer.

Nov. 17. Just after dark the first snow is falling, after a chilly afternoon with cold gray clouds, when my hands were uncomfortably cold.

It is interesting to me to talk with Rice, he lives so thoroughly and satisfactorily to himself. He has learned that rare art of living, the very elements of which most professors do not know. His life has been not a failure but a success. Seeing me going to sharpen some plane-irons, and hearing me complain of the want of tools, he said that I ought to have a chest of tools. But I said it was not worth the while. I should not use them enough to pay for them. "You would use them more, if you had them," said he. "When I came to do a piece of work I used to find commonly that I wanted a certain tool, and I made it a rule first always to make that tool. I have spent as much as \$3000 thus on my tools." Comparatively speaking, his life is a success; not such a failure as most men's. He gets more out of any enterprise than his neighbors, for he helps himself more and hires less. Whatever pleasure there is in it he enjoys. By good sense and calculation he has become rich and has invested his property well, yet practices a fair and neat economy, dwells not in untidy luxury. It costs him less to live, and he gets more out of life, than others. To get his living, or keep it, is not a hasty or disagreeable toil. He works slowly but surely, en-

joying the sweet of it. He buys a piece of meadow at a profitable rate, works at it in pleasant weather, he and his son, when they are inclined, goes a-fishing or a-bee-hunting or a-rifle-shooting quite as often, and thus the meadow gets redeemed, and potatoes get planted, perchance, and he is very sure to have a good crop stored in his cellar in the fall, and some to sell. He always has the best of potatoes there. In the same spirit in which he and his son tackle up their Dobbin (he never keeps a fast horse) and go a-spearing or a-fishing through the ice, they also tackle up and go to their Sudbury farm to hoe or harvest a little, and when they return they bring home a load of stumps in their hay-rigging, which impeded their labors, but, perchance, supply them with their winter wood. All the woodchucks they shoot or trap in the bean-field are brought home also. And thus their life is a long sport and they know not what hard times are.

Rice says there are no bees worth hunting about here now. He has sometimes been to a large wood in the west part of Sudbury, and also to Nagog, yet there was little honey there.

Saw Goodwin this afternoon returning from the river with two minks, one trapped, the other shot, and half a dozen muskrats. Mink seem to be more commonly seen now, and the rising of the river begins to drive out the muskrats.

Labauume says that he wrote his journal of the Campaign in Russia each night, in the midst of incredible danger and suffering, with "a raven's quill, and a little gunpowder, mixed with some melted snow, in the

hollow of my hand," the quill cut and mended with "the knife with which I had carved my scanty morsel of horse-flesh." Such a statement promises well for the writer's qualifications to treat such a theme.

Nov. 18. About an inch of snow fell last night, but the ground was not at all frozen or prepared for it. A little greener grass and stubble here and there seems to burn its way through it this forenoon.

It clears up at noon, and at

2 P. M. I go to Fair Haven Hill *via* Hubbard's Grove.

As I sat in the house, I was struck with the brightness and heat of the sun reflected from this our first snow. There was an intenser light in the house, and I felt an uncommon heat from the sun's rays on my back. The air is very clear, and the sky heavenly, with a few floating downy clouds. I am prepared to hear sharp, screaming notes rending the air, from the winter birds. I do, in fact, hear many jays, and the tinkling, like rattling glass, from chickadees and tree sparrows. I do not detect any peculiar brightness whatever in the osiers on the Hubbard causeway; they are scarcely, if at all, brighter than the tops of the trees. Now first mark the stubble and numerous withered weeds rising above the snow. They have suddenly acquired a new character. Tansy still shows its yellow disks, but yarrow is particularly fresh and perfect, cold and chaste, with its pretty little dry-looking rounded white petals and green leaves. Its very color gives it a right to bloom above the snow, — as level as a snow-crust on the top

of the stubble. It looks like a virgin wearing a white ruff.

The snow is the great track-revealer. I come across the tracks of persons who, at a different hour from myself, have crossed, and perhaps often cross, some remote field on their errands, when I had not suspected a predecessor; and the track of the dog or staff are seen too. The cattle have tracked their whole pasture over, as if there had been a thousand. I have this silent but unerring evidence of any who have crossed the fields since last night. It is pleasant to see tracks leading towards the woods, — to be reminded that any have engagements there. Yet for the most part the snow is quite untrodden. Most fields have no track of man in them. I only see where a squirrel has leaped from the wall.

I now remark how the perfectly leafless alder thickets are much darker than the maples, now that the ground is whitened. The pasture directly under my face is white, but, seen aslant a few rods off, mostly russet. Gathered a bagful of fair apples on Fair Haven, showing their red cheeks above the snow.

I was so warmed in spirit in *getting* my wood that the heat it finally yielded when burnt was coldness in comparison. That first is a warmth which you cannot buy.

These apples which I get nowadays — russets and Baldwins — are the ripest of all, being acted on by the frost and partly left because they were slightly over-ripe for keeping. I come home with a heavy bagful and rob no one.

Instead of walking in the wood-market amid sharp-visaged teamsters, I float over dark reflecting waters in which I see mirrored the stumps on the bank, and am dazzled by the beauty of a summer duck. Though I should get no wood, I should get a beauty perhaps more valuable. The price of this my wood, however high, is the very thing which I delight to pay. What I obtain with the most labor — the most water-logged and heaviest wood which I fish up from the bottom and split and dry — warms the most. The greater, too, the distance from which I have conveyed it, the more I am warmed by it in my thought. All the intervening shores glow and are warmed by it as it passes, or as I repass them in my mind. And yet men will cut their wood with sorrow, and burn it with lucifer matches. This was where I drove my team afield, and, instead of the grey-fly,¹ I heard the wood tortoises even yet rustling through the sedge to the water, or the gray squirrel coursing from maple to maple.

One man thinks that he has a right to burn his thirty cords in a year because he can give a certain sum of money in exchange for them, but that another has no right to pick up the fagots which else nobody would burn. They who will remember only this kind of right do as if they stood under a shed and affirmed that they were under the unobscured heavens. The shed has its use, but what is it to the heavens above?²

So of the *warmth* which food, shelter, and clothing

¹ ["We drove a-field, and both together heard

What time the grey-fly winds her sultry horn." — *Lycidas*.]

² [Channing, p. 90.]

afford, or might afford, if we used *economical stoves*. We might burn the smoke which now puts our eyes out. The pleasure, the warmth, is not so much in *having* as in a true and simple manner *getting* these necessities.

Men prefer foolishly the gold to that of which it is the symbol, — simple, honest, independent labor. Can gold be said to buy food, if it does not buy an appetite for food? It is fouler and uglier to have too much than not to have enough.

Nov. 19. A cold, gray day, once spitting snow. Water froze in tubs enough to bear last night.

Minott had two cats on his knee. One given away without his knowledge a fortnight before had just found its way back. He says he would not kill a cat for twenty dollars, — no, not for fifty. Finally he told his women folks that he would not do it for five hundred, or any sum. He thought they loved life as well as we. Johnny Vose would n't do it. He used to carry down milk to a shop every day for a litter of kittens.

Speaking of geese, he says that Dr. Hurd told a tough story once. He said that when he went out to the well there came a flock of geese flying so low that they had to rise to clear the well-sweep. M. says that there used to be a great many more geese formerly; he used to hear a great many flocks in a day go "yelling" over. Brant, too, he used to see.

Told me of his fishing for pickerel once in the brook, when a mink leaped into the water toward his bait (a frog), but, seeing the end of his pole, he dived and

made off. Some years ago he saw a mink steal out of the brook, which, being disturbed, dropped a pout half grown which it had caught. This was in his rye, then five or six inches high. Presently it returned and carried the pout to the wall by the elm at R. W. E.'s bound. He followed, looked under a rock, and saw two young minks. He has taken the jackets off many a one, but they smell so rank it is unpleasant work.

Rice says that that brook which crosses the road just beyond his brother Israel's is called Cold Brook. It comes partly from Dunge Hole. When the river is rising it will flow up the brook a great way.

Rice told his turtle story the other night: "One day I was going through Boston market and I saw a huddle of men around something or other. I edged my way between them and saw that they had got a great mud turtle on a plank, and a butcher stood over him with a cleaver in his hand. 'Eh,' said I, 'what are you trying to do?' 'We are waiting for him to put out his head so that we may cut it off. Look out,' they said; 'don't come so near, or he'll bite you.' 'Look here,' said I, 'let me try. I guess I can make him put his head out.' 'Let him try. Let him try,' they said, with a laugh. So I stepped into the ring and stood astride of the turtle, while they looked on to see the sport. After looking at him a moment, I put down my hands and turned him over on to his back, whereupon he immediately ran out his head and pushed against the plank to turn himself back, but, as they were not ready to cut at once, or his neck was not in a good position, I seized his head in both hands and,

putting my feet against his breast-bone, drew his head out the full length of his neck and said, 'Now cut away. Only take care you don't cut my fingers.' They cut, and I threw the head down on the floor. As I walked away, some one said, 'I guess that fellow has seen mud turtles before to-day.' "

Nov. 20. Again I hear that sharp, crackling, snapping sound and, hastening to the window, find that another of the pitch pine cones gathered November 7th, lying in the sun, or which the sun has reached, has separated its scales very slightly at the apex. It is only discoverable on a close inspection, but while I look the whole cone opens its scales with a smart crackling and rocks and seems to bristle up, scattering the dry pitch on the surface. They all thus fairly loosen and open, though they do not at once spread wide open. It is almost like the disintegration of glass. As soon as the tension is relaxed in one part, it is relaxed in every part.

A cold day. The snow that fell November 17th in the evening is still seen on the ground.

Nov. 24. Geese went over on the 13th and 14th, on the 17th the first snow fell, and the 19th it began to be cold and blustering. That first slight snow has not yet gone off! and *very little* has been added. The last three or four days have been quite cold, the sidewalks a glare of ice and very little melting. To-day has been exceedingly blustering and disagreeable, as I found while surveying for Moore. The farmers now

bring the apples they have engaged (and the cider); it is time to put them in the cellar, and the turnips. Ice has frozen pretty thick in the bottom of my boat.

Nov. 26. Bottom of boat covered with ice. The ice next the shore bore me and my boat.

Nov. 27. P. M. — By river to J. Farmer's.

He gave me the head of a gray rabbit which his boy had snared. This rabbit is white beneath, the whole length, reddish-brown on the sides, and the same spotted with black, above; the hairs coarse and homely, yet the fur beneath thick and slate-colored as usual. Well defended from the cold. Sides I might say *pale* brick-color, the brown part. The fur under the feet dirty-yellowish, as if stained by what it trod upon. He makes no use of their skins or fur. The skin is very tender. The tail, short and curled up, is white on the inside like that of the deer described by Loskiel, *q. v.*, Indian book.

He showed me the preserved skin of the heads of a double-headed calf, still-born, also the adjoining portion of the spine, where two short spinal columns, two or three inches long, merged in one. Only one body and other organs.

I told him I saw a mink. He said he would have given me \$1.50 and perhaps something more for him. I hear that he gives \$1.75, and sells them again at a profit. They are used to trim ladies' coats with, among other things. A mink skin which he showed me was a darker brown than the one I saw last (he says they

changed suddenly to darker *about* a fortnight since); and the tail was nearly all black.

He said that his grandfather, who could remember one hundred and twenty-five years before this, told him that they used to catch wolves in what is now Carter's pasture by the North River (east of Dodge's Brook) in this manner: They piled up logs, cob-house fashion, beginning with a large base, eight or ten feet square, and narrowing successively each tier, so as to make steps for the wolves to the top, say ten feet high. Then they put a dead sheep within. A wolf soon found it in the night, sat down outside and howled till he called his comrades to him, and then they ascended step by step and jumped down within; but when they had done they could not get out again. They always found one of the wolves dead, and supposed that he was punished for betraying the others into this trap.

A man in Brighton, whom he fully believes, told him that he built a bower near a dead horse and placed himself within to shoot crows. One crow took his station as sentinel on the top of the tree, and thirty or forty alighted upon the horse. He fired and killed seven or eight, but the rest, instead of minding him, immediately flew to their sentinel and pecked him to pieces before his eyes. Also Mr. Joseph Clark told him that, as he was going along the road, he cast a stick over the wall and hit some crows in a field, whereupon they flew directly at their sentinel on an apple tree and beat and buffeted him away to the woods as far as he could see.

There is little now to be heard along the river but

the sedge rustling on the brink. There is a little ice along most of the shore throughout the day.

Farmer told me that some one told him he found a pickerel washed up in the river, choked by a bream which it had endeavored to swallow.

Nov. 30. River skimmed over behind Dodd's and elsewhere. Got in my boat. River remained iced over all day.

This evening I received Cholmondeley's gift of Indian books, forty-four volumes in all, which came by the Canada, reaching Boston on the morning of the 24th. Left Liverpool the 10th.

Goodwin and Farmer think that a dog will not touch the dead body of a mink, it smells so strongly. The former, after skinning them, throws the carcass into a tree for the crows. He has got eleven this fall; shot two and trapped the rest.

On the 27th, when I made my last voyage for the season, I found a large sound pine log about four feet long floating, and brought it home. Off the larger end I sawed two wheels, about a foot in diameter and seven or eight inches thick, and I fitted to them an axle-tree made of a joist, which also I found in the river, and thus I had a convenient pair of wheels on which to get my boat up and roll it about. The assessors called me into their office this year and said they wished to get an inventory of my property; asked if I had any real estate. No. Any notes at interest or railroad shares? No. Any taxable property? None that I knew of. "I own a boat," I said; and one of

them thought that that might come under the head of a pleasure carriage, which is taxable. Now that I have wheels to it, it comes nearer to it. I was pleased to get my boat in by this means rather than on a borrowed wheelbarrow. It was fit that the river should furnish the material, and that in my last voyage on it, when the ice reminded me that it was time to put it in winter quarters.

I am waiting for colder weather to survey a swamp, now inaccessible on account of the water.

I asked Aunt L. to-night why *Scheeter* Potter was so called. She said, because his neighbors regarded him as so small a man that they said in jest that it was his business to make mosquitoes' bills. He was accused of catching his neighbor's hens in a trap and eating them. But he was crazy.

William Wheeler says that he went a-spearing on the 28th (night before Thanksgiving) and, besides pouts and pickerel, caught two great suckers. He had one of the last stuffed and baked for Thanksgiving, and made himself sick by eating too heartily of it.

II

DECEMBER, 1855

(ÆT. 38)

Dec. 3. Monday. A pleasant day. No snow yet (since that first whitening which lasted so long), nor do I see any ice to speak of.

Hear and see, of birds, only a tree sparrow in the willows on the Turnpike. Met Goodwin going out with his gun. He shot (evidently) some crossbills once in Roxbury. He sometimes gets a skunk drowned in his muskrat or mink traps, and so can get at their secretion without being disturbed by the scent. He, too, has heard that it is a sure cure for the phthisic.

The fields and woods seem now particularly empty and bare. No cattle in pasture; only here and there a man carting or spreading manure.

Every larger tree which I knew and admired is being gradually culled out and carried to mill. I see one or two more large oaks in E. Hubbard's wood lying high on stumps, waiting for snow to be removed. I miss them as surely and with the same feeling that I do the old inhabitants out of the village street. To me they were something more than timber; to their owner not so.

Dec. 4. Melvin says that he shot a sheldrake once in the act of swallowing a perch seven or eight inches

long He had got nothing to-day, for he forgot his caps.

A pleasant day and yet no snow nor ice. The younger osiers on Shattuck's row *do* shine.

Dec. 6. 10 P. M. — Hear geese going over.

Dec. 8. Saturday. Still no snow, — nor ice noticeable. I might have left my boat out till now. I have not worn gloves yet.

This afternoon I go to the woods down the railroad, seeking the society of some flock of little birds, or some squirrel, but in vain. I only hear the faint lisp of (probably) a tree sparrow. I go through empty halls, apparently unoccupied by bird or beast. Yet it is cheering to walk there while the sun is reflected from far through the aisles with a silvery light from the needles of the pine. The contrast of light or sunshine and shade, though the latter is now so thin, is food enough for me. Some scarlet oak leaves on the forest floor, when I stoop low, appear to have a little blood in them still. The shrivelled Solomon's-seal berries are conspicuously red amid the dry leaves. I visited the door of many a squirrel's burrow, and saw his nutshells and cone-scales and tracks in the sand, but a snow would reveal much more. Let a snow come and clothe the ground and trees, and I shall see the tracks of many inhabitants now unsuspected, and the very snow covering up the withered leaves will supply the place of the green ones which are gone. In a little busy flock of lisping birds, — chickadees or lesser redpolls, —

even in a nuthatch or downy woodpecker, there would have been a sweet society for me, but I did not find [it]. Yet I had the sun penetrating into the deep hollows through the aisles of the wood, and the silvery sheen of its reflection from masses of white pine needles.

Met Therien coming from Lincoln on the railroad. He says that he carried a cat from Jacob Baker's to Riordan's shanty in a bag in the night, but she ran home again. "Had they not a cat in the shanty?" I asked. "Yes," said he, "but she was run over by the cars and killed; they found her head on the track separated from her body, just below the pond." That cat of Baker's used to eat eggs and so he wished to get rid of her. He carried her in a bag to Waltham, but she came back.

Therien had several times seen where tortoises had been run over. They lie just under the rail, and put their heads out upon the rail to see what is coming, and so their heads are crushed. Also he has seen snakes cut in two. The men on the road told him that small birds were frequently run over.

Jacob Farmer brought me the head of a mink to-night and took tea here. He says that partridges sometimes fly against a house in the night, he thinks when started by a fox. His man found one in his barn this fall, which had come in in the night, and caught it before it could get out.

The mink has a delicate pard-like nose, cat-like. The long hairs are black or blackish, yet the general aspect is brown.

Farmer says he can call a male quail close to him

by imitating the note of the female, which is only a single faint whistle. He says if you take eggs out of a partridge's nest and put them back, you will find just as many cast out afterwards as you took out.

Dec. 9. A still, completely gray, overcast, chilly morning. At 8.30 a fine snow begins to fall, increasing very gradually, perfectly straight down, till in fifteen minutes the ground is white, the smooth places first, and thus the winter landscape is ushered in. And now it is falling thus all the land over, sifting down through the tree-tops in woods, and on the meadow and pastures, where the dry grass and weeds conceal it at first, and on the river and ponds, in which it is dissolved. But in a few minutes it turns to rain, and so the wintry landscape is postponed for the present.

Dec. 10. To Cambridge.

Dec. 11. P. M. — To Holden Swamp, Conantum.

For the first time I wear gloves, but I have not walked *early* this season.

I see no birds, but hear, methinks, one or two tree sparrows. No snow; scarcely any ice to be detected. It is only an aggravated November. I thread the tangle of the spruce swamp, admiring the leafets of the swamp pyrus which had put forth again, now frost-bitten, the great yellow buds of the swamp-pink, the round red buds of the high blueberry, and the fine sharp red ones of the panicked andromeda. Slowly I worm my way amid the snarl, the thicket of black

alders and blueberry, etc.; see the forms, apparently, of rabbits at the foot of maples, and catbirds' nests now exposed in the leafless thicket.

Standing there, though in this *bare* November landscape, I am reminded of the incredible phenomenon of small birds in winter. That ere long, amid the cold powdery snow, as it were a fruit of the season, will come twittering a flock of delicate crimson-tinged birds, lesser redpolls, to sport and feed on the seeds and buds now just ripe for them on the sunny side of a wood, shaking down the powdery snow there in their cheerful social feeding, as if it were high midsummer to them. These crimson aerial creatures have wings which would bear them quickly to the regions of summer, but here is all the summer they want. What a rich contrast! tropical colors, crimson breasts, on cold white snow! Such etherealness, such delicacy in their forms, such ripeness in their colors, in this stern and barren season! It is as surprising as if you were to find a brilliant crimson flower which flourished amid snows. They greet the chopper and the hunter in their furs. Their Maker gave them the last touch and launched them forth the day of the Great Snow. He made this bitter imprisoning cold before which man quails, but He made at the same time these warm and glowing creatures to twitter and be at home in it. He said not only, Let there be linnets in winter, but linnets of rich plumage and pleasing twitter, bearing summer in their natures. The snow will be three feet deep, the ice will be two feet thick, and last night, perchance, the mercury sank to thirty degrees below zero. All the fountains of nature

seem to be sealed up. The traveller is frozen on his way. But under the edge of yonder birch wood will be a little flock of crimson-breasted lesser redpolls, busily feeding on the seeds of the birch and shaking down the powdery snow! As if a flower were created to be now in bloom, a peach to be now first fully ripe on its stem. I am struck by the perfect confidence and success of nature. There is no question about the existence of these delicate creatures, their adaptedness to their circumstances. There is superadded superfluous paintings and adornments, a crystalline, jewel-like health and soundness, like the colors reflected from ice-crystals.

When some rare northern bird like the pine grosbeak is seen thus far south in the winter, he does not suggest poverty, but dazzles us with his beauty. There is in them a warmth akin to the warmth that melts the icicle. Think of these brilliant, warm-colored, and richly warbling birds, birds of paradise, dainty-footed, downy-clad, in the midst of a New England, a Canadian winter. The woods and fields, now somewhat solitary, being deserted by their more tender summer residents, are now frequented by these rich but delicately tinted and hardy northern immigrants of the air. Here is no imperfection to be suggested. The winter, with its snow and ice, is not an evil to be corrected. It is as it was designed and made to be, for the artist has had leisure to add beauty to use. My acquaintances, angels from the north. I had a vision thus prospectively of these birds as I stood in the swamps. I saw this familiar — too *familiar* — fact at a different angle, and

I was charmed and haunted by it. But I could only attain to be thrilled and enchanted, as by the sound of a strain of music dying away. I had seen into paradisaic regions, with their air and sky, and I was no longer wholly or merely a denizen of this vulgar earth. Yet had I hardly a foothold there. I was only sure that I was charmed, and no mistake. It is only necessary to behold thus the least fact or phenomenon, however familiar, from a point a hair's breadth aside from our habitual path or routine, to be overcome, enchanted by its beauty and significance. Only what we have touched and worn is trivial, — our scurf, repetition, tradition, conformity. To perceive freshly, with fresh senses, is to be inspired. Great winter itself looked like a precious gem, reflecting rainbow colors from one angle.

My body is all sentient. As I go here or there, I am tickled by this or that I come in contact with, as if I touched the wires of a battery. I can generally recall — have fresh in my mind — several scratches last received. These I continually recall to mind, reimpress, and harp upon. The age of miracles is each moment thus returned. Now it is wild apples, now river reflections, now a flock of lesser redpolls. In winter, too, resides immortal youth and perennial summer. Its head is not silvered ; its cheek is not blanched but has a ruby tinge to it.

If any part of nature excites our pity, it is for ourselves we grieve, for there is eternal health and beauty. We get only transient and partial glimpses of the beauty of the world. Standing at the right angle, we are dazzled by the colors of the rainbow in colorless ice. From the

right point of view, every storm and every drop in it is a rainbow. Beauty and music are not mere traits and exceptions. They are the rule and character. It is the exception that we see and hear. Then I try to discover what it was in the vision that charmed and translated me. What if we could daguerreotype our thoughts and feelings! for I am surprised and enchanted often by some quality which I cannot detect. I have seen an attribute of another world and condition of things. It is a wonderful fact that I should be affected, and thus deeply and powerfully, more than by aught else in all my experience, — that this fruit should be borne in me, sprung from a seed finer than the spores of fungi, floated from other atmospheres! finer than the dust caught in the sails of vessels a thousand miles from land! Here the invisible seeds settle, and spring, and bear flowers and fruits of immortal beauty.

Dec. 13. This morning it is snowing, and the ground is whitened. The countless flakes, seen against the dark evergreens like a web that is woven in the air, impart a cheerful and busy aspect to nature. It is like a grain that is sown, or like leaves that have come to clothe the bare trees. Now, by 9 o'clock, it comes down in larger flakes, and I apprehend that it will soon stop. It does.

How pleasant a sense of preparedness for the winter, — plenty of wood in the shed and potatoes and apples, etc., in the cellar, and the house banked up! Now it will be a cheerful sight to see the snows descend and hear the blast howl.

Sanborn tells me that he was waked up a few nights ago in Boston, about midnight, by the sound of a flock of geese passing over the city, probably about the same night I heard them here. They go honking over cities where the arts flourish, waking the inhabitants; over State-houses and capitols, where legislatures sit; over harbors where fleets lie at anchor; mistaking the city, perhaps, for a swamp or the edge of a lake, about settling in it, not suspecting that greater geese than they have settled there.

Dec. 14. It began to snow again last evening, but soon ceased, and now it has turned out a fine winter morning, with half an inch of snow on the ground, the air full of mist, through which the smokes rise up perfectly straight; and the mist is frozen in minute leafets on the fences and trees and the needles of the pines, silvering them.

I stood by Bigelow the blacksmith's forge yesterday, and saw him repair an axe. He burned the handle out, then, with a chisel, cut off the red-hot edge even, there being some great gaps in it, and by hammering drew it out and shaped it anew, — all in a few minutes. It was interesting to see performed so simply and easily, by the aid of fire and a few rude tools, a work which would have surpassed the skill of a tribe of savages.

P. M. — To Pink Azalea Woods.

The warm sun has quite melted the thin snow on the south sides of the hills, but I go to see the tracks of animals that have been out on the north sides. First, getting over the wall under the walnut trees on the south

brow of the hill, I see the broad tracks of squirrels, probably red, where they have ascended and descended the trees, and the empty shells of walnuts which they have gnawed left on the snow. The snow is so very shallow that the impression of their toes is the more distinctly seen. It imparts life to the landscape to see merely the squirrels' track in the snow at the base of the walnut tree. You almost realize a squirrel at every tree. The attractions of nature are thus condensed or multiplied. You see not merely bare trees and ground which you might suspect that a squirrel had left, but you have this unquestionable and significant evidence that a squirrel has been there since the snow fell, — as conclusive as if you had seen him.

A little further I heard the sound [of] a downy woodpecker tapping a pitch pine in a little grove, and saw him inclining to dodge behind the stem. He flitted from pine to pine before me. Frequently, when I pause to listen, I hear this sound in the orchards or streets. This was in one of these dense groves of young pitch pines.

Suddenly I heard the screwing mew and then the whirl of a partridge on or beneath an old decaying apple tree which the pines had surrounded. There were several such, and another partridge burst away from one. They shoot off swift and steady, showing their dark-edged tails, almost like a cannon-ball. I saw one's track under an apple tree and where it had pecked a frozen-thawed apple.

Then I came upon a fox-track made last night, leading toward a farmhouse, — Wheeler's, where there

are many hens, — running over the side of the hill parallel with Wheeler's new wall. He was dainty in the choice of his ground, for I observed that for a mile he had adhered to a narrow cow-path, in which the snow lay level, for smoothness. Sometimes he had cantered, and struck the snow with his foot between his tracks. Little does the farmer think of the danger which threatens his hens.

In a little hollow I see the sere gray pennyroyal rising above the snow, which, snuffed, reminds me of garrets full of herbs.

Now I hear, half a mile off, the hollow sound of woodchopping, the work of short winter days begun, which is gradually laying bare and impoverishing our landscape. In two or three thicker woods which I have visited this season, I was driven away by this ominous sound.

Further over toward the river, I see the tracks of a deer mouse on a rock, which suddenly come to an end where apparently it had ascended a small pine by a twig which hung over it. Sometimes the mark of its tail was very distinct. Afterwards I saw in the pasture westward where many had run about in the night. In one place many had crossed the cow-path in which I was walking, in one trail, or the same one had come and gone many times. In the large hollows where rocks have been blasted, and on the sides of the river, I see irregular spaces of dark ice bare of snow, which was frozen after the snow ceased to fall. But this ice is rotten and mixed with snow. I am surprised to see the river frozen over for the most part with this thin and

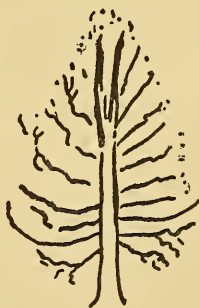
rotten snow ice, and the drooping or bent alders are already frozen into this slush, giving to the stream a very wintry aspect. I see some squirrel-tracks about a hole in a stump.

At the azalea meadow or swamp, the red tops of the osiers, which are very dense and of a uniform height, are quite attractive, in the absence of color at this season. Any brighter and warmer color catches our eye at this season. I see an elm there whose bark is worn quite smooth and white and bare of lichens, showing exactly the height at which the ice stood last winter.

Looking more closely at the light snow there near the swamp, I found that it was sprinkled all over (as with pellets of cotton) with regular star-shaped cottony flakes with six points, about an eighth of an inch in diameter and on an average a half an inch apart. It snowed geometry.

How snug and warm a hemlock looks in the winter! That by the azalea looks thus: There is a tendency in the limbs to arrange themselves ray-wise about a point one third from the base to the top. What singular regularity in the outline of a tree!

I noticed this morning successive banks of frost on the windows, marked by their irregular waving edges, like the successive five, ten, and fifteen fathom lines which mark the depth of the shores on charts.



Thus by the snow I was made aware in this short

walk of the recent presence there of squirrels, a fox, and countless mice, whose trail I had crossed, but none of which I saw, or probably should have seen before the snow fell. Also I saw this afternoon the track of one sparrow, probably a tree sparrow, which had run among the weeds in the road.

Dec. 15. This morning it has begun to snow apparently in earnest. The air is quite thick and the view confined. It is quite still, yet some flakes come down from one side and some from another, crossing each other like woof and warp apparently, as they are falling in different eddies and currents of air. In the midst of it, I hear and see a few little chickadees prying about the twigs of the locusts in the graveyard. They have come into town with the snow. They now and then break forth into a short sweet strain, and then seem suddenly to check themselves, as if they had done it before they thought.

The boys have skated a little within two or three days, but it has not been thick enough to bear a man yet.

How like a bird of ill omen the crow behaves! Still holding its ground in our midst like a powwow that is not to be exterminated! Sometimes when I am going through the Deep Cut, I look up and see half a dozen black crows flitting silently across in front and ominously eying down; passing from one wood to another, yet as if their passage had reference to me.

The snow turned to rain, and this afternoon I walk

in it down the railroad and through the woods. The low grass and weeds, bent down with a myriad little crystalline drops, ready to be frozen perhaps, are very interesting, but wet my feet through very soon. A steady but gentle, warm rain.

Dec. 16. Steady, gentle, warm rain all the forenoon, and mist and mizzling in the afternoon, when I go round by Abel Hosmer's and back by the railroad.

The mist makes the near trees dark and noticeable, like pictures, and makes the houses more interesting, revealing but one at a time. The old apple trees are very important to this landscape, they have so much body and are so dark. It is very pleasing to distinguish the dim outline of the woods, more or less distant, through the mist, sometimes the merest film and suspicion of a wood. On one side it is the plump and rounded but soft masses of pitch pines, on another the brushy tops of maples, birches, etc. Going by Hosmer's, the very heaps of stones in the pasture are obvious as cairns in one of Ossian's landscapes.

Saw two red squirrels on the fence, one on each side of his house, particularly red along their backs and top of head and tail. They are remarkably tame. One sits twirling apparently a dried apple in his paws, with his tail curled close over his back as if to keep it warm, fitting its curve. How much smothered sunlight in their wholesome brown red this misty day! It is clear New England, *Nov-anglia*, like the red subsoil. It is springlike.



As we go over the bridge, admire the reflection of

the trees and houses from the smooth open water over the channel, where the ice has been dissolved by the rain.

Dec. 17. 9.30 A. M. — To Hill.

A remarkably fine, springlike morning. The earth all bare; the sun so bright and warm; the steam curling up from every fence and roof, and carried off at [an] angle by the slight northwesterly air. After those rainy days the air is apparently uncommonly clear, and hence (?) the sound of cock-crowing is so sweet, and I hear the sound of the sawmill even at the door, also the cawing of crows. There is a little ice, which makes it as yet good walking, in the roads. The peculiar brightness and sunniness may be partly owing to the sun being reflected through the cleansed air from the more than russet, the bleached, surface of the earth. Methinks every squirrel will be out now. This is the morning. Ere long the wind will rise and this season will be over. There will probably be some wrack in the afternoon sky.

Columella says you must be careful not to carry out seeds in your manure and so have *segetes herbidas* (weedy crops).

Dec. 18. Saw to-day a dark-colored spider of the *very largest* kind on ice, — the mill-pond at E. Wood's in Acton.

J. Farmer says that he once tried to kill a cat by taking her by the legs and striking her head against a stone, but she made off, and in a week was about again,

apparently as well as ever, and he did not meddle with her again.

Dec. 20. Still no snow, and, as usual, I wear no gloves.

P. M. — To Hubbard's skating meadow.

A few chickadees busily inspecting the buds at the willow-row ivy tree, for insects, with a short, clear *chink* from time to time, as if to warn me of their neighborhood.

Boys are now devoted to skating after school at night, far into evening, going without their suppers. It is pretty good on the meadows, which are somewhat overflown, and the sides of the river, but the greater part of it is open. I walk along the side of the river, on the ice beyond the Bath Place. Already there is dust on this smooth ice, on its countless facets, revealed by the sun. How warm the dull-red cranberry vine rises above the ice here and there! I stamped and shook the ice to detect the holes and weak places where that little brook comes in there. They were plainly revealed, for the water beneath, being agitated, proclaimed itself at every hole far and wide or for three or four rods. The edge of the ice toward the channel is either rubbed up or edged with a ridge of frozen foam.

I see *some* gossamer on the weeds above the ice. Also, in now hard, dark ice, the tracks apparently of a fox, made when it was saturated snow. So long his trail is revealed, but over the pastures no hound can now trace him. There has been much overflow about

every tussock in the meadow, making that rough, opaque ice, like yeast. I mark the many preparations for another year which the farmer has made, — his late plowings, his muck-heaps in fields, perhaps of grass, which he intends to plow and cultivate, his ditches to carry off the winter's floods, etc. How placid, like silver or like steel in different lights, the surface of the still, living water between these borders of ice, reflecting the weeds and trees, and now the warm colors of the sunset sky! The ice is that portion of the flood which is congealed and laid up in our fields for a season.


Dec. 21. Going to the post-office at 9 A. M. this very pleasant morning, I hear and see tree sparrows on Wheildon's pines, and just beyond scare a downy woodpecker and a brown creeper in company, from near the base of a small elm within three feet of me. The former dashes off with a loud rippling of the wing, and the creeper flits across the street to the base of another small elm, whither I follow. At first he hides behind the base, but ere long works his way upward and comes in sight. He is a gray-brown, a low curve from point of beak to end of tail, resting flat against the tree.

P. M. — *Via* Hubbard's Grove and river to Fair Haven Pond. Return by Andromeda Ponds.

See only a jay (?) flying high over the fields, and chickadees. The last rarely seem to mind you, keeping busy at work, yet hop nearer and nearer. Hubbard's barren pasture under Fair Haven Hill, whose surface

is much broken, alternate sod and bare sand, is now tinged with the pale leather or cinnamon color of the second-sized pinweed, which thickly covers it.

I here take to the riverside. The broader places are frozen over, but I do not trust them yet. Fair Haven is entirely frozen over, probably some days. Already some eager fisherman has been here, this morning or yesterday, and I hear that a great pickerel was carried through the street. I see, close under the high bank on the east side, a distinct tinge of that red in the ice for a rod.

I remark the different pale colors to which the grasses have faded and bleached. Those coarse sedges amid the button-bushes are bleached particularly light. Some, more slender, in the Pleasant Meadow, is quite light with singular reddish or pinkish radical blades making a mat at the base. Some dense sedge or rushes in tufts in the Andromeda Ponds have a decided greenish tinge, *somewhat* like well-cured hay. 

A few simple colors now prevail. Even the apples on the trees have assumed the brown color of the leaves.

I do not remember to have seen the Andromeda Ponds so low. The weedy and slimy bottom is for the most part exposed. The slime, somewhat clay-colored, is collected here and there into almost organic forms, — manna[?]-like, with a skin to it. I make a nosegay of the sphagnum, which must suffer from this unusual exposure. It is frozen stiff at the base. What rugged castellated forms it takes at the base of the

andromeda which springs from it! Some is green or yellowish-green, some bright-crimson, some brown, some quite white, with different shades of all these colors. Such are the temples and cheeks of these soft crags. What a primitive and swampy wilderness for the wild mice to run amidst! — the andromeda woods!

Walden is skimmed over, all but an acre, in my cove. It will probably be finished to-night.¹

No doubt the healthiest man in the world is prevented from doing what he would like by sickness.

Dec. 22. Dull overcast morning, so warm that it has actually thawed in the night, and there is a wet space larger than the ice on the sidewalk. It draws forth crowing from cockerels, as spring does rills from glaciers.

P. M. — Warm rain and frost coming out and muddy walking.

In reading Columella I am frequently reminded, not only by the general tone, but even by the particular warnings and directions, of our agricultural journals and reports of farmers' clubs. Often what is last and most insisted on among us, was most insisted on by the Romans. As when he says it is better to cultivate a little land well than a great deal ill, and quotes the poet: —

“ . . . Laudato ingentia rura,
Exiguum colito.”

“Modus ergo, qui in omnibus rebus, etiam parandis agris adhibebitur: tantum enim obtinendum est, quanto est opus, ut emisse videamur quo potiremur,

¹ No, it proved too warm.

non quo oneraremur ipsi, atque aliis fruendum eriperemus, more praepotentium, qui possident fines gentium, quos ne circumire equis quidem valent, sed proculcandos pecudibus, et vastandos ac populandos feris derelinquunt, aut occupatos nexu civium, et ergastulis tenent." (Therefore, as in all things, so in buying land moderation will be used; for only so much is to be obtained as is necessary, to make it appear that we have bought what we can use, not what we may be burdened with, and hinder others from enjoying, like those overpowerful ones who possess the territory of nations, which they cannot go round even with horses, but leave to be trampled by herds, and to be laid waste and depopulated by wild beasts, or keep occupied by *nexu civium* ¹ and prisons.)

This reminds me of those extensive tracts said to belong to the Peter Piper estate, running back a mile or more and absorbing several old farms, but almost wholly neglected and run out, which I often traverse and am better acquainted with than their so-called owners. Several times I have had to show such the nearest way out of their wood-lots.² Extensive wood-lots and cranberry meadows, perhaps, and a rambling old country house on one side, but you can't buy an acre of land for a house-lot. "Where wealth accumulates and men decay."

Dec. 23. P. M. — To Conantum-End.

¹ Confinement and compulsory labor on farms of fellow-citizens for debt.

² [*Excursions*, p. 185; *Riv.* 226.]

A very bright and pleasant day with remarkably soft wind from a little north of west. The frost has come out so in the rain of yesterday that I avoid the muddy plowed fields and keep on the grass ground, which shines with moisture. I think I do not remember such and so much pleasant, springlike weather as this and some other days of this month.

I admire those old root fences which have almost entirely disappeared from tidy fields, — white pine roots got out when the neighboring meadow was a swamp, — the monuments of many a revolution. These roots have not penetrated into the ground, but spread over the surface, and, having been cut off four or five feet from the stump, were hauled off and set up on their edges for a fence. The roots are not merely interwoven, but grown together into solid frames, full of loopholes like Gothic windows of various sizes and all shapes, triangular and oval and harp-like, and the slenderer parts are dry and resonant like harp-strings. They are rough and unapproachable, with a hundred snags and horns which bewilder and balk the calculation of the walker who would surmount them. The part of the trees above ground presents no such fantastic forms. Here is one seven paces, or more than a rod, long, six feet high in the middle, and yet only one foot thick, and two men could turn it up, and in this case the roots were six or nine inches thick at the extremities. The roots of pines growing in swamps grow thus in the form of solid frames or rackets, and those of different trees are interwoven with all so that they stand on a very broad foot and stand or fall together to some

extent before the blasts, as herds meet the assault of beasts of prey with serried front. You have thus only to dig into the swamp a little way to find your fence, — post, rails, and slats already solidly grown together and of material more durable than any timber. How pleasing a thought that a field should be fenced with the roots of the trees got out in clearing the land a century before! I regret them as mementoes of the primitive forest. The tops of the same trees made into fencing-stuff would have decayed generations ago. These roots are singularly unobnoxious to the effects of moisture.

The swamp is thus covered with a complete web of roots. Wild trees, such as are fitted to grow in the uncultivated swamps.

I detect the Irishman where the elms and maples on the causeway are cut off at the same height with the willows *to make pollards* of!

I sit on the hillside near the wall corner, in the further Conantum field, as I might in an Indian-summer day in November or October. These are the colors of the earth now: all land that has been some time cleared, except it is subject to the plow, is russet, the color of withered herbage and the ground finely commixed, a lighter straw-color where are rank grasses next water; sprout-lands, the pale leather-color of dry oak leaves; pine woods, green; deciduous woods (bare twigs and stems and withered leaves commingled), a brownish or reddish gray; maple swamps, smoke-color; land just cleared, dark brown and earthy; plowed land, dark brown or blackish; ice and water, slate-color or

blue; andromeda swamps, dull red and dark gray; rocks, gray.

At Lee's Cliff I notice these radical (?) leaves quite fresh: saxifrage, sorrel, polypody, mullein, columbine, veronica, thyme-leaved sandwort, spleenwort, strawberry, buttercup, radical johnswort, mouse-ear, radical pinweeds, cinquefoils, checkerberry, wintergreen, thistles, catnip, *Turritis stricta* especially fresh and bright. What is that fine very minute plant thickly covering the ground, like a young arenaria?

Think of the life of a kitten, ours for instance: last night her eyes set in a fit, doubtful if she will ever come out of it, and she is set away in a basket and submitted to the recuperative powers of nature; this morning running up the clothes-pole and erecting her back in frisky sport to every passer.

Dec. 25. 9 A. M. — Snow driving almost horizontally from the northeast and fast whitening the ground, and with it the first tree sparrows I have noticed in the yard. It turns partly to rain and hail at midday.

Dec. 26. After snow, rain, and hail yesterday and last night, we have this morning quite a glaze, there being at last an inch or two of crusted snow on the ground, the most we have had. The sun comes out at 9 A. M. and lights up the ice-incrusted trees, but it is pretty warm and the ice rapidly melts.

I go to Walden *via* the almshouse and up the railroad. Trees seen in the west against the dark cloud, the sun shining on them, are perfectly white as frostwork, and their outlines very perfectly and distinctly revealed,

great wisps that they are and ghosts of trees, with recurved twigs. The walls and fences are encased, and the fields bristle with a myriad of crystal spears. Already the wind is rising and a brattling is heard overhead in the street. The sun, shining down a gorge over the woods at Brister's Hill, reveals a wonderfully brilliant as well as seemingly solid and diversified region in the air. The ice is from an eighth to a quarter of an inch thick about the twigs and pine-needles, only half as thick commonly on one side. Their heads are bowed; their plumes and needles are stiff, as if preserved under glass for the inspection of posterity.

Thus is our now especially slow-footed river laid up not merely on the meadows, but on the twigs and leaves of the trees, on the needles of the pines. The pines thus weighed down are sharp-pointed at top and remind me of firs and even hemlocks, their drooping boughs being wrapped about them like the folds of a cloak or a shawl. The crust is already strewn with bits of the green needles which have been broken off. Frequently the whole top stands up bare, while the middle and lower branches are drooping and massed together, resting on one another.



But the low and spreading weeds in the fields and the wood-paths are the most interesting. Here are asters, savory-leaved, whose flat imbricated calyxes, three quarters of an inch over, are surmounted and inclosed in a perfectly transparent ice

button, like a glass knob, through which you see the reflections of the brown calyx. These are very common. Each little blue-curls calyx has a spherical button like those brass ones on little boys' jackets, — little sprigs on them, — and the pennyroyal has still smaller spheres, more regularly arranged about its stem, chandelier-wise, and still smells through the ice. The finest grasses support the most wonderful burdens of ice and most branched on their minute threads. These weeds are spread and arched over into the snow again, — countless little arches a few inches high, each cased in ice, which you break with a tinkling crash at each step.



The scarlet fruit of the cockspur lichen, seen glowing through the more opaque whitish or snowy crust of a stump, is, on close inspection, the richest sight of all, for the scarlet is increased and multiplied by reflection through the bubbles and hemispherical surfaces of the crust, as if it covered some vermilion grain thickly strewn. And the brown cup lichens stand in their midst. The whole rough bark, too, is encased.

Already a squirrel has perforated the crust above the mouth of his burrow, here and there by the side of the path, and left some empty acorn shells on the snow. He has shovelled out this morning before the snow was frozen on his door-step.

Now, at 10 A. M., there blows a very strong wind from the northwest, and it grows cold apace.

Particularly are we attracted in the winter by greenness and signs of growth, as the green and white shoots of grass and weeds, pulled or floating on the water, and also by color, as cockspur lichens and crimson birds, etc.

Thorny bushes look more thorny than ever; each thorn is prolonged and exaggerated.

Some boys have come out to a wood-side hill to coast. It must be sport to them, lying on their stomachs, to hear their sled cronching the crystallized weeds when they have reached the more weedy pasture below.

4 P. M. — Up railroad.

Since the sun has risen higher and fairly triumphed over the clouds, the ice has glistened with all the prismatic hues. On the trees it is now considerably dissipated, but rather owing to the wind than the sun. The ice is chiefly on the upper and on the storm side of twigs, etc. The whole top of the pine forest, as seen miles off in the horizon, is of sharp points, the leading shoots with a few plumes, even more so than I have drawn on the last page but one.

It has grown cold, and the crust bears. The weeds and grasses, being so thickened by this coat of ice, appear much more numerous in the fields. It is surprising what a bristling crop they are. The sun is gone before five. Just before I looked for rainbow flocks in the west, but saw none, — only some small *pink-dun* (?) clouds. In the east still larger ones, which after sunset turned to pale slate.

In a true history or biography, of how little consequence those events of which so much is commonly made! For example, how difficult for a man to remember in what towns or houses he has lived, or when! Yet one of the first steps of his biographer will be to establish these facts, and he will thus give an undue importance to many of them. I find in my Journal that the most important events in my life, if recorded at all, are not dated.

Dec. 27. Recalled this evening, with the aid of Mother, the various houses (and towns) in which I have lived and some events of my life.

Born, July 12, 1817, in the
Minott House, on the Virginia Road, where Father occupied Grandmother's thirds, carrying on the farm. The Catherines the other half of the house. Bob Catherines and John threw up the turkeys. Lived there about eight months. Si Merriam next neighbor. Uncle David died when I was six weeks old. I was baptized in old M. H. by Dr. Ripley, when I was three months, and did not cry.

The Red House, where Grandmother lived, we the west side till October, 1818, hiring of Josiah Davis, agent for Woodwards. (There were Cousin Charles and Uncle C. more or less.) Accord-

- ing to day-book, Father hired of Proctor, October 16, 1818, and shop of *Spaulding*, November 10, 1818. Day-book first used by Grandfather, dated 1797. His part cut out and used by Father in Concord in 1808-9, and in Chelmsford, 1818-19-20-21. till March, 1821. (Last charge in Chelmsford about middle of March, 1821.) Aunt Sarah taught me to walk there when fourteen months old. Lived next the meeting-house, where they kept the powder in the garret. Father kept shop and painted signs, etc.
- Chelmsford,*
- Pope's House,* at South End in Boston, five or six (?) months, a ten-footer. Moved from Chelmsford through Concord, and may have tarried in Concord a little while. Day-book says, "Moved to Pinkney Street Sep 10th 1821 on Monday."
- Whitwell's House,* Pinckney Street, Boston, to March, 1823 (?).
- Brick House,* Concord, to spring of 1826.
- Davis's House* (next to S. Hoar's) to May 7th, 1827.
- Shattuck House* (now William Monroe's) to spring of 1835. (Hollis, Cambridge, 1833.)
- (Hollis Hall,
Cambridge)
- Aunt's House,* to spring of 1837. At Brownson's

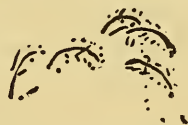
- (Hollis Hall and
Canton) while teaching in winter of 1835.
Went to New York with Father,
peddling, in 1836.
- Parkman House*,
(Hollis,
Cambridge) to fall of 1844. Was graduated in
1837. Kept town school a fortnight
in 1837 (?). Began the big Red
Journal, October, 1837. Found first
arrowheads, fall of 1837. Wrote a
lecture (my first) on Society, March
14th, 1838, and read it before the
Lyceum in the Masons' Hall,
April 11th, 1838. Went to Maine
for a school in May, 1838. Com-
menced school in the house in
summer of 1838. Wrote an essay
on Sound and Silence, December,
1838. Fall of 1839 up Merrimack
to White Mountains. "Aulus Per-
sius Flaccus," first printed paper of
consequence, February 10th, 1840.
The Red Journal of 546 pages ended,
June, 1840. Journal of 396 pages
ended January 31st, 1841. Went to
(R. W. E.'s) R. W. E.'s in spring of 1841 and
stayed there to summer of 1843.
- (William Emer-
son's, Staten Is-
land) Went to Staten Island, June, 1843,¹
and returned in December, 1843, or
to Thanksgiving. Made pencils in
1844.

¹ [It was really in May of that year that he went to Staten Island.
See *Familiar Letters*, p. 68; Riv. 79, 80.]

<i>Texas House,</i>	to August 29th, 1850. At Walden,
(Walden)	July, 1845, to fall of 1847, then at
(R. W. E.'s)	R. W. E.'s to fall of 1848, or while
	he was in Europe.
<i>Yellow House,</i>	reformed, till present.

Dec. 28. P. M. — Hollowell place and back near Hubbard's Bridge.

To-day and yesterday the boys have been skating on the crust in the streets, — it is so hard, the snow being very shallow. Considerable ice still clings to the rails and trees and especially weeds, though much attenuated. The birches were most bent — and are still — in hollows on the north sides of hills. Saw some rabbit's fur on the crust and some (apparently bird?) droppings, since the sleet fell, — a few pinches of fur the only trace of the murder. Was it a hawk's work? Crossed the river on the ice in front of Puffer's. What do the birds do when the seeds and bark are thus encased in ice?



Dec. 29. Down railroad to Andromeda Ponds.

I occasionally see a small snowflake in the air against the woods. It is quite cold, and a serious storm seems to be beginning. Just before reaching the Cut I see a shrike flying low beneath the level of the railroad, which rises and alights on the topmost twig of an elm within four or five rods. All ash or bluish-slate above down to middle of wings; dirty-white breast, and a broad black mark through eyes on side of head; pri-

maries (?) black, and some white appears when it flies. Most distinctive its small hooked bill (upper mandible). It makes no sound, but flits to the *top* of an oak further off. Probably a male.

Am surprised to find eight or ten acres of Walden still open, notwithstanding the cold of the 26th, 27th, and 28th and of to-day. It must be owing to the wind partly. If quite cold, it will probably freeze to-night.¹

I find in the andromeda bushes in the Andromeda Ponds a great many nests apparently of the red-wing (?)² suspended after their fashion amid the twigs of the andromeda, each now filled with ice. I count twenty-one within fifteen rods of a centre, and have no doubt there are a hundred in that large swamp, for I only looked about the edge part way. It is remarkable that I do not remember to have seen flocks of these birds there. It is an admirable place for them, these swamps are so impassable and the andromeda so dense. It would seem that they steal away to breed here, are not noisy here as along the river.³

I never knew, or rather do not remember, the crust so strong [and] hard as it is now and has been for three days. You can skate over it as on ice in any direction. I see the tracks of skaters on all the roads, and they seem hardly to prefer the ice. Above Abiel Wheeler's, on the back road, the crust is not broken yet, though many sleds and sleighs have passed. The tracks of the skaters are as conspicuous [as] any there. But the snow is but two or three inches deep. Jonas Potter

¹ Not quite. Say the night of the 30th.

² Yes.

³ *Vide* next page.

tells me that [he] has known the crust on snow two feet deep to be as strong as this, so that he could drive his sled anywhere over the walls; so that he cut off the trees in Jenny's lot three feet from the ground, and cut again after the snow was melted.

When two men, Billings and Prichard, were dividing the stock of my father and Hurd, the former acting for Father, P. was rather tight for Hurd. They came to a cracked bowl, at which P. hesitated and asked, "Well, what shall we do with this?" B. took it in haste and broke it, and, presenting him one piece, said, "There, that is your half and this is ours."

A good time to walk in swamps, there being ice but no snow to speak of, — all crust. It is a good walk along the edge of the river, the wild side, amid the button-bushes and willows. The eupatorium stalks still stand there, with their brown hemispheres of little twigs, orreries.

The nests of last page are suspended very securely between eight or ten andromeda stems, about half-way up them; made of more or less coarse grass or sedge without, then about half an inch of *dense and fine, now frozen sphagnum*, then fine wild grass or sedge very regularly, and sometimes another layer of sphagnum and of fine grass above these, the whole an inch thick, the bottom commonly rounded. The outside grasses are well twisted about whatever andromeda stems stand at or near the river. I saw the traces of mice in some of them.



Dec. 30. The snow which began last night has continued to fall very silently but steadily, and now it is not far from a foot deep, much the most we have had yet; a dry, light, powdery snow. When I come down I see it in miniature drifts against the panes, alternately streaked dark and light as it is more or less dense. A remarkable, perfectly regular conical peak, a foot high, with concave sides, stands in the fireplace under the sink-room chimney. The pump has a regular conical Persian (?) cap, and every post about the house a similar one. It is quite light, but has not drifted. About 9 A. M. it ceases, and the sun comes out, and shines dazzlingly over the white surface. Every neighbor is shovelling out, and hear the sound of shovels scraping on door-steps. Winter now first fairly commenced, I feel.

The places which are slowest to freeze in our river are, first, *on account of warmth as well as motion*, where a brook comes in, and also probably where are springs in banks and under bridges; then, on account of shallowness and rapidity, at bends. I perceive that the cold respects the same places every winter. In the dark, or after a heavy snow, I know well where to cross the river most safely. Where the river is most like a lake, broad with a deep and muddy bottom, there it freezes first and thickest. The open water at a bend seems to be owing to the swiftness of the current, and this to the shallowness, and this to the sands taken out of the opposing bank and deposited there.

There was yesterday eight or ten acres of open water at the west end of Walden, where is depth and breadth combined.

What a *horrid* shaggy and stiff low wilderness were the Andromeda Ponds yesterday! What then must they have been on the 21st! As it was, it was as if I walked through a forest of glass (with a tough woody core) up to my middle. That dense tufted grass with a greenish tinge was still stiffly coated with ice, as well



[Water Milkweed Pods. See page 72]

as your finger, firm but brittle and about two feet high, and the countless birds' nests filled even with ice!

P. M. —
Across river
and over Hill.

The wind
has been blowing
and the
snow drifting.

as everything else,
and my shoes
were filled with
the fragments,
but here and
there the crimson
sphagnum
blushed through
the crust beneath.
Think of that
dense grass, a
horrid stiff crop,
each stem as big



[Rose Hips. See page 72]

The paths are filled up again. The surface of the snow is coarsely waved and rough now, as if it caught at every straw and faced its windy foe again. It appears a coarser grain now. By the river are conspicuous the now empty and spread pods of the water milkweed, gray-brown without, silky-white within, — in some a seed or two left still; also the late rose corymbs of red hips; also the eupatorium drawn at venture four pages back, or more erect, thus, —

some with brown fuzz and seeds still; the sium sometimes, with its very flat cymes; and that light-brown sedge or rush. Some black ash keys still hang on amid the black abortions (?).

For a few days I have noticed the snow sprinkled with alder and birch scales. I go now through the birch meadow southwest of the Rock. The high wind is scattering them over the snow there. See one downy (?) woodpecker and one or two chickadees. The track of a squirrel on the Island Neck. Tracks are altered by the depth of the snow. Looking up over the top of the hill now, southwest, at 3.30 P. M., I see a few mother-o'-pearl tints, and methinks the same or rainbow tints in the drifting snow there, against the bright light of the unseen sun. Only in such clear cold air as this have the small clouds in the west that fine evanishing edge. It requires a state of the air that quickly dissipates all



The Meadow-Sweet

moisture. It must be rare in summer. In this rare atmosphere all cloud is quickly dissipated and mother-o'-pearl tinted as it passes away. The snow is too deep and soft yet for many tracks. No doubt the mice have been out beneath it.

Recrossing the river behind Dodd's, now at 4 P. M., the sun quite low, the open reach just below is quite green, a vitreous green, as if seen through a junk-bottle. Perhaps I never observed this phenomenon but when the sun was low.

He who would study birds' nests must look for them in November and in winter as well as in midsummer, for then the trees are bare and he can see them, and the swamps and streams are frozen and he can approach new kinds. He will often be surprised to find how many have haunted where he little suspected, and will receive many hints accordingly, which he can act upon in the summer. I am surprised to find many new ones (*i. e.* not new species) in groves which I had examined several times with particular care in the summer.

This was not a lodging snow, and the wind has already blown most of it off the trees, yet the long-limbed oak on the north of the hill still supports a ridge of its pure white as thick as its limbs. They lie parallel like the ulna and radius, and one is a bare white bone.

Beside the other weeds I might have shown the
rod, still conspicuous:—



Found, in the Wheeler west of the Island, a nest alder about eight feet from

on the last page,
tall rough golden-

meadow, south-
in the fork of an
ground, partly

saddled on, made apparently chiefly of fine grass and bark fibres, quite firm and very thick bottomed, and well bound without with various kind of lint. This is a little oval, three by three and a half inches within and seven eighths deep, with a very firm, smooth rim of fine grass and dark shreds, lined with the same and some lint. A few alder leaves dangle from the edge, and, what is remarkable, the outer edge *all around* is defiled, quite covered, with black and white caterpillar-like droppings of the young birds. It is broader and shallower than a yellowbird's and larger than a wood pewee's. Can it be a redstart's? I should think it too large.

Dec. 31. It is one of the mornings of *creation*, and the trees, shrubs, etc., etc., are covered with a fine leaf frost, as if they had their morning robes on, seen against the sun. There has been a mist in the night. Now, at 8.30 A. M., I see, collected over the low grounds behind Mr. Cheney's, a dense fog (over a foot of snow), which looks dusty like smoke by contrast with the snow. Though limited to perhaps twenty or thirty acres, it [is] as dense as any in August. This accounts for the frost on the twigs. It consists of minute leaves, the longest an eighth of an inch, all around the twigs, but longest commonly on one side, in one instance the southwest side.

Clearing out the paths, which the drifting snow had filled, I find already quite [a] crust, from the sun and the blowing making it compact; but it is soft in the woods.

9 A. M. — To Partridge Glade.

I see many partridge-tracks in the light snow, where they have sunk deep amid the shrub oaks; also gray rabbit and deer mice tracks, for the last ran over this soft surface last night. In a hollow in the glade, a gray rabbit's track, apparently, leading to and from a hole in the snow, which, following, and laying open, I found to extend curving about this pit, four feet through and under the snow, to a small hole in the earth, which apparently led down deep.

At ten the frost leaves are nearly all melted.

It is invariably the east track on the railroad causeway which has the least snow on it. Though it is nearly all blown off elsewhere on the causeway, Trillium Woods have prevented its being blown off opposite to them. The snow-plow yesterday cast the snow six feet one side the edge of the cars, and it fell thick and rich, evenly broken like well-plowed land. It lies like a rich tilth in the sun, with its glowing cottony-white ridges and its shadowy hollows.

III

JANUARY, 1856

(ÆT. 38)

Jan. 1. Speaking of foxes, J. Farmer told me last evening that some time ago Sherman Barrett's folks heard a squealing, and, running up, saw a fox leap out of the pen with a sucking-pig in his mouth and escape with it. Farmer says they commonly take the dead lambs from the fields, though most dogs will not.

P. M. — To Walden.

Walden is covered with white snow ice six inches thick, for it froze while it was snowing, though commonly there is a thin dark beneath. This is now, therefore, bare, while the river, which was frozen before, is covered with snow. A very small patch of Walden, frozen since the snow, looks at a little distance exactly like open water by contrast with the snow ice, the trees being reflected in it, and indeed I am not certain but a *very small* part of this patch was water.

The track-repairers have shovelled four little paths by the sides of the rails, all the way from the depot to Walden. As I went by the engine-saw great icicles four feet long hanging from the eastern eaves, like slender pointed spears, the last half blown aside by the wind: more. By the side of the Deep Cut tracks of probably tree sparrows, weeds, and of partridges.



house, I
from the
spears, the
and still
are the
about the

On the ice at Walden are very beautiful great leaf crystals in great profusion. The ice is frequently thickly covered with them for many rods. They seem to be connected with the rosettes, — a running together of them. They look like a loose web of small white feathers springing from a tuft of down, for their shafts are lost in a tuft of fine snow like the down about the shaft of a feather, as if a feather bed had been shaken over the ice. They are, on a close examination, surprisingly perfect leaves, like ferns, only very broad for their length and commonly more on one side the midrib than the other. They are from an inch to an inch and a half long and three quarters wide, and slanted, where I look, from the southwest. They have, first, a very distinct midrib, though so thin that they cannot be taken up; then, distinct ribs branching from this, commonly opposite, and minute ribs springing again from these last, as in many ferns, the last running to each crenation in the border. How much further they are subdivided, the naked eye cannot discern. They are so thin and fragile that they melt under your breath while looking closely at them. A fisherman says they were much finer in the morning. In other places the ice is strewn with a different kind of frostwork in little patches, as if oats had been spilled, like fibres of asbestos rolled, a half or three quarters of an inch long and an eighth or more wide. Here and there patches of them a foot or two over. Like some boreal grain spilled.



Here are two fishermen, and one has preceded them. They have not had a bite, and know not why. It has been a clear winter day.

On the north shore, near the railroad, I see the tracks apparently of a white rabbit, afterward many tracks of gray rabbits, and where they had squatted under or rather by the side of an alder stem or the like, and left many balls in the pure snow. Many have run in one course. In the midst of them I see the track of a large rabbit, probably a white one, which was evidently on the full spring. Its tracks are four feet apart, and, unlike the others, which are on the surface even of this light snow, these break through deep, making a hole six inches over. Why was this one in such haste? I conclude to trace him back and find out. His bounds grow greater and greater as I go back, now six feet quite, and a few rods further are the tracks of a fox (*possibly* a dog, but I think not) exactly on the trail! ¹ A little further, where the rabbit was ascending a considerable slope, through this snow nearly a foot deep, the bounds measure full seven feet, leaving the snow untouched for that space between. It appeared that the fox had started the rabbit from a bank on which it was resting, near a young hemlock, and pursued it only a dozen rods up the hill, and then gave up the chase,—and well he might, methought.

Goodwin says that the white rabbit never burrows, but the gray regularly. Yet he once knew a white one to earth itself.

¹ All doubtful.



Frost-Crystals on Ice



In a rabbit's track the two fore feet are the furthest apart, thus :

This chase occurred probably in the night, either the last or night before, when there was not a man within a mile; but, treading on these very deep and distinct tracks, it was as if I had witnessed it, and in imagination I could see the sharp eyes of the crafty fox and the palpitating breast of the timorous rabbit, listening behind. We unwittingly traverse the scenery of what tragedies! Every square rod, perchance, was the scene of a life or death struggle last night. As you track the rabbit further off, its bounds becoming shorter and shorter, you follow also surely its changing moods from desperate terror till it walks calmly and reassured over the snow without breaking its very slight crust, — perchance till it gnaws some twig composedly, — and in the other direction you trace the retreating steps of the disappointed fox until he has forgotten this and scented some new game, maybe dreams of partridges or wild mice. Your own feelings are fluttered proportionably.¹

Jan. 2. Probably the coldest morning yet, our thermometer 6° below zero at 8 A. M.; yet there was quite a mist in the air.² The neighbors say it was 10° below zero at 7 A. M.

P. M. — To Walden.

As for the fox and rabbit race described yesterday, I find that the rabbit was going *the other way*, and pos-

¹ *Vide* [below].

² This mist for several mornings after the first deep snow.

sibly the fox was a rabbit, for, tracing back the rabbit, I found that it had first been walking with alternate steps, fox-like.

There were many white rabbits' tracks in those woods, and many more of the gray rabbit, but the former broke through and made a deep track, except where there was a little crust on the south slope, while the latter made but a faint impression on the surface. The latter run very much in the same path, which is well trodden, and you would think you were in the midst of quite a settlement of them.

Crossing the railroad at the Heywood meadow, I saw some snow buntings rise from the side of the embankment, and with surging, rolling flight wing their way up through the cut. I walked through the westernmost Heywood swamp. There are the tracks of many rabbits, both gray and white, which have run about the edges of these swamps since this snow came, amid the alders and shrub oaks, and one white one has crossed it. The cat-tails rise high above the snow in the swamp, their brown heads bursting on one side into creamy (?) billows and wreaths, or partly bare. Also the rattlesnake grass is still gracefully drooping on every side, with the weight of its seeds, — a rich, wild grain. And other wild grasses and rushes rise above the snow. There is the wild-looking remnant of a white pine, quite dead, rising fifteen or twenty feet, which the woodpeckers have bored; and it is still clad with sulphur lichens and many dark-colored tufts of cetraria in the forks of its branches.

Returning, I saw, near the back road and railroad,



a small flock of eight snow buntings feeding on the seeds of the pigweed, picking them from the snow, — apparently flat on the snow, their legs so short, — and, when I approached, alighting on the rail fence. They were pretty black, with white wings and a brown crescent on their breasts. They have come with this deeper snow and colder weather.

Jan. 3. Snows again. About two inches have fallen in the night, but it turns to a fine mist. It was a damp snow.

P. M. — To Hill.

The snow turned to a fine mist or mizzling, through which I see a little blue in the snow, lurking in the ruts.

In the river meadows and on the (perhaps moist) sides of the hill, how common and conspicuous the brown spear-heads of the hardhack, above the snow, and looking black by contrast with it!

Just beyond the Assabet Spring I see where a squirrel, gray or red, dug through the snow last night in search of acorns. I know it was last night, for it was while the last snow was falling, and the tracks are partly filled by it; they are like this:  This squirrel has burrowed to the  ground in many places within a few yards, probing the leaves for acorns in various directions, making a short burrow under the snow, sometimes passing under the snow a yard and coming out at another place; for, though it is somewhat hardened on the surface by the nightly freezing and the hail, it is still quite soft and light beneath next the earth, and a squirrel or mouse can burrow

very fast indeed there. I am surprised to find how easily I can pass my hand through it there. In many places it has dropped the leaves, etc., about the mouth of the hole. (The whole snow about ten inches deep.) I see where it sat in a young oak and ate an acorn, dropping the shells on the snow beneath, for there is no track to the shells, but only to the base of the oak. How independently they live, not alarmed, though the snow be two feet deep!

Now, when all the fields and meadows are covered deep with snow, the warm-colored shoots of osiers, red and yellow, rising above it, remind me of flames.

It is astonishing how far a merely well-dressed and good-looking man may go without being challenged by any sentinel. What is called good society will bid high for such.

The man whom the State has raised to high office, like that of governor, for instance, from some, it may be, honest but less respected calling, cannot return to his former humble but profitable pursuits, his old customers will be so shy of him. His ex-honorableness stands seriously in his way, whether he is a lawyer or a shopkeeper. He can't get ex-honored. So he becomes a sort of State pauper, an object of charity on its hands, which the State is bound in honor to see through and provide still with offices of similar respectability, that he may not come to want. A man who has been President becomes the Ex-President, and can't travel or stay at home anywhere but men will persist in paying respect to his ex-ship. It is cruel

to remember his deeds so long. When his time is out, why can't they let the poor fellow go?

*Jan. 4.*¹ A clear, cold day.

P. M. — To Walden to examine the ice.

I think it is only such a day as this, when the fields on all sides are well clad with snow, over which the sun shines brightly, that you observe the blue shadows on the snow. I see a little of it to-day.

December 29th there were eight or ten acres of Walden still open. That evening it began to snow and snowed all night, and the remainder of the pond was frozen on that [and] the succeeding night. But on January 1st I was surprised to find all the visible ice snow ice, when I expected that only the eight or ten acres would be; but it appeared that the weight of the snow had sunk the ice already formed and then partly dissolved in the water, which rose above it and partly was frozen with it. The whole ice January 1st was about six inches thick, and I should have supposed that over the greater part of the pond there would be a clear ice about two inches thick on the lower side, yet, where I cut through near the shore, I distinguished two kinds of ice, the upper two and a half inches thick and evidently snow ice, the lower about four inches thick and clearer, yet not remarkably clear.

Some fishermen had, apparently by accident, left two of their lines there, which were frozen in. I could see their tracks leading from hole to hole, where they

¹ [The first page of the manuscript journal which begins here is headed "The Long, Snowy Winter."]

had run about day before yesterday, or before the snow, and their dog with them. And the snow was stained with tobacco-juice. They had had lines set in two or three distant coves. They had, apparently, taken no fish, for they had cut no well to put them in. I cut out the lines, the ice being about an inch thick around them, and pulled up a fine yellow pickerel which would weigh two pounds or more. At first I thought there was none, for he was tired of struggling, but soon I felt him. The hook had caught in the outside of his jaws, and the minnow hung entire by his side. It was very cold, and he struggled but a short time, not being able to bend and quirk his tail; in a few minutes became quite stiff as he lay on the snowy ice. The water in his eyes was frozen, so that he looked as if he had been dead a week. About fifteen minutes after, thinking of what I had heard about fishes coming to life again after being frozen, on being put into water, I thought I would try it. This one was to appearance as completely dead as if he had been frozen a week. I stood him up on his tail without bending it. I put him into the water again without removing the hook. The ice melted off, and its eyes looked bright again; and after a minute or two [I] was surprised by a sudden, convulsive quirk of the fish, and a minute or two later by another, and I saw that it would indeed revive, and drew it out again. Yet I do not believe that if it had been frozen solid through and through it would have revived, but only when it is superficially frozen.

This reminded me of the pickerel which I caught here under similar circumstances for Peter Hutchin-

son, and thrust my mittened hands in after. When I put this pickerel in again after half an hour, it did not revive, but I held it there only three or four minutes, not long enough to melt the ice which encased it.

Another man had passed since the last snow fell, and pulled up at least one of the lines. I knew it was to-day and not yesterday by the character of his track, for it was made since the stiff crust formed on this snow last night, a broad depression cracking the crust around; but yesterday it was comparatively soft and moist.

Aunt says that Mr. Hoar tells a story of Abel Davis to this purport: He had once caught a pickerel in the brook near his house and was overheard to say, "Why, who 'd 'a' thought to find you here in Temple Brook. With a slice of pork you 'll make Rhody" (or whatever the name of his wife was) "and I a good meal." He probably was not much of a fisherman, and could hardly contain himself for joy.

It is snapping cold this night (10 P. M.). I see the frost on the windows sparkle as I go through the passageway with a light.

Jan. 5. One of the coldest mornings. Thermometer -9° , say some.

P. M. — Up river to Hubbard's Bridge.

It has been trying to snow all day, but has not succeeded; as if it were too cold. Though it has been falling all day, there has not been enough to whiten the coat of the traveller. I come to the river, for here it is the best walking. The snow is not so deep over the ice. Near the middle, the superincumbent snow

has so far been converted into a coarse snow ice that it will bear me, though occasionally I slump through intervening water to another ice below. Also, perhaps, the snow has been somewhat blown out of the river valley. At any rate, by walking where the ice was frozen last, or over the channel, I can get along quite comfortably, while it is hard travelling through this crusted snow in the fields. Generally, to be sure, the river is but a white snow-field, indistinguishable from the fields, but over the channel there is a thread, commonly, of yellowish porous-looking snow ice.

The hardhack above the snow has this form:



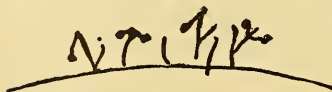
Should not that meadow where the first bridge was built be called Hardhack Meadow? Also there are countless small ferns, with terminal leafet only left on, still rising above the snow, — for I notice the herbage of the

riverside now, — thus, like the large ones in swamps:



What with the grasses — that coarse, now straw-colored grass — and the stems

of the button-bushes, the snow about the button-bushes forms often broad, — several rods broad, — low mounds, nearly burying the bushes, along which the tops of the




button-bushes and that broad-bladed, now straw-colored grass still rise,

with masses of thin, now black-looking balls, erect or

dangling. The black willows have here and there still a very few little curled and crispy leaves.

The river is last open, methinks, just below a bend,¹ as now at the Bath Place and at Clamshell Hill; and quite a novel sight is the dark water there. How little locomotive now look the boats whose painted sterns I just detect where they are half filled with ice and almost completely buried in snow, so neglected by their improvident owners, — some frozen in the ice, opening their seams, some drawn up on the bank. This is not merely improvidence; it is ingratitude.

Now and then I hear a sort of creaking twitter, maybe from a passing snow bunting. This is the weather for them. I am surprised that Nut Meadow Brook has overflowed its meadow and converted it into that coarse yellowish snow ice. Otherwise it had been a broad snow-field, concealing a little ice under it. There is a narrow thread of open water over its channel.

The thin snow now driving from the north and lodging on my coat consists of those beautiful star crystals, not cottony and chubby spokes, as on the 13th December, but thin and partly transparent crystals. They are about a tenth of an inch in diameter, perfect little wheels with six spokes without a tire, or rather with six perfect little leafets, fern-like, with a distinct straight and slender midrib, raying from the centre. On each side of each midrib there is a transparent thin blade with a crenate edge, thus:  How full of the creative genius is the air in which these are generated! I should hardly admire more if real stars fell and

¹ *Vide* the 27th inst.

lodged on my coat. Nature is full of genius, full of the divinity; so that not a snowflake escapes its fashioning hand. Nothing is cheap and coarse, neither dewdrops nor snowflakes. Soon the storm increases, — it was already very severe to face, — and the snow comes finer, more white and powdery. Who knows but this is the original form of all snowflakes, but that when I observe these crystal stars falling around me they are but just generated in the low mist next the earth? I am nearer to the source of the snow, its primal, auroral, and golden hour or infancy, but commonly the flakes reach us travel-worn and agglomerated, comparatively without order or beauty, far down in their fall, like men in their advanced age.

As for the circumstances under which this phenomenon occurs, it is quite cold, and the driving storm is bitter to face,¹ though very little snow is falling. It comes almost horizontally from the north. Methinks this kind of snow never falls in any quantity.²

A divinity must have stirred within them before the crystals did thus shoot and set. Wheels of the storm-chariots. The same law that shapes the earth-star shapes the snow-star. As surely as the petals of a flower are fixed, each of these countless snow-stars comes whirling to earth, pronouncing thus, with emphasis, the number six. Order, κόσμος.³

On the Saskatchewan, when no man of science is there to behold, still down they come, and not the less

¹ *Vide* Mar. 19th.

² Yes, it does.

³ This was the beginning of a storm which reached far and wide and elsewhere was more severe than here.

fulfill their destiny, perchance melt at once on the Indian's face. What a world we live in! where myriads of these little disks, so beautiful to the most prying eye, are whirled down on every traveller's coat, the observant and the unobservant, and on the restless squirrel's fur, and on the far-stretching fields and forests, the wooded dells, and the mountain-tops. Far, far away from the haunts of man, they roll down some little slope, fall over and come to their bearings, and melt or lose their beauty in the mass, ready anon to swell some little rill with their contribution, and so, at last, the universal ocean from which they came. There they lie, like the wreck of chariot-wheels after a battle in the skies. Meanwhile the meadow mouse shoves them aside in his gallery, the schoolboy casts them in his snowball, or the woodman's sled glides smoothly over them, these glorious spangles, the sweeping of heaven's floor. And they all sing, melting as they sing of the mysteries of the number six,—six, six, six. He takes up the water of the sea in his hand, leaving the salt; He disperses it in mist through the skies; He recollects and sprinkles it like grain in six-rayed snowy stars over the earth, there to lie till He dissolves its bonds again.¹

Found on a young red maple near the water, in Hubbard's riverside grove, a nest, perhaps a size bigger than a summer yellowbird's, chiefly of bark shreds, bound and lined with lint and a little of something like dried hickory blossoms.² A little feather, yellow at the extremity, attached to the

¹ [Channing, p. 112.]

² No.

outside. It was on a slanting twig or small branch about eighteen feet high, and I shook it down. The rim of fine shreds of grape-vine bark chiefly, the outer edge being covered with considerable of the droppings of the young birds. I thought it the same kind with that found December 30th *ult.* Can it be a red-start, or is [it] one of the vireos possibly? or a gold-finch? which would account for the yellow-tipped feather.

In the blueberry swamp near by, which was cut down by the ice, another, perhaps a little smaller, of very similar materials but more of the hickory (??) blossoms on the outside beneath, but this was in a nearly upright fork of a red maple about seven feet high. The little nest of June 26th, 1855, looks like the inside of one of these. Upon these two nests found to-day and on that of the 30th December, I find the same sort of dried catkin (apparently *not* hickory) connected with a little sort of brown bud, maybe birch or alder. This makes me suspect they may be all one kind, though the last was in an upright fork and had no droppings on it.

Jan. 6. High wind and howling and driving snow-storm all night, now much drifted. There is a great drift in the front entry and at the crack of every door and on the window-sills. Great drifts on the south of walls.

Clears up at noon, when no vehicle had passed the house.

Frank Morton has brought home, and I opened,

that pickerel of the 4th. It is frozen solid. Yellow spawn as big as a pin-head, with smaller between, envelops its insides the whole length, half an inch thick. It must spawn very early then. I find in its gullet, or paunch, or maw (the long white bag), three young perch, one of them six inches long, and the tail of a fourth. Its belly was considerably puffed out. Two of the perch lay parallel, side by side, of course head downward, in its gullet (?). The upper and largest perch was so high that he was cut in two in the middle in cutting off the head. And yet it was caught in endeavoring to swallow another large minnow! This is what you may call voracity.

P. M. — To Drifting Cut.

The snow is now probably more than a foot deep on a level.

While I am making a path to the pump, I hear hurried *rippling* notes of birds, look up, and see quite a flock of snow buntings coming to alight amid the currant-tops in the yard. It is a sound almost as if made with their wings. What a pity our yard was made so tidy in the fall with rake and fire, and we have now no tall crop of weeds rising above this snow to invite these birds!

I am come forth to observe the drifts. They are, as usual, on the south side of the walls and fences and, judging from the direction of their ridges, the wind was due north. Behind Monroe's tight board fence it is a regularly swelled, unbroken bank, but behind the wall this side carved into countless scallops, perforations, scrolls, and copings. An open wall is, then,

the best place for a drift. Yet these are not remarkably rich. The snow was perhaps too dry. Perhaps six more inches on a level has fallen, or more. It has not lodged on the trees.

Now, at 4.15, the blue shadows are very distinct on the snow-banks.

On the north side of the Cut, above the crossing, the jutting edges of the drift are quite handsome upon the bank. The snow is raised twelve feet above the track, and it is all scalloped with projecting eaves or copings, like turtle-shells.



They project from three to five feet, and I can stand under them. They are in three or four great layers, one lapping over another like the coarse edge of a shell. Looking along it, they appear somewhat thus:—



Often this coping has broken by its own weight, and great blocks have fallen down the bank, like smoothed

blocks of white marble. The exquisite purity of the snow and the gracefulness of its curves are remarkable.

Around some houses there is not a single track. Neither man, woman, nor child, dog nor cat nor fowl, has stirred out to-day. There has been no meeting. Yet this afternoon, since the storm, it has not been very bad travelling.

Jan. 7. At breakfast time the thermometer stood at -12° . Earlier it was probably much lower. Smith's was at -24° early this morning. The latches are white with frost at noon. They say there was yet more snow at Boston, two feet even.

They tell how I swung on a gown [?] on the stairway when I was at Chelmsford. The gown [?] gave way; I fell and fainted, and it took two pails of water to bring me to, for I was remarkable for holding my breath in those cases.

Mother tried to milk the cow which Father took on trial, but she kicked at her and spilt the milk. (They say a dog had bitten her teats.) Proctor laughed at her as a city girl, and then he tried, but the cow kicked him over, and he finished by beating her with his cow-hide shoe. Captain Richardson milked her warily, standing up. Father came home, and thought he would "brustle right up to her," for she needed much to be milked, but suddenly she lifted her leg and "struck him fair and square right in the muns," knocked him flat, and broke the bridge of his nose, which shows it yet. He distinctly heard her hoof rattle on his nose. This "started the claret," and, without stanching the blood,

he at once drove her home to the man he had her of. She ran at some young women by the way, who saved themselves by getting over the wall in haste.

Father complained of the powder in the meeting-house garret at town meeting, but it did not get moved while we lived there. Here he painted over his old signs for guide-boards, and got a fall when painting Hale's (?) factory. Here the bladder John was playing with burst on the hearth. The cow came into the entry after pumpkins. I cut my toe, and was knocked over by a hen with chickens, etc., etc.

Mother tells how, at the brick house, we each had a little garden a few feet square, and I came in one day, having found a potato just sprouted, which by her advice I planted in my garden. Ere long John came in with a potato which he had found and had it planted in his garden, — "Oh, mother, I have found a potato all sprouted. I mean to put it in my garden," etc. Even Helen is said to have found one. But next I came crying that somebody had got my potato, etc., etc., but it was restored to me as the youngest and original discoverer, if not inventor, of the potato, and it grew in *my* garden, and finally its crop was dug by myself and yielded a dinner for the family.

I was kicked down by a passing ox. Had a chicken given me by Lidy — Hannah — and peeped through the keyhole at it. Caught an eel with John. Went to bed with new boots on, and after with cap. "Rasselas" given me, etc., etc. Asked P. Wheeler, "Who owns all the land?" Asked Mother, having got the medal for geography, "Is Boston in Concord?" If I had gone to

Miss Wheeler a little longer, should have received the chief prize book, "Henry Lord Mayor," etc., etc.

P. M. — Up river.

The snow is much deeper on the river than it was, — on an average, eight or nine inches. The cold weather has brought the crows, and for the first time this winter I hear them cawing amid the houses. I noticed yesterday, from three to six feet behind or northwest of a small elm, a curve in a drift answering to the tree, showing how large an eddy it had produced. The whole surface of the snow on fields and river is composed now of flat, rough little drifts, like the surface of some rough slaty rocks. Hardly anywhere is the ice visible now.

It is completely frozen at the Hubbard's Bath bend now, — a small strip of dark ice, thickly sprinkled with those rosettes of crystals, two or three inches in diameter, this surrounded by a broad border of yellowish spew. The water has oozed out from the thinnest part of the black ice, and I see a vapor curling up from it. There is also much vapor in the air, looking toward the woods. I go along the edge of the Hubbard Meadow woods, the north side, where the snow is gathered, light and up to my middle, shaking down birds' nests. Returning, just before sunset, the few little patches of ice look green as I go from the sun (which is in clouds). It is probably a constant phenomenon in cold weather when the ground is covered with snow and the sun is low, morning or evening, and you are looking from it.

I see birch scales (bird-like) on the snow on the river

more than twenty rods south of the nearest and only birch, and trace them north to it.

Jan. 8. P. M. — To Walden.

The snow is about a foot, or probably a little more, deep on a level, and considerably drifted, but on the pond it is not more than five inches deep on an average, being partly turned into snow ice by the sinking of the ice, and perhaps partly blown off.

Many catbird-nests about the pond. In apparently one I see a snake's slough interwoven. The leaves of red oak shrubs are still quite bloody-colored. All of the pitch pine cones that I see, but one, are open.¹ I see prying into the black fruit of the alder, along the pond-side, a single probably lesser redpoll (?). Yellowish breast and distinct white bar on wing.

Monroe is fishing there. As usual, a *great* pickerel had bitten and ran off, and was lost, he supposed, among the brush by the shore. He tells of an eel up the North Branch that weighed seven pounds; also that George Melvin, spearing one night, speared a large owl (probably cat owl) that sat near by.

For a couple of days the cars have been very much delayed by the snow, and it is now drifting somewhat. The fine dry snow is driving over the fields like steam, if you look toward the sun, giving a new form to the surface, spoiling the labor of the track-repairers, gradually burying the rails. The surface of the snow on the pond is finely scored in many places by the oak leaves which have been blown across it. They have furrowed deeper

¹ *Vide 22d inst.*

than a mouse's track and might puzzle a citizen. They are more frisky than a squirrel. Many of the young oaks appear not to have lost any leaves yet. They are so full of them that they still sustain some masses of snow, as if there were birds' nests for a core. I see the great tracks of white rabbits that have run and frisked in the night along the pond-side.

Jan. 9. Clear, cold morning. Smith's thermometer -16° ; ours -14° at breakfast time, -6° at 9 A. M.

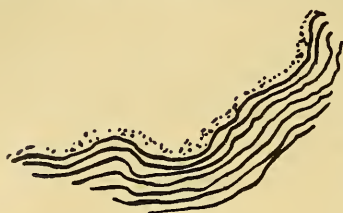
3 P. M. — To Beck Stow's.

The thermometer at $+2^{\circ}$. When I return at 4.30, it is at -2° . Probably it has been below zero *far* the greater part of the day. I meet choppers, apparently coming home early on account of the cold. I waded through the swamp, where the snow lies light eighteen inches ¹ deep on a level, a few leaves of andromedas, etc., peeping out. (I am a-birds'-nesting.) The mice have been out and run over it. I see one large bush of winter-berries still quite showy, though somewhat discolored by the cold. The rabbits have run in paths about the swamp. Go now anywhere in the swamp and fear no water. The fisherman whom I saw on Walden last night will find his lines well frozen in this morning.

In passing through the deep cut on the new Bedford road, [I saw] that a little sand, which was pretty coarse, almost gravel, had fallen from the bank, and was blown over the snow, here and there. The surface of the snow was diversified by those slight drifts, or perhaps cliffs, which are left a few inches high (like the fracture of

¹ Two feet. *Vide* Jan. 12th.

slate rocks), with a waved outline, and all the sand was



collected in waving lines just on the edge of these little drifts, in ridges, maybe an eighth of an inch high. This may help decide how those drifts (?) or cliffs (?)

are formed.¹

It has not been so cold throughout the day, before, this winter. I hear the boots of passing travellers squeak.

Jan. 10. The weather has considerably moderated; — 2° at breakfast time (it was — 8° at seven last evening); but this has been the coldest night probably. You lie with your feet or legs curled up, waiting for morning, the sheets shining with frost about your mouth. Water left by the stove is frozen thickly, and what you sprinkle in bathing falls on the floor ice. The house plants are all frozen and soon droop and turn black. I look out on the roof of a cottage covered a foot deep with snow, wondering how the poor children in its garret, with their few rags, contrive to keep their toes warm. I mark the white smoke from its chimney, whose contracted wreaths are soon dissipated in this stinging air, and think of the size of their wood-pile, and again I try to realize how they panted for a breath of cool air those sultry nights last summer. Realize it now if you can. Recall the hum of the mosquito.

¹ Yet when it blows and drifts again it presents a similar appearance.

It seems that the snow-storm of Saturday night was a remarkable one, reaching many hundred miles along the coast. It is said that some thousands passed the night in cars.

The kitchen windows were magnificent last night, with their frost sheaves, surpassing any cut or ground glass.

I love to wade and flounder through the swamp now,¹ these bitter cold days when the snow lies deep on the ground, and I need travel but little way from the town to get to a Nova Zembla solitude, — to wade through the swamps, all snowed up, untracked by man, into which the fine dry snow is still drifting till it is even with the tops of the water andromeda and half-way up the high blueberry bushes. I penetrate to islets inaccessible in summer, my feet slumping to the sphagnum far out of sight beneath, where the alder berry glows yet and the azalea buds, and perchance a single tree sparrow or a chickadee lisps by my side, where there are few tracks even of wild animals; perhaps only a mouse or two have burrowed up by the side of some twig, and hopped away in straight lines on the surface of the light, deep snow, as if too timid to delay, to another hole by the side of another bush; and a few rabbits have run in a path amid the blueberries and alders about the edge of the swamp. This is instead of a Polar Sea expedition and going after Franklin. There is but little life and but few objects, it is true. We are reduced to admire buds, even like the partridges, and bark, like the rabbits and mice, — the

¹ Remembering the walk of yesterday.

great yellow and red forward-looking buds of the azalea, the plump red ones of the blueberry, and the fine sharp red ones of the panicked andromeda, sleeping along its stem, the speckled black alder, the rapid-growing dogwood, the pale-brown and cracked blueberry, etc. Even a little shining bud which lies sleeping behind its twig and dreaming of spring, perhaps half concealed by ice, is object enough. I feel myself upborne on the andromeda bushes beneath the snow, as on a springy basketwork, then down I go up to my middle in the deep but silent snow, which has no sympathy with my mishap. Beneath the level of this snow how many sweet berries will be hanging next August!

This freezing weather I see the pumps dressed in mats and old clothes or bundled up in straw. Fortunate he who has placed his cottage on the south side of some high hill or some dense wood, and not on the middle of the Great Fields, where there is no hill nor tree to shelter it. There the winds have full sweep, and such a day as yesterday the house is but a fence to stay the drifting snow. Such is the piercing wind, no man loiters between his house and barn. The road-track is soon obliterated, and the path which leads round to the back of the house, dug this morning, is filled up again, and you can no longer see the tracks of the master of the house, who only an hour ago took refuge in some half-subterranean apartment there. You know only by an occasional white wreath of smoke from his chimney, which is at once snapped up by the hungry air, that he sits warming his wits there within, studying the almanac to learn how long it is before spring. But his

neighbor, who, only half a mile off, has placed his house in the shelter of a wood, is digging out of a drift his pile of roots and stumps, hauled from the swamp, at which he regularly dulls his axe and saw, reducing them to billets that will fit his stove. With comparative safety and even comfort he labors at this mine.

As for the other, the windows give no sign of inhabitants, for they are frosted over as if they were ground glass, and the curtains are down beside. The path is snowed up, and all tracks to and fro. No sound issues from within. It remains only to examine the chimney's nostrils. I look long and sharp at it, and fancy that I see some smoke against [the] sky there, but this [is] deceptive, for, as we are accustomed to walk up to an empty fireplace and imagine that we feel some heat from it, so I have convinced myself that I saw smoke issuing from the chimney of a house which had not been inhabited for twenty years. I had so vivid an idea of smoke curling up from a chimney's top that no painter could have matched my imagination. It was as if the spirits of the former inhabitants, revisiting their old haunts, were once more boiling a spiritual kettle below, — a small whitish-bluish cloud, almost instantly dissipated, as if the fire burned with a very clear flame, or else, the postmeridian hours having arrived, it were partially raked up, and the inhabitants were taking their siesta.

P. M. — Worked on flower-press.

Jan. 11. P. M. — To Walden.

Cold as the weather has been for some days, it [is]

melting a little on the south side of houses to-day for the first time for quite a number of days, though the 9th was the coldest day thus far, the thermometer hardly going above zero during the day. Yet whenever I have been to Walden, as January 4th, 8th, and to-day, I have found much water under the snow above the ice, though there is but about five inches, both snow and water, above the ice. January 4th was the coldest day that I have been there, and yet I slumped through the snow into water, which evidently was prevented from freezing at once by the snow. I think that you may find water on the ice thus at any time, however cold, and however soon it may freeze. Probably some of the overflow I noticed on the river a few days ago was owing to the weight of the snow, as there has been no thaw.

Observed that the smooth sumachs about the north side of the Wyman meadow had been visited by partridges and a great many of the still crimson berries were strewn on the snow.¹ There they had eaten them, perched on the twigs. Elsewhere they had tracked the snow from bush to bush, visiting almost every bush



Sumachs

and leaving their traces. The mice, also, had run from the base of one sumach to that of another on all sides, though there was no entrance to the ground there. Probably they had climbed the

¹ The same next day on the other side the pond.

stems for berries. Most of the bunches now hang half broken off, by time, etc.¹

The lespedeza, now a very pale brown, looks thus:—

The sunsets, I think, are now particularly interesting. The colors of the west seem more



than usually warm, perhaps by contrast with this simple snow-clad earth over which we look and the clear cold sky,—a sober but extensive redness, almost every night passing into a dun. There is nothing to distract our attention from it.

Monroe, who left his lines in Walden on the 8th, cut them out to-day, but he got no fish, though all his bait were gone.

The January Sunsets.

To-day I burn the first stick of the wood which I bought and did not get from the river. What I have still left of the river wood, added to what of it I reserve for other uses, would last me a week longer.

Animals that live on such cheap food as buds and leaves and bark and wood, like partridges and rabbits and wild mice, never need apprehend a famine.

I have not done wondering at that voracity of the pickerel,—three fresh perch and part of another in its maw! If there are a thousand pickerel in the pond, and they eat but one meal a day, there go a thousand perch or shiners for you out of this small pond. One year would require 365,000! not distinguishing frogs. Can it be so? The fishermen tell me that when they catch the most, the fish are fullest.

¹ See Jan. 30th.

Mother reminds me that when we lived at the Parkman house she lost a ruff a yard and a half long and with an edging three yards long to it, which she had laid on the grass to whiten, and, looking for it, she saw a robin tugging at the tape string of a stay on the line. He would repeatedly get it in his mouth, fly off and be brought up when he got to the end of his tether. Miss Ward thereupon tore a fine linen handkerchief into strips and threw them out, and the robin carried them all off. She had no doubt that he took the ruff.

It is commonly said that fishes are long-lived on account of the equable temperature of their element. The temperature of the body of Walden may perhaps range from 85° — perhaps at bottom much less — down to 32° , or 53° , while that of the air ranges from 100° down to -28° , or 128° , more than twice as much. Yet how large a portion of animal life becomes dormant or migrates in the winter! And on those that remain with us there is an increase of fur, and probably of down, corresponding to the increased cold. If there is no corresponding thickening of the integument or scales of fishes on the approach of winter, they would seem to enjoy no advantage over land animals. Beside their thick coats, most land animals seek some comparatively warm and sheltered place in which to sleep, but where do the fishes resort? They may sink to the bottom, but it is scarcely so warm there as at the bottom of a gray rabbit's or a fox's burrow. Yet the fish is a tender animal in respect to cold. Pull him out in the coldest weather, and he at once becomes encased in ice and as stiff as a stake, and a fox (?)

stands at his ease on the ice devouring him. Frogs, which, perchance, are equally tender, and must (?) come to the air occasionally, are therefore compelled [to] go into the mud and become dormant. They may be said to live there in a southern climate. Even the tough mud turtle possesses a southern constitution. He would snap in vain, and soon cease snapping, at the northwest wind when the thermometer is at 25° below zero. Wild mice and spiders and snow-fleas would be his superiors.

Jan. 12. Moderating, though at zero at 9 A. M.

P. M. — To Andromeda Swamps, measuring snow. It is a fortnight since we had about a foot of snowfall on two or three inches which was firmly crusted, and a week since about six inches fell upon the last, — I guess at these depths, — and we have had clear cold weather ever since. I carry a four-foot stick marked in inches, striking it down as far as it will go at every tenth step. First, beginning in the first field west of the railroad causeway, four to six rods from the railroad, and walking parallel with the railroad, — open fields north to south: —

[For table of measurements, see next page.]

	<u>145</u>	<u>309</u>		Then Trillium, a
19	10	10	10	11 thick, chiefly pine
11	8	12	8	8 wood, seventy-
14	9	11	8	10 five years old.
10	14	6	8	13 North to south.
7	15	8	12	9 8
12	13	7	8	10 12
9	22	9	12	13 8
7	wall	10	14 fence)	10 11
apple	6	7	9	10 8
tree	7	6	7	wall 11
	9	7	10	20 11
	9	7	10	16 9
10	7	<u>422</u>	10	<u>598</u> 8
10	8	Then cross	7	<u>73</u> 728 9
6	10	to east of	9	Average 10
9	12	railroad,	14	say 10 ² 10
<u>145</u> ¹	9	six rods	9	7
	<u>309</u>	off, in	11	10
		Stow's	<u>422</u>	12
		meadow.	<u>598</u>	8
				9
				10
				11
				19)182 (say
				9½

Other things being equal, the snow should be deeper in woods than in open fields because the trunks of trees take up room there, but this may be more than balanced by what is dissipated on the branches.

¹ [A mistake in addition here. The column foots up 155.]

² Add 2 for ice at bottom to all the depths of snow to Feb. 12th, q. v.

Then sprout-land
between railroad
and Andromeda
Pond, down-hill to-
ward the west.

The first Andromeda
Swamp from east to
west. The snow in
the swamp was with-
in about three inches
of the top of the
highest andromeda
bushes and was
swelled about three
or four inches higher
there than between
such. Foxes had
sunk from one to
four inches in it.

Wheeler's squirrel
wood, west of rail-
road, measuring from
south to north par-
allel with railroad.
An average mixed
pine and oak wood,
not very level, say
seventy-five years old.

15	24	12
11	16	9
20	20	10
17	26	12
17	29	10
13	26	10
14	16	12
16	19	12
15	27	8
17	27	9
15	24	11
17	21	7
12)187(say $15\frac{1}{2}$ ¹	27	7
	22	12
	16	12
	17	8
	28	7
	33	12
	28	12
	30	19)192(say 10 ³
	20)476(say $23\frac{4}{5}$ ²	

The result of 34 measures on Walden, eight or ten
acres of which did not freeze till during the snow of
a fortnight ago, gave $5\frac{1}{6}$.

¹ $17\frac{1}{2}$.

² $25\frac{4}{5}$.

³ 12.

Probably there is less snow in the woods than in open land, though it may lie high and light.

In the swamp the dull-red leaves of the andromeda were just peeping out, the snow lying not quite level, but with gentle swells about the highest clumps of bushes.

Deep as the snow was, it was no harder but perhaps easier walking there than in summer. It would not much impede a mouse running about below.

Though the snow is only ten inches deep on a level, farmers affirm that it is two feet deep, confidently.

Jan. 13. Sunrise. — A heavy lodging snow, almost rain, has been falling — how long? — coming from the eastward. The weather comparatively warm, but windy. It will probably turn to rain. Say four or five inches deep. It sticks to the sides of the houses.

Took to pieces a pensile nest which I found the 11th on the south shore of Walden on an oak sapling (red or black), about fifteen feet from the ground. Though small, it measures three inches by three in the extreme, and was hung between two horizontal twigs or in a fork forming about a right angle, the third side being regularly rounded without any very stiff material. The twigs extended two or three inches beyond the nest. The bulk of it is composed of fine shreds or fibres, pretty long (say three to six inches), of apparently inner oak (?) bark, judging from some scraps of the epidermis adhering. It looks at first sight like sedge or grass. The bottom, which I accidentally broke off and disturbed the arrangement of, was composed of this

and white and pitch pine needles and little twigs about the same size and form, rough, with little leaf-stalks or feet (probably hemlock (?) ¹), and also strips and curls of paper birch epidermis, and some hornet or other wasp nest used like the last. I mention the most abundant material first. Probably the needles and twigs were used on account of their curved form ² and elasticity, to give shape to the bottom. The sides, which were not so thick, were composed of bark shreds, paper birch, and hornet-nest (the two latter chiefly outside, probably to bind and conceal and keep out the wind), agglutinated together. But most pains was taken with the thin edge and for three quarters of an inch down, where, beside the bark-fibres, birch paper, and hornets' nest, some silky reddish-brown and also white fibre was used to bind all with, almost spun into threads and passed over the twigs and agglutinated to them, or over the bark edge. The shreds of birch paper were smaller there, and the hornets' nest looked as if it had been reduced to a pulp by the bird and spread very thinly here and there over all, mixed with the brown silk. This last looked like cow's hair, but as I found a piece of a small brown cocoon, though a little paler, I suspect it was from that. ³ The white may have been from a cocoon, or else vegetable silk. Probably a vireo's nest, maybe red-eye's.

In our workshops we pride ourselves on discovering a use for what had previously been regarded as waste, but how partial and accidental our economy compared

¹ Yes, they are.

² Perhaps bent by the bird.

³ Some of the same on my red-eye's nest.

with Nature's. In Nature nothing is wasted. Every decayed leaf and twig and fibre is only the better fitted to serve in some other department, and all at last are gathered in her compost-heap. What a wonderful genius it is that leads the vireo to select the tough fibres of the inner bark, instead of the more brittle grasses, for its basket, the elastic pine-needles and the twigs, curved as they dried to give it form, and, as I suppose, the silk of cocoons, etc., etc., to bind it together with! I suspect that extensive use is made of these abandoned cocoons by the birds, and they, if anybody, know where to find them. There were at least seven materials used in constructing this nest, and the bird visited as many distinct localities many times, always with the purpose or design to find some particular one of these materials, as much as if it had said to itself, "Now I will go and get some old hornets' nest from one of those that I saw last fall down in the maple swamp — perhaps thrust my bill into them — or some silk from those cocoons I saw this morning."

It turned to rain before noon, four or five inches of very moist snow or sleet having fallen.

Jan. 14. Sunrise. — Snows again. I think that you can best tell from what side the storm came by observing on which side of the trees the snow is plastered.

The crows are flitting about the houses and alight upon the elms.

After snowing an inch or two it cleared up at night. Boys, etc., go about straddling the fences, on the crust.

Jan. 15. A fine, clear winter day.

P. M. — To Hemlocks on the crust, slumping in every now and then.

A bright day, not cold. I can comfortably walk without gloves, yet my shadow is a most celestial blue. This only requires a clear bright day and snow-clad earth, not great cold. I cross the river on the crust with some hesitation. The snow appears considerably deeper than the 12th, maybe four or five inches deeper, and the river is indicated by a mere depression in it.

In the street not only fences but trees are obviously shortened, as by a flood. You are sensible that you are walking at a level a foot or more above the usual one. Seeing the tracks where a leaf had blown along and then tacked and finally doubled and returned on its trail, I thought it must be the tracks of some creature new to me.

I find under the hemlocks, in and upon the snow, apparently brought down by the storm, an abundance of those little dead hemlock twigs described on the 13th. They are remarkably slender, and without stiffness like the fir (and I think spruce) twigs, and this gives the hemlock its peculiar grace. These are not yet curved much, and perhaps they got that form from being placed in the nest.

Jan. 16. 8 A. M. — Down railroad, measuring snow, having had one bright day since the last flake fell; but, as there was a crust which would bear yesterday

(as to-day), it cannot have settled much. The last storms have been easterly and northeasterly.

Why so much (five and one half inches) more now in the woods than on the 12th, as compared with open fields? Was the driving snow caught in a small wood, or did it settle less in the rain there, or since the snow on account of bushes?

I hear flying over (and see) a snow bunting, — a clear loud *tcheep* or *tcheop*, sometimes rapidly trilled or quavered, — calling its mates.

With this snow the fences are scarcely an obstruction to the traveller; he easily steps over them. Often they are buried. I suspect it is two and a half feet deep in Andromeda Swamps now. The snow is much deeper in yards, roads, and all small inclosures than in broad fields.

Jan. 17. Henry Shattuck tells me that the quails come almost every day and get some saba beans within two or three rods of his house, — some which he neglected to gather. Probably the deep snow drives them to it.

Jan. 18. J. B. Moore says that he has caught twenty pounds of pickerel in Walden in one winter, etc., and had had nearly as good luck five or six times the same winter there, not less than ten pounds at one time. Suppose, then, that he has caught fifty pickerel there in one winter, and all others the same winter a hundred and fifty, you have two hundred caught in one winter. I suspect there are as many as two thousand that will

weigh a pound. Five men caught three hundred and thirty-three pounds in a pond in Eastham in one day this winter, say the papers, — largest five and a half pounds.

Analyzed a nest which I found January 7th in an upright fork of a red maple sapling on the edge of Hubbard's Swamp Wood, north side, near river, about eight feet from the ground, the deep grooves made by the twigs on each side. It *may* be a yellowbird's.

Extreme breadth outside, three inches; inside, one and a half. Extreme height outside, three inches; inside, one and five eighths; sides, three quarters of an inch thick.

It is composed of seven principal materials. (I name the most abundant first; I mean most abundant when compressed.)

'1. Small compact lengths of silvery pappus about seven eighths of an inch long, perhaps of erechthites, one half inch deep and nearly pure, a very warm bed, chiefly concealed, just beneath the lining inside.

2. Slender catkins, often with the buds and twig ends (of perhaps hazel), throughout the whole bottom and sides, making it thick but open and light, mixed with

(3) milkweed silk, *i. e.* fibres like flax, but white, being bleached, also in sides and rim, some of it almost threadlike, white with some of the dark epidermis. From the pods? ¹

4. Thin and narrow strips of grape-vine bark, chiefly in the rim and sides for three quarters of an inch down, and here and there throughout.

¹ No, I am about certain, from comparison, that it is the fibres of the bark of the stem. *Vide* 19th *inst.*

5. Wads of apparently brown fern wool, mixed with the last three.

6. Some finer pale-brown and thinner shreds of bark within the walls and bottom, apparently not grape. If this were added to the grape, these five materials would be not far from equally abundant.

7. Some very fine pale-brown wiry fibres for a lining, just above the pappus and somewhat mixed with it, perhaps for coolness, being springy.

Directly beneath the pappus were considerable other shreds of grape and the other bark, short and broken. In the rim and sides some cotton ravellings and some short shreds of fish-line or crow-fence. A red maple leaf within the bottom; a kernel of corn just under the lining of fibres (perhaps dropped by a crow or blackbird or jay or squirrel while the nest was building). A few short lengths of stubble or weed stems in the bottom and sides. A very little brown wool, like, apparently, that in the nest last described, which may be brown fern wool. The milkweed and fern wool conspicuous without the rim and about the twigs. I was most struck by that mass of pure pappus under the inside lining.

P. M. — To Walden to learn the temperature of the water.

The snow is so deep at present in the streets that it is very difficult turning out, and there are cradle-holes between this and the post-office. The sidewalks being blotted out, the street, like a woodman's path, looks like a hundred miles up country. I see where children

have for some days come to school across the fields on the crust from Abiel Wheeler's to the railroad crossing. I see their tracks in the slight snow upon the crust which fell the 14th. They save a great distance and enjoy the novelty.

This is a very mild, melting winter day, but clear and bright, yet I see the blue shadows on the snow at Walden. The snow lies very level there, about ten inches deep, and for the most part bears me as I go across with my hatchet. I think I never saw a more elysian blue than my shadow. I am turned into a tall blue Persian from my cap to my boots, such as no mortal dye can produce, with an amethystine hatchet in my hand. I am in raptures at my own shadow. What if the substance were of as ethereal a nature? Our very shadows are no longer black, but a celestial blue. This has nothing to do with cold, methinks, but the sun must not be too low.

I cleared a little space in the snow, which was nine to ten inches deep over the deepest part of the pond, and cut through the ice, which was about seven inches thick, only the first four inches, perhaps, snow ice, the other three clear. The moment I reached the water, it gushed up and overflowed the ice, driving me out this yard in the snow, where it stood at last two and a half inches deep above the ice.

The thermometer indicated $33\frac{1}{2}^{\circ}$ at top and $34\frac{2}{3}^{\circ}$ when drawn up rapidly from thirty feet beneath. So, *apparently*, it is not much warmer beneath.

Goodwin was fishing there. He says he once caught fifty pounds of pickerel here in two days; he thought

twenty-five or thirty fishes. Thought that there were many hundred caught here in a winter; that nearly all were females.

Observed some of those little hard galls on the high blueberry, pecked or eaten into by some bird (or *possibly* mouse), for the little white grubs which lie curled up in them. What entomologists the birds are! Most men do not suspect that there are grubs in them, and how secure the latter seem under these thick dry shells! Yet there is no secret but it is confided to some one.

Jan. 19. Another bright winter day.

P. M. — To river to get some water asclepias to see what birds' nests are made of.

The only open place in the river between Hunt's Bridge and the railroad bridge is a small space against Merrick's pasture just below the Rock.¹ As usual, just below a curve, in shallow water, with the added force of the Assabet.

The willow osiers of last year's growth on the pollards in Shattuck's row, Merrick's pasture, from four to seven feet long, are *perhaps* as bright as in the spring, the lower half yellow, the upper red, but they are a *little* shrivelled in the bark.

Measured again the great elm in front of Charles Davis's on the Boston road, which he is having cut down. The chopper, White, has taken off most of the limbs and just begun, tried his axe, on the foot of the

¹ Hubbard's Bridge and, I have no doubt, Lee's Bridge, as I learned in my walk the next day.

tree. He will probably fall it on Monday, or the 21st. At the smallest place between the ground and the limbs, seven feet from the ground, it is fifteen feet and two inches in circumference; at one foot from the ground on the lowest side, twenty-three feet and nine inches. White is to have ten dollars for taking off the necessary limbs and cutting it down merely, help being found him. He began on Wednesday. Davis and the neighbors were much alarmed by the creaking in the late storms, for fear it would fall on their roofs. It stands two or three feet into Davis's yard.

As I came home through the village at 8.15 P. M., by a bright moonlight, the moon nearly full and not more than 18° from the zenith, the wind northwest, but not strong, and the air pretty cold, I saw the melon-rind arrangement of the clouds on a larger scale and more distinct than ever before. There were eight or ten courses of clouds, so broad that with equal intervals of blue sky they occupied the whole width of the heavens, broad white cirro-stratus in perfectly regular curves from west to east across the whole sky. The four middle ones, occupying the greater part of the visible cope, were particularly distinct. They were all as regularly arranged as the lines on a melon, and with much straighter sides, as if cut with a knife. I hear that it attracted the attention of those who were abroad at 7 P. M., and now, at 9 P. M., it is scarcely less remarkable. On one side of the heavens, north or south, the intervals of blue look almost black by contrast. There is now, at nine, a strong wind from the northwest. Why do these bars extend east and west? Is it

the influence of the sun, which set so long ago? or of the rotation of the earth? The bars which I notice so often, morning and evening, are apparently connected with the sun at those periods.

In Oliver N. Bacon's History of Natick, page 235, it is said that, of phænogamous plants, "upwards of 800 species were collected from Natick soil in three years' time, by a single individual." I suspect it was Bacon the surveyor. There is given a list of those which are rare in that vicinity. Among them are the following which I do not know to grow here: *Actæa rubra* (W.),¹ *Asclepias tuberosa*,² *Alopecurus pratensis*,¹ *Corallorhiza odontorhiza* (?) (Nutt.), *Drosera filiformis* (Nutt.), *Ledum latifolium*,¹ *Malaxis lilifolia* (W.) (what in Gray?), *Sagina procumbens*.¹ Among those rare there but common here are *Calla Virginica*, *Glecoma hederacea*, *Iris prismatica*, *Lycopus Virginicus*, *Mikania scandens*, *Prunus borealis*, *Rhodora Canadensis*, *Xyris aquatica*, *Zizania aquatica*. They, as well as we, have *Equisetum hyemale*, *Kalmia glauca*, *Liatris scariosa*, *Ulmus fulva*, *Linnæa borealis*, *Pyrola maculata*, etc., etc.

Bacon quotes White, who quotes Old Colony Memorial account of manners and customs, etc., of our ancestors.

Bacon says that the finest elm in Natick stands in front of Thomas F. Hammond's house, and was set out "about the year 1760." "The trunk, five feet from the ground, measures fifteen and a half feet." G. Emerson gives a different account, *q. v.*

¹ Found since.

² Probably here.

Observed within the material of a robin's nest, this afternoon, a cherry-stone.

Gathered some dry water milkweed stems to compare with the materials of the bird's nest of the 18th. The bird used, I am almost certain, the fibres of the bark of the stem, — not the pods, — just beneath the epidermis; only the bird's is older and more fuzzy and finer, like worn twine or string. The fibres and bark have otherwise the same appearance under the microscope. I stripped off some bark about one sixteenth of an inch wide and six inches long and, separating ten or twelve fibres from the epidermis, rolled it in my fingers, making a thread about the ordinary size. This I could not break by direct pulling, and no man could. I doubt if a thread of flax or hemp of the same size could be made so strong. What an admirable material for the Indian's fish-line! I can easily get much longer fibres. I hold a piece of the dead weed in my hands, strip off a narrow shred of the bark before my neighbor's eyes and separate ten or twelve fibres as fine as a hair, roll them in my fingers, and offer him the thread to try its strength. He is surprised and mortified to find that he cannot break it. Probably both the Indian and the bird discovered for themselves this same (so to call it) wild hemp. The corresponding fibres of the mikania seem not so divisible, become not so fine and fuzzy; though somewhat similar, are not nearly so strong. I have a hang-bird's nest from the riverside, made almost entirely of this, in narrow shreds or strips with the epidermis on, wound round and round the twigs and woven into a basket. That is, this bird

has used perhaps the strongest fibre which the fields afforded and which most civilized men have not detected.

Knocked down the bottom of that summer yellow-bird's nest made on the oak at the Island last summer. It is chiefly of fern wool and also, *apparently*, some sheep's wool (?), with a fine green moss (apparently that which grows on button-bushes) inmixed, and some milkweed fibre, and all very firmly agglutinated together. Some shreds of grape-vine bark about it. Do not know what portion of the whole nest it is.

Jan. 20. In my experience I have found nothing so truly impoverishing as what is called wealth, *i. e.* the command of greater means than you had before possessed, though comparatively few and slight still, for you thus inevitably acquire a more expensive habit of living, and even the very same necessities and comforts cost you more than they once did. Instead of gaining, you have lost some independence, and if your income should be suddenly lessened, you would find yourself poor, though possessed of the same means which once made you rich. Within the last five years I have had the command of a little more money than in the previous five years, for I have sold some books and some lectures; yet I have not been a whit better fed or clothed or warmed or sheltered, not a whit richer, except that I have been less concerned about my living, but perhaps my life has been the less serious for it, and, to balance it, I feel now that there is a possibility of

failure. Who knows but I *may* come upon the town, if, as is likely, the public want no more of my books, or lectures (which last is already the case)? Before, I was much likelier to take the town upon my shoulders. That is, I have lost some of my independence on them, when they would say that I had gained an independence. If you wish to give a man a sense of poverty, give him a thousand dollars. The next hundred dollars he gets will not be worth more than ten that he used to get. Have pity on him; withhold your gifts.


P. M. — Up river to Hollowell place.

I see the blue between the cakes of snow cast out in making a path, in the triangular recesses, though it is pretty cold, but the sky is completely overcast.

It is now good walking on the river, for, though there has been no thaw since the snow came, a great part of it has been converted into snow ice by sinking the old ice beneath the water, and the crust of the rest is stronger than in the fields, because the snow is so shallow and has been so moist. The river is thus an advantage as a highway, not only in summer and when the ice is bare in the winter, but even when the snow lies very deep in the fields. It is invaluable to the walker, being now not only the most interesting, but, excepting the narrow and unpleasant track in the highways, the only practicable route. The snow never lies so deep over it as elsewhere, and, if deep, it sinks the ice and is soon converted into snow ice to a great extent, beside being blown out of the river valley. Neither is it drifted here. Here, where you cannot walk at all in the summer, is better walking than elsewhere in the

winter. But what a different aspect the river's brim now from what it wears in summer! I do not this moment hear an insect hum, nor see a bird, nor a flower. That museum of animal and vegetable life, a meadow, is now reduced to a uniform level of white snow, with only half a dozen kinds of shrubs and weeds rising here and there above it.

Nut Meadow Brook is open in the river meadow, but not into the river. It is remarkable that the short strip in the middle below the Island (*vide* yesterday) should be the only open place between Hunt's Bridge and Hubbard's, at least, — probably as far as Lee's. The river has been frozen solidly ever since the 7th, and that small open strip of yesterday (about one rod wide and in middle) was probably not more than a day or two old. It is very rarely closed, I suspect, *in all places* more than two weeks at a time. Ere long it wears its way up to the light, and its blue artery again appears here and there. In one place close to the river, where the forget-me-not grows, that springy place under the bank just above the railroad bridge, the snow is quite melted and the bare ground and flattened weeds exposed for four or five feet.

Broke open a frozen nest of mud and stubble in a black willow, probably a robin's, in which were a snail (?) shell and a skunk-cabbage seed (?). Were they  not left there by a mouse? Or could they have been taken up with the mud? (They were somewhat in the mud. A downy woodpecker without red on head the only bird seen in this walk [?]. I stand within twelve feet.

The arrangement of the clouds last night attracted attention in various parts of the town.

A probable kingbird's nest, on a small horizontal branch of a young swamp white oak, amid the twigs, about ten feet from ground. This tree is very scraggy; has numerous short twigs at various angles with the branches, making it unpleasant to climb and affording support to birds' nests. The nest is round, running to rather a sharp point on one side beneath. Extreme diameter outside, four and a half to five inches; within, three inches; depth within, two inches; without, four or more. The principal materials are ten, in the order of their abundance thus:—

1. Reddish and gray twigs, some a foot and more in length, which are cranberry vines, with now and then a leaf on, probably such as were torn up by the rakers. Some are as big round as a knitting-needle, and would be taken for a larger bush. These make the stiff mass of the outside above and rim.

2. Woody roots, rather coarser, intermixed from waterside shrubs. Probably some are from cranberry vines. These are mixed with the last and with the bottom.

3. Softer and rather smaller roots and root-fibres of herbaceous plants, mixed with the last and a little further inward, for the harshest are always most external.

4. (Still to confine myself to the order of abundance) withered flowers and short bits of the gray downy stems of the fragrant everlasting; these more or less compacted and apparently agglutinated from the mass of

the solid bottom, and more loose, with the stems run down to a point on one side the bottom.

5. What I think is the fibrous growth of a willow, moss-like with a wiry dark-colored hair-like stem (pos-



sibly it is a moss). This, with or without the tuft, is the lining, and lies contiguous in the sides and bottom.

6. What looks like brown decayed leaves and confervæ from the dried bottom of the riverside, mixed with the everlasting-tops internally in the solid bottom.

7. Some finer brown root-fibres, chiefly between the lining of No. 6 and hair and the coarser fibres of No. 3.

8. A dozen whitish cocoons, mixed with the everlasting-tops and dangling about the bottom peak externally; a few within the solid bottom. Also eight or ten very minute cocoons mixed with these, attached in a cluster to the top of an everlasting.

9. A few black much branched roots (?) (perhaps some utricularia from the dried bottom of river), mixed with Nos. 2 and 3.

10. Some horsehair, white and black, together with No. 5 forming the lining.

There are also, with the cocoons and everlasting-tops externally, one or two cotton-grass heads, one small white feather, and a little greenish-fuscou moss from the button-bush, and, in the bottom, a small shred of grape-vine bark.

Jan. 21. Four men, cutting at once, began to fell the big elm (*vide* 19th) at 10 A. M., went to dinner at 12, and got through at 2.30 P. M. They used a block and tackle with five falls, fastened to the base of a button-wood, and drawn by a horse, to pull it over the right way; so it fell without harm down the road. One said he pulled twenty turns. I measured it at 3 P. M., just after the top had been cut off.

It was 15 feet to the first crotch. At 75 feet, the most upright and probably highest limb was cut off, and measured 27 inches in circumference. As near as I could tell from the twigs on the snow, and what the choppers said who had just removed the top, it was about 108 feet high. At 15 feet from the stump, it divided into two parts, about an equal size. One was decayed and broken in the fall, being undermost, the other (which also proved hollow) at its origin was $11\frac{4}{12}$ feet in circumference. (The whole tree directly beneath this crotch was $19\frac{3}{12}$ round.) This same limb branched again at $36\frac{8}{12}$ from the stump, and there measured, just beneath the crotch, $14\frac{10}{12}$ in circumference. At the ground the stump measured $8\frac{4}{12}$ one way, $8\frac{3}{12}$ another, $7\frac{1}{2}$ another. It was solid quite through at butt (excepting 3 inches in middle), though somewhat decayed within, and I could count pretty well 105 rings, to which add 10 more for the hollow and you have 115.¹

There was a currant bush opposite the first crotch, in a large hole at that height, where probably a limb

¹ This is wrong. *Vide* 26th *inst.* I could not count the decayed part there well.

once broke off (making three there), and also a great many stones bigger than a hen's egg, probably cast in by the boys. There was also part of an old brick with some clay, thirty or forty years within the tree at the stump, completely overgrown and cut through by the axe. I judged that there were at least seven cords then in the road, supposing one main limb sound, and Davis thought that the pile in the yard, from the limbs taken off last week, contained four more. He said that there were some flying squirrels within and upon it when they were taking off the limbs. There was scarcely any hollowness to be discovered. It had grown very rapidly the first fifty years or so. You could see where there had once been deep clefts between different portions of the trunk at the stump, but the tree had afterward united and overgrown them, leaving some bark within the wood. In some places the trunk as it lay on the ground (though flatwise) was as high as a man's head.

This tree stood directly under the hill, which is some sixty feet high, the old burying hill continued, south of where the flagstaff was planted when the British marched into town. This tree must have been some fifty years old and quite sizable then. White, when taking off the limbs, said that he could see all over Sleepy Hollow, beyond the hill. There were several great wens on the trunk, a foot in diameter and nearly as much in height. The tree was so sound I think it might have lived fifty years longer; but Mrs. Davis said that she would not like to spend another such a week as the last before it was cut down. They heard

it creak in the storm. One of the great limbs which reached over the house was cracked. The two main limbs proved hollow.

Jan. 22. P. M. — To Walden.

The Walden road is nearly full of snow still, to the top of the wall on the north side, though there has been no snow falling since the 14th. The snow lies particularly solid. Looking toward the sun, the surface consists of great patches of shining crust and dry driving snow, giving it a *watered* appearance.

Miss Minott talks of cutting down the oaks about her house for fuel, because she cannot get her wood sledged home on account of the depth of the snow, though it lies all cut there. James, at R. W. E.'s, waters his cows at the door, because the brook is frozen.

If you wish to know whether a tree is hollow, or has a hole in it, ask the squirrels. They know as well as whether they have a home or not. Yet a man lives under it all his life without knowing, and the chopper must fairly cut it up before he can tell. If there is a cleft in it, he is pretty sure to find some nutshell or materials of a bird's nest left in it.

At Brister's Spring I see where a squirrel has been to the spring and also sat on a low alder limb and eaten a hazelnut. Where does he find a sound hazelnut now? Has them in a hollow tree.

See tracks of fishermen and pickerel. *Vide* forward.

At Walden, near my old residence, I find that since I was here on the 11th, apparently within a day or two, some gray or red squirrel or squirrels have been feeding

on the pitch pine cones extensively. The snow under one young pine is covered quite thick with the scales they have dropped while feeding overhead. I count the cores of thirty-four cones on the snow there, and that is not all. Under another pine there are more than twenty, and a well-worn track from this to a fence-post three rods distant, under which are the cores of eight cones and a corresponding amount of scales.

6 3 The track is like a very small rabbit. They have gnawed off the cones which were perfectly closed.

00 I see where one has taken one of a pair and left the other partly off. He had first sheared off the needles that were in the way, and then gnawed off the sides or cheeks of the twig to come at the stem of the cone, which as usual was cut by successive cuts



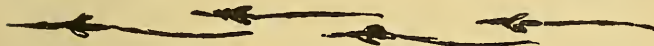
as with a knife, while bending it. One or two small, perhaps dead,¹ certainly unripe ones were taken off and left unopened. I find that many of those young

¹ Probably died last summer when little over a year old.

pinces are now full of unopened cones, which apparently will be two years old next summer, and these the squirrel now eats. There are also some of them open, perhaps on the most thrifty twigs.

F. Morton hears to-day from Plymouth that three men have just caught in Sandy Pond, in Plymouth, about two hundred pounds of pickerel in two days.

Somebody has been fishing in the pond this morning, and the water in the holes is beginning to freeze. I see the track of a crow,¹ the toes as usual less spread



and the middle one making a more curved furrow in the snow than the partridge, as if they moved more unstably, recovering their balance, — feeble on their feet. The inner toe a little the nearest to the middle one.² This track goes to every hole but one or two out of a dozen, — directly from hole to hole, sometimes flying a little, — and also to an apple-core on the snow. I am pretty sure that this bird was after the bait which is usually dropped on the ice or in the hole. E. Garfield says they come regularly to his holes for bait as soon as he has left. So, if the pickerel are not fed, it is. It had even visited, on the wing, a hole, now frozen and snowed up, which I made far from this in the middle of the pond several days since, as I discovered by its droppings, the same kind that it had left about the first holes.

I was surprised, on breaking with my foot the ice in a pickerel-hole near the shore, evidently frozen only

¹ *Vide 24th inst.*

² *Vide Feb. 1st.*

last night, to see the water rise at once half an inch above it. Why should the ice be still sinking? Is it growing more solid and heavier?

Most were not aware of the size of the great elm till it was cut down. I surprised some a few days ago by saying that when its trunk should lie prostrate it would be higher than the head of the tallest man in the town, and that two such trunks could not stand in the chamber we were then in, which was fifteen feet across; that there would be ample room for a double bedstead on the trunk, nay, that the very dinner-table we were sitting at, with our whole party of seven, chairs and all, around it, might be set there. On the decayed part of the butt end there were curious fine black lines, giving it a geographical look, here and there, half a



dozen inches long, sometimes following the line of the rings; the boundary of a part which had

reached a certain stage of decay. The force on the pulleys broke off more than a foot in width in the middle of the tree, much decayed.

I have attended the felling and, so to speak, the funeral of this old citizen of the town, — I who commonly do not attend funerals, — as it became me to do. I was the chief if not the only mourner there. I have taken the measure of his grandeur; have spoken a few words of eulogy at his grave, remembering the maxim *de mortuis nil nisi bonum* (in this case *magnum*). But there were only the choppers and the passers-by to hear me. Further the town was not represented;


the fathers of the town, the selectmen, the clergy were not there. But I have not known a fitter occasion for a sermon of late. Travellers whose journey was for a short time delayed by its prostrate body were forced to pay it some attention and respect, but the axe-boys had climbed upon it like ants, and commenced chipping at it before it had fairly ceased groaning. There was a man already bargaining for some part. How have the mighty fallen! Its history extends back over more than half the whole history of the town. Since its kindred could not conveniently attend, I attended. Methinks its fall marks an epoch in the history of the town. It has passed away together with the clergy of the old school and the stage-coach which used to rattle beneath it. Its virtue was that it steadily grew and expanded from year to year to the very last. How much of old Concord falls with it! The town clerk will not chronicle its fall. I will, for it is of greater moment to the town than that of many a human inhabitant would be. Instead of erecting a monument to it, we take all possible pains to obliterate its stump, the only monument of a tree which is commonly allowed to stand. Another link that bound us to the past is broken. How much of old Concord was cut away with it! A few such elms would alone constitute a township. They might claim to send a representative to the General Court to look after their interests, if a fit one could be found, a native American one in a true and worthy sense, with catholic principles. Our town has lost some of its venerableness. No longer will our eyes rest on its massive gray trunk, like a vast

Corinthian column by the wayside; no longer shall we walk in the shade of its lofty, spreading dome. It is as if you had laid the axe at the feet of some venerable Buckley or Ripley. You have laid the axe, you have made fast your tackle, to one of the king-posts of the town. I feel the whole building wracked by it. Is it not sacrilege to cut down the tree which has so long looked over Concord beneficently?

Supposing the first fifteen feet to average six feet in diameter, they would contain more than three cords and a foot of wood; but probably not more than three cords.

With what feelings should not the citizens hear that the biggest tree in the town has fallen! A traveller passed through the town and saw the inhabitants cutting it up without regret.

The tracks of the partridges by the sumachs, made before the 11th, are perhaps more prominent now than ever, for they have consolidated the snow under them so that as it settled it has left them *alto-relievo*. They look like broad chains extending straight far over the snow.

I brought home and examined some of the droppings of the crow mentioned four pages back. They were brown and dry, though partly frozen. After long study with a microscope, I discovered  that they consisted of the seeds and skins and other indigestible parts of red cedar berries and some barberries (I detected the imbricated scale-like leaves of a berry stem and then the seeds and the now black skins of the cedar berries, but easily the large seeds of the barberries) and perhaps something more, and I knew whence it had probably come, *i. e.* from the cedar woods and

barberry bushes by Flint's Pond. These, then, make part of the food of crows in severe weather when the snow is deep, as at present.

Jan. 23. Brown is filling his ice-house. The *clear* ice is only from one and a half to four inches thick; all the rest, or nearly a foot, is snow ice, formed by the snow sinking the first under the water and freezing with the water. The same is the case at Walden. To get ice at all clear or transparent, you must scrape the snow off after each fall. Very little ice is formed by addition below, such a snowy winter as this.

There was a white birch scale yesterday on the snowed-up hole which I made in the very middle of Walden. I have no doubt they blow across the widest part of the pond.

When approaching the pond yesterday, through my bean-field, I saw where some fishermen had come away, and the tails of their string of pickerel had trailed on the deep snow where they sank in it. I afterward saw where they had been fishing that forenoon, the water just beginning to freeze, and also where some had fished the day before with red-finned minnows, which were frozen into an inch of ice; that these men had chewed tobacco and ate apples. All this I knew, though I saw neither man nor squirrel nor pickerel nor crow.

Measured, this afternoon, the snow in the same fields which I measured just a week ago, to see how it had settled. It has been uniformly fair weather of average winter coldness, without any thaw.¹ West of railroad

¹ Add 2 for ice at bottom. *Vide* Feb. 12th.

it averages $11\frac{1}{3} +$. (On the 16th it was $12\frac{1}{4}$.) East of railroad, 14 inches (16th, $15\frac{5}{8}$). Or average of both $12\frac{1}{3} +^1$ — say $12\frac{1}{2}$. It has settled, therefore, in open fields $1\frac{1}{10}$ inches, showing how very solid it is, as many have remarked. Not allowing for what of the light snow above the crust may have drifted against the railroad embankment (though I measured on both sides of it).² Trillium Woods, $13\frac{1}{4} +$; ³ 16th it was 17.⁴ Has settled $3\frac{3}{4}$. It seems, then, that, as it lies light in the wood at first, it settles much faster there, so that, though it was nearly $3\frac{1}{2}$ inches the deepest there a week ago, it is less than 1 inch the deepest there now.

Jan. 24. A journal is a record of experiences and growth, not a preserve of things well done or said. I am occasionally reminded of a statement which I have made in conversation and immediately forgotten, which would read much better than what I put in my journal. It is a ripe, dry fruit of long-past experience which falls from me easily, without giving pain or pleasure. The charm of the journal must consist in a certain greenness, though freshness, and not in maturity. Here I cannot afford to be remembering what I said or did, my scurf cast off, but what I am and aspire to become.

Reading the hymns of the Rig Veda, translated by Wilson, which consist in a great measure of simple epithets addressed to the firmament, or the dawn, or

¹ $14\frac{1}{3} +$.

² The drifting of light surface snow *may* have produced nearly all the change.

³ $15\frac{1}{4} +$.

⁴ 19.

the winds, which mean more or less as the reader is more or less alert and imaginative, and seeing how widely the various translators have differed, they regarding not the poetry, but the history and philology, dealing with very concise Sanscrit, which must almost always be amplified to be understood, I am sometimes inclined to doubt if the translator has not made something out of nothing, — whether a real idea or sentiment has been thus transmitted to us from so primitive a period. I doubt if learned Germans might not thus edit pebbles from the seashore into hymns of the Rig Veda, and translators translate them accordingly, extracting the meaning which the sea has imparted to them in very primitive times. While the commentators and translators are disputing about the meaning of this word or that, I hear only the resounding of the ancient sea and put into it all the meaning I am possessed of, the deepest murmurs I can recall, for I do not the least care where I get my ideas, or what suggests them.

I knew that a crow had that day plucked the cedar berries and barberries by Flint's Pond and then flapped silently through the trackless air to Walden, where it dined on fisherman's bait, though there was no living creature to tell me.

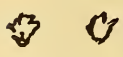


Holbrook's elm measured to-day 11 feet 4 inches in circumference at six feet from ground, the size of one of the branches of the Davis elm (call it the Lee elm, for a Lee formerly lived there). Cheney's largest in front of Mr. Frost's, 12 feet 4 inches, at six feet; 16 feet 6 inches, at one foot. The great elm opposite

Keyes's land, near by (call it the Jones elm): 17 feet 6 inches, at two behind and one plus before; 15 feet 10 inches, at four; 15 feet 5 inches, at six; 16 feet at seven and a half, or spike on west side. At the smallest place between the ground and branches, this is a little bigger than the Davis elm, but it is not so big at or near the ground, nor is it so high to the branching, — about twelve feet, — nor are the branches so big, but it is much sounder, and its top broader, fuller, and handsomer. This has an uncommonly straight-sided and solid-looking trunk, measuring only two feet less at six feet from the ground than at two.

P. M. — Up Assabet.

Even the patches of shining snow-crust between those of dry white surface snow are slightly blue, like ice and water.

You may walk anywhere on the river now. Even the open space against Merrick's, below the Rock, has been closed again, and there is only six feet of water there now. I walk with a peculiar sense of freedom over the snow-covered ice, not fearing that I shall break through. I have not been able to find any tracks of muskrats this winter. I suspect that they very rarely venture out in winter with their wet coats.

I see squirrel-tracks about the hemlocks.
 They are much like rabbits, only the toes are very distinct. From this they
 pass into a semicircular figure some-
 times. Some of the first are six inches from outside to outside lengthwise, with one to two feet of interval.

Are these the gray or red?

A great many hemlock cones have fallen on the snow and rolled down the hill.

Higher up, against the Wheeler Swamp, I see where many squirrels — perhaps red, for the tracks appear smaller — have fed on the alder cones on the twigs which are low or frozen into the ice, stripping them to the core just as they do the pine cones.

Here are the tracks of a crow, like those of the 22d, with a *long hind toe*, nearly two inches. The two feet are also nearly two inches apart. I see where the bird alighted, descending with an impetus and breaking through the slight crust, planting its feet side by side.

How different this partridge-track, with its slight hind toe, open and wide-spread toes on each side, both feet forming one straight line, exactly thus:—



(Five inches from centre to centre.) The middle toe alternately curved to the right and to the left, and what is apparently the outer toe in each case shorter than the inner one.

I see under a great many trees, black willow and swamp white oak, the bark scattered over the snow, some pieces six inches long, and above see the hole which a woodpecker has bored.

The snow is so deep along the sides of the river that I can now look into nests which I could hardly reach in the summer. I can hardly believe them the same. They have only an ice egg in them now. Thus we go

about, raised, generally speaking, more than a foot above the summer level. So much higher do we carry our heads in the winter. What a great odds such a little difference makes! When the snow raises us one foot higher than we have been accustomed to walk, we are surprised at our elevation! So we soar.

I do not find a foot of open water, even, on this North Branch, as far as I go, *i. e.* to J. Hosmer's lot. The river has been frozen unusually long and solidly. They have been sledding wood along the river for a quarter of a mile in front of Merriam's and past the mouth of Sam Barrett's Brook, where it is bare of snow, — hard, glare ice on which there is scarcely a trace of the sled or oxen. They have sledded home a large oak which was cut down on the bank. Yet this is one of the rockiest and swiftest parts of the stream. Where I have so often stemmed the swift current, dodging the rocks, with my paddle, there the heavy, slow-paced oxen, with their ponderous squeaking load, have plodded, while the teamster walked musing beside it.

That Wheeler swamp is a great place for squirrels. I observe many of their tracks along the riverside there. The nests are of leaves, and apparently of the gray species.

There is much of the water milkweed on the little island just above Dove Rock. It rises above the deep snow there.

It is remarkable how much the river has been tracked by dogs the week past, not accompanied by their masters. They hunt, perchance, in the night more than is supposed, for I very rarely see one alone by day.

The river is pretty low and has fallen within a month, for there has been no thaw. The ice has broken and settled around the rocks, which look as if they had burst up through it. Some maple limbs which were early frozen in have been broken and stripped down by this irresistible weight.

You see where the big dogs have slipped on one or two feet in their haste, sinking to the ice, but, having two more feet, it did not delay them.

I walk along the sides of the stream, admiring the rich mulberry catkins of the alders, which look almost edible. They attract us because they have so much of spring in them. The clear red osiers, too, along the riverside in front of Merriam's on Wheeler's side.

I have seen many a collection of stately elms which better deserved to be represented at the General Court than the manikins beneath, — than the barroom and victualling cellar and groceries they overshadowed. When I see their magnificent domes, miles away in the horizon, over intervening valleys and forests, they suggest a village, a community, there. But, after all, it is a secondary consideration whether there are human dwellings beneath them; these may have long since passed away. I find that into my idea of the village has entered more of the elm than of the human being. They are worth many a political borough. They constitute a borough. The poor human representative of his party sent out from beneath their shade will not suggest a tithe of the dignity, the true nobleness and comprehensive-ness of view, the sturdiness and independence, and the serene beneficence that they do. They look from town-

ship to township. A fragment of their bark is worth the backs of all the politicians in the union. They are free-soilers in their own broad sense. They send their roots north and south and east and west into many a conservative's Kansas and Carolina, who does not suspect such underground railroads, — they improve the subsoil he has never disturbed, — and many times their length, if the support of their principles requires it. They battle with the tempests of a century. See what scars they bear, what limbs they lost before we were born! Yet they never adjourn; they steadily vote for their principles, and send their roots further and wider from the *same centre*. They die at their posts, and they leave a tough butt for the choppers to exercise themselves about, and a stump which serves for their monument. They attend no caucus, they make no compromise, they use no policy. Their one principle is growth. They combine a true radicalism with a true conservatism. Their radicalism is not cutting away of roots, but an infinite multiplication and extension of them under all surrounding institutions. They take a firmer hold on the earth that they may rise higher into the heavens. Their conservative heart-wood, in which no sap longer flows, does not impoverish their growth, but is a firm column to support it; and when their expanding trunks no longer require it, it utterly decays. Their conservatism is a dead but solid heart-wood, which is the pivot and firm column of support to all this growth, appropriating nothing to itself, but forever by its support assisting to extend the area of their radicalism. Half a century after they are dead

at the core, they are preserved by radical reforms. They do not, like men, from radicals turn conservative. Their conservative part dies out first; their radical and growing part survives. They acquire new States and Territories, while the old dominions decay, and become the habitation of bears and owls and coons.

Jan. 25. P. M. — Up river.

The hardest day to bear that we have had, for, beside being 5° at noon and at 4 P. M., there is a strong northwest wind. It is worse than when the thermometer was at zero all day. Pierce says it is the first day that he has not been able to work outdoors in the sun. The snow is now very dry and powdery, and, though so hard packed, drifts somewhat. The travellers I meet have red faces. Their ears covered. Pity those who have not thick mittens. No man could stand it to travel far toward this wind. It stiffens the whole face, and you feel a tingling sensation in your forehead. Much worse to bear than a still cold. I see no life abroad, no bird nor beast. What a stern, bleak, inhospitable aspect nature now wears! (I am off Clamshell Hill.) Where a few months since was a fertilizing river reflecting the sunset, and luxuriant meadows resounding with the hum of insects, is now a uniform crusted snow, with dry powdery snow drifting over it and confounding river and meadow. I make haste away, covering my ears, before I freeze there. The snow in the road has frozen dry, as dry as bran.

A closed pitch pine cone gathered January 22d opened last night in my chamber. If you would be convinced

how differently armed the squirrel is naturally for dealing with pitch pine cones, just try to get one off with your teeth. He who extracts the seeds from a single closed cone with the aid of a knife will be constrained to confess that the squirrel earns his dinner. It is a rugged customer, and will make your fingers bleed. But the squirrel has the key to this conical and spiny chest of many apartments. He sits on a post, vibrating his tail, and twirls it as a plaything.

But so is a man commonly a locked-up chest to us, to open whom, unless we have the key of sympathy, will make our hearts bleed.

The elms, they adjourn not night nor day; they pair not off. They stand for magnificence; they take the brunt of the tempest; they attract the lightning that would smite our roofs, leaving only a few rotten members scattered over the highway. The one by Holbrook's is particularly regular and lofty for its girth, a perfect sheaf, but thin-leaved, apparently a slow grower. It bore a tavern sign for many a year. Call it the Bond (?) elm.

Jan. 26. When I took the ether my consciousness amounted to this: I put my finger on myself in order to keep the place, otherwise I should never have returned to this world.

They have cut and sawed off the butt of the great elm at nine and a half feet from the ground, and I counted the annual rings there with the greatest ease and accuracy. Indeed I never saw them so distinct on a large butt. The tree was quite sound there, not the

least hollow even at the pith. There were one hundred and twenty-seven rings. Supposing the tree to have been five years old when nine and a half feet high, then it was one hundred and thirty-two years old, or came up in the year 1724, just before Lovewell's Fight.

There were two centres, fourteen inches apart.

The accompanying coarse sketch will give a *general* idea of it. There were thirteen distinct rings about each centre, before they united and one ring inclosed both. Then there was a piece of bark, — which may be



rudely represented by the upper black mark, — say six or eight inches long. This was not overgrown but by the twenty-fourth ring. These two centres of growth corresponded in position to the two main branches six feet above, and I inferred that when the tree was about eighteen years old, the fork commenced at nine and a half feet from the ground, but as it increased in diameter, it united higher and higher up. I remember that the bark was considerably nearer one centre than the other. There was bark in several places completely overgrown and included on the extreme butt end where cut off, having apparently overgrown its own furrows.

Its diameter, where I counted the rings, was, one way, as near as I could measure in spite of the carf,

four feet and three inches; another, four feet and eight inches; and five feet. On the line by which I counted, which was the long way of the tree, it had grown in the first fifty years twenty inches, or two fifths of an inch a year; the last fifty, five and three quarters inches or about one ninth of an inch a year; and there was a space of about five inches between the two, or for the intermediate twenty-seven years. At this height, it had grown on an average annually nearly twenty-four one-hundredths of an inch from the centre on one side.

The white or sap wood averaged about two inches thick. The bark was from one to two inches thick, and



in the last case I could count from twelve to fifteen distinct rings in it, as if it were regularly shed after that period.

The court-house elm measured, at six feet from the ground on the west side, twelve feet one and one half inches in circumference. The willow by the Jim Jones house, fourteen feet at about eighteen inches from ground; thirteen feet eight inches, at about six inches from ground; and it bulged out much larger above this.

P. M. — Walked down the river as far as the south bend behind Abner Buttrick's. I also know its condition as far as the Hubbard Bridge in the other direction. There is not a square foot open between these extremes, and, judging from what I know of the river beyond

these limits, I may safely say that it is not open (the main stream, I mean) anywhere in the town. (Of the North Branch above the Bath Place, the goose ground, say to the stone bridge, I cannot speak confidently.¹) The same must have been the case yesterday, since it was colder. Probably the same has been true of the river, excepting the small space against Merrick's below the Rock (now closed), since January 7th, when it closed at the Hubbard Bath, or nearly three weeks, — a long time, methinks, for it to be frozen so solidly. A sleigh might safely be driven now from Carlisle Bridge to the Sudbury meadows on the river. Methinks it is a remarkably cold, as well as snowy, January, for we have had good sleighing ever since the 26th of December and no thaw.

Walked as far as Flint's Bridge with Abel Hunt, where I took to the river. I told him I had come to walk on the river as the best place, for the snow had drifted somewhat in the road, while it was converted into ice almost entirely on the river. "But," asked he, "are you not afraid that you will get in?" "Oh, no, it will bear a load of wood from one end to the other." "But then there may be some weak places." Yet he is some seventy years old and was born and bred immediately on its banks. Truly one half the world does not know how the other half lives.

Men have been talking now for a week at the post-office about the age of the great elm, as a matter inter-

¹ *Vide 27th inst.*

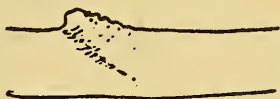
esting but impossible to be determined. The very choppers and travellers have stood upon its prostrate trunk and speculated upon its age, as if it were a profound mystery. I stooped and read its years to them (127 at nine and a half feet), but they heard me as the wind that once sighed through its branches. They still surmised that it might be two hundred years old, but they never stooped to read the inscription. Truly they love darkness rather than light. One said it was probably one hundred and fifty, for he had heard somebody say that for fifty years the elm grew, for fifty it stood still, and for fifty it was dying. (Wonder what portion of his career he stood still!) Truly all men are not men of science. They dwell within an integument of prejudice thicker than the bark of the cork-tree, but it is valuable chiefly to stop bottles with. Tied to their buoyant prejudices, they keep themselves afloat when honest swimmers sink.

Talking with Miss Mary Emerson this evening, she said, "It was not the fashion to be so original when I was young." She is readier to take my view — look through my eyes for the time — than any young person that I know in the town.

The white maple buds look large, with bursting downy scales as in spring.

I observe that the crust is strongest over meadows, though the snow is deep there and there is no ice nor water beneath, but in pastures and upland generally I break through. Probably there is more moisture to be frozen in the former places, and the snow is more compact.

Jan. 27. I have just sawed a wheel an inch and three quarters thick off the end of (apparently) a stick of red oak in my pile. I count twenty-nine rings, and about the same number of rings, or divisions of some kind, with more or less distinctness, in the bark, which is about a quarter of an inch thick. Is not the whole number of rings contained in the bark of all trees which have a bark externally smooth? This stick has two centres of growth, each a little one side of the middle. I trace one easily to a limb which was cut off close to the tree about three and a half inches above the lower side of the section. The two centres are one inch apart on the lower side, two inches and five eighths on the upper side. There are three complete circles to the main one on the lower side, and ten on the upper side, before they coalesce; hence it was seven years closing up through an inch and three quarters of height. There is a rough ridge, confined to the bark only and about a quarter of an inch high, extending from the crotch diagonally down the tree, apparently to a point over the true centre of growth.



P. M.—Walked on the river from the old stone to Derby's Bridge. It is open a couple of rods under the stone bridge, but not a rod below it, and also for forty rods below the mouth of Loring's Brook, along the west side, probably because this is a mill-stream. The only other open places within the limits mentioned yesterday are in one or two places close under the bank, and concealed by it, where warm springs issue, the

river, after freezing, having shrunk and the ice settled a foot or eighteen inches there, so that you can see water over its edge.

The white maple at Derby's Bridge measures fifteen feet in circumference at ground, including apparently a very large sucker, and ten feet five inches, at four feet above the ground, not including sucker, there free.

The lodging snow of January 13th, just a fortnight ago, still adheres in deep and conspicuous ridges to large exposed trees, too stubborn to be shaken by the wind, showing from which side the storm came.



The fruit stems of the dogwood still hold on, and a little fruit. (Of course, the limbs should be smoother.) The outline much like a peach tree, but it is without the numerous small limbs or twigs.

Saw what I think were bass nuts on the snow on the river, at Derby's railroad bridge, probably from up-stream.

Jan. 28. Snowed all day, about two inches falling. They say it snowed about the same all yesterday in New York. Cleared up at night.

Jan. 29. P. M. — Measured the snow in the same places measured the 16th and 23d, having had, except yesterday, fair weather and no thaw.¹

¹ Add 2 for ice at bottom. *Vide* Feb. 12th.

		Average of both sides.
West of railroad, average	$11\frac{1}{2} +$	East of railroad, 17
On the 23d it was	$11\frac{1}{8}$	14
" " 16th " "	$12\frac{1}{4}$	$15\frac{5}{8}$
Trillium Woods to-day	$14\frac{6}{10}$	
the 23d	$13\frac{1}{4} +$	
16th	17	

As I measured oftener west than east of railroad, the snow is probably about fourteen on a level in open fields now, or *quite* as deep as at any time this winter. Yet it has apparently been settling a little the last six days. In the woods, apparently, it has also been settling, but it is not so deep there as on the 16th, because it settled rapidly soon after that date. It is deeper east of railroad, evidently because it lies behind it like a wall, though I measure from six to ten or twelve rods off on that side. Since the 13th there has been at no time less than one foot on a level in open fields.

It is interesting to see near the sources, even of small streams or brooks, which now flow through an open country, perhaps shrunken in their volume, the traces of ancient mills, which have devoured the primitive forest, the earthen dams and old sluiceways, and ditches and banks for obtaining a supply of water. These relics of a more primitive period are still frequent in our midst. Such, too, probably, has been the history of the most thickly settled and cleared countries of Europe. The saw-miller is neighbor and successor to the Indian.

It is observable that not only the moose and the wolf disappear before the civilized man, but even many

species of insects, such as the black fly and the almost microscopic "no-see-em." How imperfect a notion have we commonly of what was the actual condition of the place where we dwell, three centuries ago!

For the most part the farmers have not been able to get into the woods for the last fortnight or more, on account of the snow, and some who had not got up their wood before are now put to their trumps, for though it may not be more than eighteen inches deep on a level in sprout-lands, the crust cuts the legs of the cattle, and the occasional drifts are impassable. Sometimes, with two yoke of oxen and a horse attached to the sled, the farmer attempts to break his way into his lot, one driving while another walks before with a shovel, treading and making a path for the horse, but they must take off the cattle at last and turn the sled with their hands.

Miss Minott has been obliged to have some of her locusts about the house cut down. She remembers when the whole top of the elm north of the road close to Dr. Heywood's broke off, — when she was a little girl. It must have been there before 1800.

Jan. 30. 8 A. M. — It has just begun to snow, — those little round dry pellets like shot.

George Minott says that he was standing with Bowers (?) and Joe Barrett near Dr. Heywood's barn in the September gale, and saw an elm, twice as big as that which broke off before his house, break off ten feet from the ground, — splinter all up, — and the

barn bent and gave so that he thought it was time to be moving. He saw stones "as big as that [air-tight] stove, blown right out of the wall." So, by bending to the blast, he made his way home. All the *small* buildings on the Walden road across the brook were blown back toward the brook. Minott lost the roof of his shed. The wind was southerly.

As I walked above the old stone bridge on the 27th, I saw where the river had recently been open under the wooded bank on the west side; and recent sawdust and shavings from the pail-factory, and also the ends of saplings and limbs of trees which had been bent down by the ice, were frozen in. In some places some water stood above the ice, and as I stood there, I saw and heard it gurgle up through a crevice and spread over the ice. This was the influence of Loring's Brook, far above.

Stopped snowing before noon, not having amounted to anything.

P. M. — Measured to see what difference there was in the depth of the snow in different adjacent fields as nearly as possible alike and similarly situated. Commenced fifteen or twenty rods east of the railroad and measured across Hubbard's (?), Stow's, and Collier's fields toward a point on the south side of the last, twenty-five rods east of Trillium Woods. These three fields were nearly level, somewhat meadowy, especially the second, and at least twenty-five rods from the nearest disturbing influence, such as the railroad embankment or a wood.

North	AB	BC	[CD]	Average of
A Wall and riders	22	20	21	all three,
	19	27	12	14 - . ¹
	14	12	13	
Average 14 $\frac{5}{8}$ Hub.'s (?)	13	9	8	
	13	9	14	
B Rail fence	17	8	11	
	13	10	15	
	10	10	14	
Average 12 $\frac{1}{2}$ Stow's	21	9	10	
	13	8	14	
C Rail fence	13	15	15	
	12	11)137(12 $\frac{1}{2}$	16	
and ditch	11		15	
	14		16	
Average 14 Collier's	12		10	
	17		14	
D Wall and riders	16)234(14 $\frac{5}{8}$		21	
South			17)239(14	

The walls, no doubt, gave the first and third fields somewhat more snow. Yet I am inclined to think that in this trial the snow is shallower very nearly as the fields are more moist. It is three inches shallower here than nearer the railroad, where I measured yesterday, showing the effect of that bank very clearly, six to fifteen rods off, but the average is the same obtained yesterday for open fields east and west of railroad, and proves the truth of that measuring. The snow in the first field measured two inches more than that in the second!

The andromeda swamp gave $26\frac{1}{2} + ^2$ (on the 12th it was $23\frac{4}{5} + ^3$). It has probably been more than $2\frac{1}{2}$ feet, say on the 16th. The *Andromeda calyculata* is now quite covered, and I walk on the crust over an almost uninterrupted plain there; only a few blueberries and

¹ Add 2 for ice at bottom = 16 -. Vide Feb. 12th.

² + 2 = $28\frac{1}{2} +$.

³ + 2 = $25\frac{4}{5}$.

Andromeda paniculata rise above it. Near the last, I break through. It is so light beneath that the crust breaks there in great cakes under my feet, and immediately falls about a foot, making a great hole, so that once pushing my way through — for regularly stepping is out of the question in the weak places — makes a pretty good path.

In Wheeler's squirrel wood, which on the 12th gave 10¹ inches of snow now gives 15,² which is what I should have judged from the changes in Trillium Wood. They are affected alike.

The sprout-land just south of this wood gives as average of fourteen measurements $21\frac{4}{10}$,³ which I suspect is too much, it is so sheltered a place.

By the railroad against Walden I heard the lisp of a chickadee, and saw it on a sumach. It repeatedly hopped to a bunch of berries, took one, and, hopping



to a more horizontal twig, placed it under one foot and hammered at it with its bill. The snow was strewn with

$$^1 + 2 = 12.$$

$$^2 + 2 = 17.$$

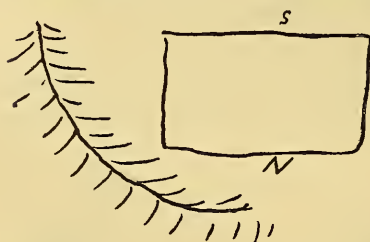
$$^3 + 2 = 23\frac{4}{10}.$$

the berries under its foot, but I could see no *shells* of the fruit. Perhaps it clears off the crimson only. Some of the bunches are very large and quite upright there still.

Again, I suspect that on meadows the snow is not so deep and has a firmer crust. In an ordinary storm the depth of the snow will be affected by a wood twenty or more rods distant, or as far as the wood is a fence.

The snow is so light in the swamps under the crust, amid the andromeda, that a cat could almost run there. There are but few tracks of mice, now the snow is so deep. They run underneath.

The drift about Lynch's house is like this:—



There is a strong wind this afternoon from northwest, and the snow of the 28th is driving like steam over the fields, drifting into the roads. On the railroad causeway

it lies in perfectly straight and regular ridges a few feet apart, northwest and southeast. It is dry and scaly, like coarse bran. Now that there is so much snow, it slopes up to the tops of the walls on both sides.

What a difference between life in the city and in the country at present, — between walking in Washington Street, threading your way between countless sledges and travellers, over the discolored snow, and crossing Walden Pond, a spotless field of snow surrounded by woods, whose intensely blue shadows and your own

are the only objects. What a solemn silence reigns here!

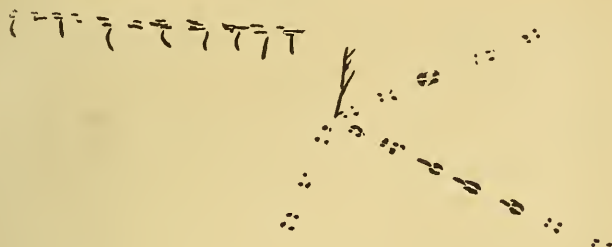
Jan. 31. P. M. — Up North Branch.

There are a few inches of light snow on top of the little, hard and crusted, that I walked on here last, above the snow ice. The old tracks are blotted out, and new and fresher ones are to be discerned. It is a *tabula rasa*. These fresh falls of snow are like turning over a new leaf of Nature's *Album*. At first you detect no track of beast or bird, and Nature looks more than commonly silent and blank. You doubt if anything has been abroad, though the snow fell three days ago, but ere long the track of a squirrel is seen making to or from the base of a tree, or the hole where he dug for acorns, and the shells he dropped on the snow around that stump.

The wind of yesterday has shaken down countless oak leaves, which have been driven hurry-scurry over this smooth and delicate and unspotted surface, and now there is hardly a square foot which does not show some faint trace of them. They still spot the snow thickly in many places, though few can be traced to their lairs. More hemlock cones also have fallen and rolled down the bank. The fall of these withered leaves after each rude blast, so clean and dry that they do not soil the snow, is a phenomenon quite in harmony with the winter.

Perhaps the tracks of the mice are the most amusing of any, they take such various forms and, though small, are so distinct. Here is where one has come down the bank and hopped meanderingly across the river.

The tracks of the mice suggest extensive hopping in the night and going a-gadding. They commence and terminate in the most insignificant little holes by the side of a twig or tuft, and occasionally they give us the type of their tails very distinctly, even sidewise to the course on a bank-side, thus:—



Saw also the tracks, probably of a muskrat, for a few feet leading from hole to hole just under the bank.

IV

FEBRUARY, 1856

(ÆT. 38)

Feb. 1. Our kitten Min, two-thirds grown, was playing with Sophia's broom this morning, as she was sweeping the parlor, when she suddenly went into a fit, dashed round the room, and, the door being opened, rushed up two flights of stairs and leaped from the attic window to the ice and snow by the side of the doorstep, — a descent of a little more than twenty feet, — passed round the house and was lost. But she made her appearance again about noon, at the window, quite well and sound in every joint, even playful and frisky.

P. M. — Up river.

What gives to the excrements of the fox that clay-color often, even at this season? Left on an eminence.

I scented a fox's trail this afternoon (and have done so several times before), where he crossed the river, just three rods distant. Looked sharp, and discovered where it had stopped by a prominence. Yet he could not have passed since last night, or twelve hours before, it being near the village. How widely they range these nights! I hear that Daniel Foster of Princeton had eleven turkeys taken from under his barn in one night last fall, probably by a fox. Two were found a week after, buried under some brush in a neighboring wood.

The snow is somewhat banked toward the sides of the river, but shows darker-yellowish or icy in the middle. Lichens, blown from the black willows, lie here and there on the snow. Nut Meadow Brook open for some distance in the meadow. I was affected by the sight of some green polygonum leaves there. Some kind of minnow darted off. I see where a crow has walked along its side. In one place it hopped, and its feet were side by side, as in the track of yesterday, though a little more spread, the toes. I have but little doubt that yesterday's track was a crow's. The two inner toes are near together; the middle, more or less curved often.



I see a gray rabbit amid the young oaks in Hubbard's riverside grove, curled and shrunk up, squatting on the snow. I advance and begin to sketch it, when it plunges into a little hole in the snow by its side, the entrance to its burrow, three inches wide by a little more in length. The track of its foot is about one inch wide.

I see a pitch pine seed, blown thirty rods from J. Hosmer's little grove.

The Sheldon house in Deerfield, pulled down about eight years since, represented in *Gleason's Pictorial* for 1851 and in Barber, is in the style of the Hunt house, except that there is but one window on each side of the door. It and the meeting-house alone of those within the fort survived the assault of 1704, and the door through which a hole was cut and a woman shot is still preserved.

This has been a memorable January for snow and cold. It has been excellent sleighing ever since the

26th of December, — not less than a foot at any time since January 6th on a level in open fields, in swamps much more. Cars have been detained; the wood-lots for the most part inaccessible. The river has been closed up from end to end, with the exception of one or two insignificant openings on a few days. No bare ice. The crows have been remarkably bold, coming to eat the scraps cast out behind the houses. They alight in our yard. I think I have not noticed a tree sparrow during the month. Blue jays and chickadees also common in the village, more than usual. We have completely forgotten the summer. There has been no January thaw, though one prophesied it a fortnight ago because he saw snow-fleas. The ponds are yielding a good crop of ice. The eaves have scarcely run at all. It has been what is called "an old-fashioned winter."

Feb. 2. Snowed again last night, perhaps an inch, erasing the old tracks and giving us a blank page again, restoring the purity of nature. It may be even a trifle deeper now than hitherto.

Feb. 3. Analyzed the crow blackbird's nest from which I took an egg last summer, eight or ten feet up a white maple by river, opposite Island. Large, of an irregular form, appearing as if wedged in between a twig and two large contiguous trunks. From outside to outside it measures from six to eight inches; inside, four; depth, two; height, six. The foundation is a loose mass of coarse strips of grape-vine bark chiefly, some eighteen inches long by five eighths of an inch

wide; also slender grass and weed stems, mikania stems, a few cellular river weeds, as rushes, sparganium, pipe-grass, and some soft, coarse, fibrous roots. The same coarse grape-vine bark and grass and weed stems, together with some harder, wiry stems, form the sides and rim, the bark being passed around the twig. The nest is lined with the finer grass and weed stems, etc. The solid part of the nest is of half-decayed vegetable matter and mud, full of fine fibrous roots and wound internally with grass stems, etc., and some grape bark, being an inch and a half thick at bottom. Pulled apart and lying loose, it makes a great mass of material. This, like similar nests, is now a great haunt for spiders.

P. M. — Up North Branch.

A strong northwest wind (and thermometer 11°), driving the surface snow like steam. About five inches of soft snow now on ice. See many seeds of the hemlock on the snow still, and cones which have freshly rolled down the bank.

Tracked some mice to a black willow by riverside, just above spring, against the open swamp; and about three feet high, in apparently an old woodpecker's hole, was probably the mouse-nest, a double handful, consisting, four ninths, of fine shreds of inner bark, perhaps willow or maple; three ninths, the greenish moss, apparently, of button-bush; two ninths, the gray-slate fur, apparently, of rabbits or mice. Half a dozen hog's bristles might have been brought by some bird to its nest there. These made a very warm and soft nest.

Got some kind of vireo's nest from a maple far up

the stream, a dozen feet high, pensile; within, almost wholly rather coarse grape-vine shreds; without, the same and bark, covered with the delicate white spider-nests (?), birch-bark shreds, and brown cocoon silk.

Returning, saw near the Island a shrike glide by, cold and blustering as it was, with a remarkably even and steady sail or gliding motion like a hawk, eight or ten feet above the ground, and alight in a tree, from which at the same instant a small bird, perhaps a creeper or nuthatch, flitted timidly away. The shrike was apparently in pursuit.

We go wading through snows now up the bleak river, in the face of the cutting northwest wind and driving snow-steam, turning now this ear, then that, to the wind, and our gloved hands in our bosoms or pockets. Our tracks are obliterated before we come back. How different this from sailing or paddling up the stream here in July, or poling amid the rocks! Yet still, in one square rod, where they have got out ice and a thin transparent ice has formed, I can see the pebbly bottom the same as in summer.

It is a cold and windy Sunday. The wind whistles round the northwest corner of the house and penetrates every crevice and consumes the wood in the stoves, — soon blows it all away. An armful goes but little way. Such a day makes a great hole in the wood-pile. [It] whisks round the corner of the house, in at a crevice, and flirts off with all the heat before we have begun to feel it.

Some of the low drifts but a few inches deep, made by the surface snow blowing, over the river especially,

are of a fine, pure snow, so densely packed that our feet make hardly any impression on them.

River still tight at Merrick's.

There comes a deep snow in midwinter, covering up the ordinary food of many birds and quadrupeds, but anon a high wind scatters the seeds of pines and hemlocks and birch and alder, etc., far and wide over the surface of the snow for them.

You may now observe plainly the habit of the rabbits to run in paths about the swamps.

Mr. Emerson, who returned last week from lecturing on the Mississippi, having been gone but a month, tells me that he saw boys skating on the Mississippi and on Lake Erie and on the Hudson, and has no doubt they are skating on Lake Superior; and probably at Boston he saw them skating on the Atlantic.

The inside of the gray squirrel, or leaf, nests is of leaves chewed or broken up finely. I see where one, by the snow lodging on it, has helped weigh down a birch.

In Barber's "Historical Collections," page 476, there is a letter by Cotton Mather, dated "Boston, 10th Dec. 1717," describing the great snow of the previous February, from which I quote:—

"On the twentieth of the last February there came on a snow, which being added unto what had covered the ground a few days before, made a thicker mantle for our mother than what was usual: And the storm with it was, for the following day, so violent as to make all communication between the neighbors everywhere to cease. People, for some hours, could not pass from

one side of a street unto another. . . . On the 24th day of the month, comes Pelion upon Ossa: Another snow came on which almost buried the memory of the former, with a storm so famous that Heaven laid an interdict on the religious assemblies throughout the country, on this Lord's day, the like whereunto had never been seen before. The Indians near an hundred years old affirm that their fathers never told them of anything that equalled it. Vast numbers of cattle were destroyed in this calamity. Whereof some there were, of the stranger [stronger? mine] sort, were found standing dead on their legs, as if they had been alive many weeks after, when the snow melted away. And others had their eyes glazed over with ice at such a rate, that being not far from the sea, their mistake of their way drowned them there. One gentleman, on whose farms were now lost above 1100 sheep, which with other cattle, were interred (shall I say) or innived, in the snow, writes me word that there were two sheep very singularly circumstanced. For no less than eight and twenty days after the storm, the people pulling out the ruins of above an hundred sheep out of a snow bank which lay sixteen foot high, drifted over them, there was two found alive, which had been there all this time, and kept themselves alive by eating the wool of their dead companions. When they were taken out they shed their own fleeces, but soon got into good case again."

"A man had a couple of young hogs, which he gave over for dead, but on the 27th day after their burial, they made their way out of a snow-bank, at the bottom of which they had found a little tansy to feed upon."

“Hens were found alive after seven days; Turkeys were found alive after five and twenty days, buried in the snow, and at a distance from the ground, and altogether destitute of anything to feed them.”

“The wild creatures of the woods, the out-goings of the evening, made their descent as well as they could in this time of scarcity for them towards the sea-side. A vast multitude of deer, for the same cause, taking the same course, and the deep snow spoiling them of their only defence, which is to run, they became such a prey to these devourers that it is thought not one in twenty escaped.”

“It is incredible how much damage is done to the orchards, for the snow freezing to a crust, as high as the bows of the trees, anon split them to pieces. The cattle, also, walking on the crusted snow a dozen foot from the ground, so fed upon the trees as very much to damnify them.” “Cottages were totally covered with the snow, and not the very tops of their chimneys to be seen.” These “odd accidents,” he says, “would afford a story. But there not being any relation to Philosophy in them, I forbear them.” He little thought that his simple testimony to such facts as the above would be worth all the philosophy he might dream of.

Feb. 4. P. M. — To Walden.

I go to walk at 3 P. M., thermometer 18°. It has been about this (and 22°) at this hour for a week or two. All the light snow, some five inches above the crust, is adrift these days and driving over the fields like steam, or like the foam-streaks on a flooded meadow, from

northwest to southeast. The surface of the fields is rough, like a lake agitated by the wind.

I see that the partridges feed quite extensively on the sumach berries, *e. g.* at my old house. They come to them after every snow, making fresh tracks, and have now stripped many bushes quite bare.

At Tanager Glade I see where the rabbits have gnawed the bark of the shrub oaks extensively, and the twigs, down to the size of a goose-quill, cutting them off as smoothly as a knife. They have also gnawed some young white oaks, black cherry, and apple. The shrub oaks look like hedges which have been trimmed or clipped.

I have often wondered how red cedars could have sprung up in some pastures which I knew to be miles distant from the nearest fruit-bearing cedar, but it now occurs to me that these and barberries, etc., may be planted by the crows, and probably other birds.

The oak leaves which have blown over the snow are collected in dense heaps on the still side of the bays at Walden, where I suspect they make warm beds for the rabbits to squat on.

Feb. 5. The weather is still clear, cold, and unrelenting. I have walked much on the river this winter, but, ever since it froze over, it has been on a snow-clad river, or pond. They have been river walks because the snow was shallowest there. Even the meadows, on account of the firmer crust, have been more passable than the uplands. In the afternoons I have walked off freely up or down the river, without impediment or fear,

looking for birds and birds' nests and the tracks of animals; and, as often as it was written over, a new snow came and presented a new blank page. If it were still after it, the tracks were beautifully distinct. If strong winds blew, the dry leaves, losing their holds, traversed and scored it in all directions. The sleighing would have been excellent all the month past if it had not been for the drifting of the surface snow into the track whenever the wind blew, but that crust on the old snow has prevented very deep drifts. I should [say] the average cold was about 8° at 8 A. M. and 18° or 20° at 3 P. M.

Feb. 6. P. M. — To Walden.

The down is just peeping out from some of the aspen buds. Cut a cake of ice out of the middle of Walden, within three rods of where I cut on the 18th of January. The snow was about an inch deep only, so fast has it been converted into snow ice. I was obliged to make a hole about four feet square in order to get out a cake, and with great care to approach the water evenly on all sides, so that I might have the less chopping to do after the water began to rush in, which would wet me through. It was surprising with what violence the water rushed in as soon as a hole was made, under the pressure of that body of ice. On the 18th of January the ice had been about seven inches thick here, about four being snow ice and about three water ice. It was now 19 inches thick, $11\frac{1}{2}$ — being snow ice and $7\frac{1}{2}$ + water ice. Supposing it an inch thick only here when the snow began to fall on it (for it be-

gan to fall almost immediately), it had increased since that time $6\frac{1}{2}$ + inches downward and $11\frac{1}{2}$ - upward. Since the 18th of January, when there was ten inches of snow on it, it had increased about $4\frac{1}{2}$ downward and about $7\frac{1}{2}$ upward. I was not prepared to find that *any* ice had formed on the under side since the 18th. The water ice was very crystalline. This ice was thicker than the snow has been in open fields any time this winter, yet this winter has been remarkable for the abundance of snow. I also cut through and measured in the Ice Heap Cove. The snow ice was $12\frac{1}{4}$, and the water ice about 6, but perhaps a little was broken off in cutting through the last. In all about $18\frac{1}{4}$ inches. I was not prepared to find it thickest in the middle. Earlier in the winter, or on the 18th January, it was thickest near the shore.

Goodwin says that he has caught two crows this winter in his traps set *in water* for mink, and baited with fish. The crows, probably put to it for food and looking along the very few open brooks, attracted by this bait, got their feet into the traps. He thinks that [what] I call muskrat-tracks are mink-tracks by the Rock, and that muskrat do not come out at all this weather. I saw a clamshell opened, and they say minks do not open them (?).

Feb. 7. Began to snow at 8 A. M.; turned to rain at noon, and cleared off, or rather ceased raining, at night, with some glaze on the trees. This the first thawing, though slight, since the 25th of December. During the rain the air was thick, the distant woods bluish,

and the single trees, etc., on the hill, under the dull, mist-covered sky, remarkably distinct and black.

Feb. 8. 9 A. M. — To Fair Haven Pond.

A clear and a pleasanter and warmer day than we have had for a long time. The snow begins (at noon) to soften somewhat in the road.

For two or three weeks, successive light and dry snows have fallen on the old crust and been drifting about on it, leaving it at last three quarters bare and forming drifts against the fences, etc., or here and there low, slaty, fractured ones in mid-field, or pure white hard-packed ones. These drifts on the crust are commonly quite low and flat. But yesterday's snow turning to rain, which froze as it fell, there is now a glaze on the trees, giving them a hoary look, icicles like rakes' teeth on the rails, and a thin crust over all the snow. At this hour the crust sparkles with a myriad brilliant points or mirrors, one to every six inches, at least. This crust is cracked like ice into irregular figures a foot or two square. *Perhaps* the snow has settled considerably, for the track in the roads is the highest part. Some heard a loud cracking in the ground or ice last night.

I cut through, five or six rods from the east shore of Fair Haven, and find seven inches of snow, nine inches of snow ice and eight of water ice, — seventeen of both. The water rises to within half an inch of the top of the ice. Isaac Garfield has cut a dozen holes on the west side. The ice there averages nineteen inches in thickness. Half the holes are five or six rods from the shore, and the rest nine or ten, the water from three

to seven feet deep. In some places more than half the whole depth is ice. The thinnest ice is 17 inches; the thickest, $20 +$.¹ The inner row invariably the thickest. The water rises above the ice in some cases.

Edward and Isaac Garfield were fishing there, and Puffer came along, and afterward Lewis Miner with his gun. He cannot get near the partridges on account of the cracklings of the crust. I saw the last two approaching with my glass.

The fishermen agree in saying that the pickerel have generally been eating, and are full, when they bite. Puffer thinks they eat a good deal, but seldom. Some think it best to cut the holes the day before, because the noise frightens them; and the crackling of the crust to-day was thought to frighten them. E. Garfield says that his Uncle Daniel was once scaling a pickerel, when he pricked his finger against the horn of a pout which the pickerel had swallowed. He himself killed a pickerel with a paddle, in the act of swallowing a large perch. Puffer had taken a striped snake out of one.

They send to Lowell for their bait, and fishermen send thither from far and wide, so that there is not a sufficient supply for them. I. Garfield once caught an eel there with his pickerel bait, through the ice; also speared a trout that weighed three and a half pounds, he says, off Well Meadow.

E. Garfield says that he was just turning into the pond from up-stream when he heard a loud sound and

¹ In the middle of river, in front of our house, same day, it is $13\frac{1}{4}$ inches thick, only 5 of it snow ice, it having been late to freeze there, comparatively.

saw and caught those two great mud turtles. He let the boat drift down upon them. One had got the other by the neck, and their shells were thumping together and their tails sticking up. He caught one in each hand suddenly, and succeeded in getting them into the boat only by turning them over, since they resisted with their claws against the side; then stood on them turned over, paddled to nearest shore, pulled his boat up with his heel, and, taking a tail in each hand, walked backward through the meadow in water a foot deep, dragging them; then carried one a few rods, left him and returned for the other, and so on. One weighed forty-three and the other forty-seven pounds, together ninety. Puffer said that he never saw two together so heavy. I. Garfield said that he had seen one that weighed sixty-three pounds. All referred to the time when (about fifteen years ago; one said the year of the Bunker Hill Monument celebration) some forty were found dead on the meadows between there and Sudbury. It was about the end of March, and Puffer inferred that they had come out thus early from the river, and, the water going down, the ice had settled on them and killed them; but the Garfields thought that the ice, which tore up the meadows very much that year, exposed them and so they froze. I think the last most likely. Puffer searches for them in May under the cranberry vines with a spear, and calls one of the small kinds the "grass tortoise."

E. Garfield says that he saw the other day where a fox had caught in the snow three partridges and eaten two. He himself last winter caught two, on the hillside

south of Fair Haven, with his hands. They flew before him and dived into the snow, which was about a foot deep, going twice their length into it. He thrust his hand in and caught them. Puffer said that his companion one night speared a partridge on the alders on the south side the pond.

E. Garfield says there were many quails here last fall, but that they are suffering now. One night as he was spearing on Conant's cranberry meadow, just north the pond, his dog caught a sheldrake in the water by the shore. Some days ago he saw what he thought a hawk, as white as snow, fly over the pond, but it *may* have been a white owl (which last he never saw).¹ He sometimes sees a hen-hawk in the winter, but never a partridge or other small hawk at this season. Speaks again of that large speckled hawk he killed once, which some called a "Cape eagle." Had a hum-bird's nest behind their house last summer, and was amused to see the bird drive off other birds; would pursue a robin and alight on his back; let none come near. I. Garfield saw one's nest on a horizontal branch of a white pine near the Charles Miles house, about seven feet from ground. E. Garfield spoke of the wren's nest as not uncommon, hung in the grass of the meadows, and how swiftly and easily the bird would run through a winrow of hay.

Puffer saw a couple of foxes cross the pond a few days ago. The wheelwright in the Corner saw four at once, about the same time.

They think that most squirrel-tracks now are of

¹ Was it a gyrfalcon?

the gray ones; that they do not lay up anything. Their tracks are much larger than those of the red. Puffer says that five gray squirrels came out of one of their leafy nests in a middle-sized white pine, *after* it was cut down, behind the Harrington house the other day, and, a day or two after, three out of another. He says that they, too, use bark in making their nests, as well [as] leaves, — the inner bark of old chestnut rails, which looks like seaweed.

E. Garfield says the chip squirrels come out this month.

Puffer saw a star-nosed mole yesterday in the road. Its track was . . . dog-like.

Coming home at twelve, the ice is fast melting on the trees, and I see in the drops the colors of all the gems. The snow is soft, and the eaves begin to run as not for many weeks.

Thermometer at 3.30 P. M., 31°.

Puffer once found the nest of what he calls the deer mouse (probably jumping) in pile of wood at what is now R. Rice's place in Sudbury, and the old one carried off nine young clinging to her teats. These men do not chop now; they saw, because the snow is so deep and the crust cuts their legs.

Mr. Prichard tells me that he remembers a six weeks of more *uninterruptedly severe* cold than we have just [had], and that was in '31, ending the middle of January. The eaves on the south side of his house did not once run during that period, but they have run or dripped a trifle on several days during the past six weeks.

Puffer says that he and Daniel (?) Haynes set lines

once when there was good skating in all the bays, from the long causeway in Sudbury down to the railroad bridge, but caught only two or three perch.



Feb. 9. How much the northwest wind prevails in the winter! Almost all our storms come from that quarter, and the ridges of snow-drifts run that way. If the Indians placed their heaven in the southwest on account of the warmth of the southwest wind, they might have made a stern winter god of the northwest wind.

P. M. — Up Assabet.

3.30 P. M., thermometer 30°. This and yesterday comparatively warm weather. Half an inch of snow fell this forenoon, but now it has cleared up. I see a *few* squirrel-tracks, but no mice-tracks, for no night has intervened since the snow. It is only where the river washes a wooded bank that I see mice or even squirrel tracks; elsewhere only where dogs and foxes have traversed it. For example, there are no tracks on the side of the river against Hosmer's and Emerson's land, though many alders, etc., there, but many tracks *commonly* on the opposite wooded side. In the swamp west of Pigeon Rock, I see where the rabbits have bitten off the swamp white oak sprouts, where they have sprung up tender, looking like poplar, from stocks broken by the ice last winter.

I hear a phœbe note from a chickadee.

Saw a pensile nest eighteen feet high, within a lichen-clad red maple on the edge of the Assabet Spring or Pink Azalea Swamp. It looked very much like a bunch of the lichens dangling, and I was not sure it was not

till I climbed up to it. Without, it was chiefly the coarse greenish lichens of the maple, bound with coarse bits of bark and perhaps bleached milkweed bark (??) and brown cocoon silk, and within, a thin lining of pine-needles, hemlock twigs, and the like. Was it a yellow-throat vireo's? It was not shaped like the red-eye's, but, sidewise, thus:  looking down upon it, thus:  On a side twig to one of the limbs and about a foot from the end of the twig.


Feb. 10. Speaking about the weather and the fishing with E. and I. Garfield on the 8th, I was amused to hear these two young farmers suddenly disputing as to whether the moon (?), if that be it, was in the Feet or the Head or elsewhere. Though I know far more of astronomy than they, I should not know how at once to find out this nonsense in an almanac. Yet they talk very glibly about it, and go a-fishing accordingly. Again, in the evening of the same day, I overtook Mr. Prichard and observed that it was time for a thaw, but said he, "That does not look like it," pointing to the moon in the west. "You could hang a powder-horn upon that pretty well."

P. M. — To Walden.

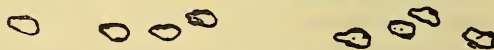
Returning, I saw a fox on the railroad, at the crossing below the shanty site, eight or nine rods from me. He looked of a dirty yellow and lean. I did not notice the white tip to his tail. Seeing me, he pricked up his ears and at first ran up and along the east bank on the crust, then changed his mind and came down the steep

bank, crossed the railroad before me, and, gliding up the west bank, disappeared in the woods. He coursed, or glided, along easily, appearing not to lift his feet high, leaping over obstacles, with his tail extended straight behind. He leaped over the ridge of snow about two feet high and three wide between the tracks, very easily and gracefully.


I followed, examining his tracks. There was about a quarter of an inch of recent snow above the crust, but for the most part he broke in two or three inches. I slumped from one to three feet. His tracks when running, as I have described, were like this:—


 being about two by five inches, as if he slid a little, no marks of toes being seen

in that shallow snow; the greatest interval above, one foot. Soon after, thus:



The greatest interval sometimes four feet even. Sometimes the three tracks merged together where the crust broke:



When walking at ease, before he saw me his tracks were more round and nearer together, — about two inches by two and a half, thus:—



Sometimes I thought his tail had scraped the snow.

He went off at an easy gliding pace such as he might

keep up for a long time, pretty direct after his first turning.

Feb. 11. P. M. — To Fair Haven Pond by river.

Israel Rice says that he does not know that he can remember a winter when we had as much snow as we have had this winter. Eb. Conant says as much, excepting the year when he was twenty-five, about 1803. It is now fairly thawing, the eaves running; and puddles stand in some places. The boys can make snowballs, and the horses begin to slump occasionally.

Saw a partridge by the riverside, opposite Fair Haven Hill, which at first I mistook for the top of a fence-post above the snow, amid some alders. I shouted and waved my hand four rods off, to see if it was one, but there was no motion, and I thought surely it must be a post. Nevertheless I resolved to investigate. Within three rods, I saw it to be indeed a partridge, to my surprise, standing perfectly still, with its head erect and neck stretched upward. It was as complete a deception as if it had designedly placed itself on the line of the fence and in the proper place for a post. It finally stepped off daintily with a teetering gait and head up, and took to wing.

I thought it would be a thawing day by the *sound*, the peculiar sound, of cock-crowing in the morning.

It will indicate what steady cold weather we have had to say that the lodging snow of January 13th, though it did not lodge remarkably, has not yet completely melted off the sturdy trunks of large trees.

Feb. 12. Thawed all day yesterday and rained somewhat last night; clearing off this morning. Heard the eaves drop all night. The thermometer at 8.30 A. M., 42° . The snow or crust and cold weather began December 26th, and not till February 7th was there any considerable relenting, when it rained a little; *i. e.* forty-three days of uninterrupted cold weather, and no serious thaw till the 11th, or yesterday. How different the sunlight over thawing snow from the same over dry, frozen snow! The former excites me strangely, and I experience a springlike melting in my thoughts. Water now stands above the ice and snow on the river.

I find, on shovelling away the snow, that there is about two inches of solid ice at the bottom, — that thin crusted snow of December 26th. These two inches must be added, then, to my measures of January 12th, 16th, 23d, 29th, and 30th. To-day I find it has settled since the 29th — owing, of course, mainly to the rain of the 7th and especially of last night — about two inches in open land and an inch and a half in Trillium Woods. Thus, west of railroad, $11\frac{1}{4} + 2 = 12\frac{1}{4}$ [*sic*]; east of railroad, $13\frac{1}{5} + 2 = 15\frac{1}{5}$; Trillium Woods, $13 + 2 = 15$; average, $12 + 2 = 14$. There has been scarcely any loss on the west side of the railroad, but $3\frac{3}{4}$ on the east side. It may be owing to the drifting since the 29th.

From January 6th to January 13th, not less than a foot of snow on a level in open land, and from January 13th to February 7th, not less than sixteen inches on a level at any one time in open land, and still there is

fourteen on a level.¹ That is, for twenty-five days the snow was sixteen inches deep in open land!!

Feb. 13. Grew cold again last night, with high wind. The wind began about midday. I think a high wind commonly follows rain or a thaw in winter. The thermometer at 8.30 A. M. is at zero. (At 1 P. M., $8^{\circ} +$.) This fall of 42° from 8.30 A. M. yesterday to the same time to-day has produced not a thin and smooth, but a very firm and thick, uneven crust, on which I go in any direction across the fields, stepping over the fences; yet there is some slosh at the bottom of the snow, above the icy foundation.

Now, no doubt, many sportsmen are out with their dogs, who have been imprisoned by the depth of the snow. In the woods where there are bushes beneath, you still slump more or less.

The crust is quite green with the needles of pitch pines, sometimes whole plumes which have recently fallen. Are these chiefly last year's needles brought down by the glaze, or those of the previous year which had not fallen before? I suspect they are chiefly the former, but *maybe* some of the latter.²

Feb. 14. Still colder this morning, -7° at 8.30 A. M. P. M. — To Walden.

I find that a great many pine-needles, both white and pitch, of '54 still hold on, bristling around the twigs, especially if the tree has not grown much the last

¹ *Vide* forward, Mar. 19th.

² *Vide* Feb. 14th.

year. So those that strew the snow now are of both kinds.

I can now walk on the crust in every direction at the Andromeda Swamp; can run and stamp without danger of breaking through, raised quite above the andromeda (which is entirely concealed), more than two feet above the ground. But in the woods, and even in wood-paths, I slump at every other step.

In all the little valleys in the woods and sprout-lands, and on the southeast sides of hills, the oak leaves which have blown over the crust are gathered in dry and warm-looking beds, often five or six feet in diameter, about the base of the shrub oaks. So clean and crisply dry and warm above the cold, white crust, they are singularly inviting to my eye. No doubt they are of service to conceal and warm the rabbit and partridge and other beasts and birds. They fill every little hollow, and betray thus at a distance a man's tracks made a week ago, or a dog's many rods off on a hillside. If the snow were not crusted, they would not be gathered thus in troops.

I walk in the bare maple swamps and detect the minute pensile nests of some vireo high over my head, in the fork of some unattainable twig, where I never suspected them in summer, — a little basket cradle that rocked so high in the wind. And where is that young family now, while their cradle is filled with ice?

I was struck to-day by the size and continuousness of the natural willow hedge on the east side of the railroad causeway, at the foot of the embankment, next to the fence. Some twelve years ago, when that cause-

way was built through the meadows, there were no willows there or near there, but now, just at the foot of the sand-bank, where it meets the meadow, and on the line of the fence, quite a dense willow hedge has planted itself. I used to think that the seeds were brought with the sand from the Deep Cut in the woods, but there is no golden willow there; but now I think that the seeds have been blown hither from a distance, and lodged against the foot of the bank, just as the snow-drift accumulates there, for I see several ash trees among them, which have come from an ash ten rods east in the meadow, though none has sprung up elsewhere. There are also a few alders, elms, birch, poplars, and some elder. For years a willow might not have been persuaded to take root in that meadow; but run a barrier like this through it, and in a few years it is lined with them. They plant themselves here solely, and not in the open meadow, as exclusively as along the shores of a river. The sand-bank is a shore to them, and the meadow a lake. How impatient, how rampant, how precocious these osiers! They have hardly made two shoots from the sand in as many springs, when silvery catkins burst out along them, and anon golden blossoms and downy seeds, spreading their race with incredible rapidity. Thus they multiply and clan together. Thus they take advantage even of the railroad, which elsewhere disturbs and invades their domains. May I ever be in as good spirits as a willow! How tenacious of life! How withy! How soon it gets over its hurts! They never despair. Is there no moisture longer in nature which they can transmute into sap?

They are emblems of youth, joy, and everlasting life. Scarcely is their growth restrained by winter, but their silvery down peeps forth in the warmest days in January (?). The very trees and shrubs and weeds, if we consider their origin, have drifted thus like snow against the fences and hillsides. Their growth is protected and favored there. Soon the alders will take their places with them. This hedge is, of course, as straight as the railroad or its bounding fence.

Over this crust, alder and birch and pine seeds, etc., which in summer would have soon found a resting-place, are blown far and wide.

Feb. 16. P. M. — To Walden.

It has been trying to snow for two days. About one inch fell last night, but it clears up at noon, and sun comes out very warm and bright. Wild says it is the warmest day at 12 M. since the 22d of December, when the thermometer stood at 50°. To-day it is at 44. I hear the eaves running before I come out, and our thermometer at 2 P. M. is 38°. The sun is most pleasantly warm on my cheek; the melting snow shines in the ruts; the cocks crow more than usual in barns; my greatcoat is an incumbrance.

There is no down visible on the sallows when I descend the east side of the railroad, unless a scale has come off.

Where I measured the ice in the middle of Walden on the 6th I now measure again, or close by it, though without cutting out the cake. I find about $11\frac{1}{4}$ (probably about same as the 6th, when called $11\frac{1}{2}$ —) of

snow ice and $21\frac{1}{2}$ in all, leaving $10\frac{1}{4}$ clear ice, which would make the ice to have increased beneath through all this thickness and in spite of the thaws $2\frac{3}{4}$ —inches. Near the shore in one place it was twenty-two inches.




Feb. 17. Some three or four inches of snow fallen in the night and now blowing. At noon begins to snow again, as well as *blow*. Several more inches fall.

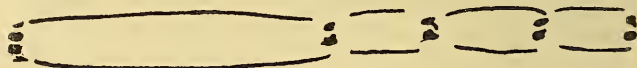
Feb. 18. Yesterday's snow drifting. No cars from above or below till 1 P. M.

Feb. 19. Measure snow again, on account of what fell on 17th. West of railroad, $15 + 2$; east of railroad, $12\frac{1}{2} - + 2$; average of both, $14 + 2 = 16$; Trillium Wood, $18\frac{1}{2} + 2 = 20\frac{1}{2}$. The great body of the last snow appears to have settled under the east side of the railroad. There are five and one half inches more in the wood than on the 12th, and I think this is about the average of what fell on the 17th (night and day). Accordingly, the snow has been deeper since the 17th than before this winter. I think if the drifts could be fairly measured it might be found to be seventeen or eighteen inches deep on a level. This snow, you may say, is all drifted, for in the fields east of the railroad there is not so much as there was a week ago, while west there is about four inches more.

Feb. 20. P. M. — Up Assabet.

See a broad and distinct otter-trail, made last night or yesterday. It came out to the river through the low

woods north of Pinxter Swamp, making a very conspicuous trail, from seven to nine or ten inches wide and three or four deep, with sometimes singularly upright sides, as if a square timber had been drawn along, but commonly rounded.  It made  some short turns and  zigzags; passed *under* limbs which were only five inches above the snow, not over them; had apparently slid down all banks and declivities, making a uniform broad hollow trail there without any mark of its feet. On reaching the river, it had come along under the bank, from time to time looking into the crevices where it might get under the ice there, sometimes ascending the bank and sliding back. On level ground its trail had this appearance:



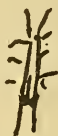
Commonly seven to nine or ten inches wide, and tracks of feet twenty to twenty-four apart; but sometimes there was no track of the feet for twenty-five feet, frequently for six; in the last case *swelled* in the outline, as above. Having come down as far as opposite the great white [*sic*] on the hill, it returned on its track and entered a hole under the ice at Assabet Spring, from which it has not issued.

Feb. 22. P. M. — To Assabet stone bridge and home on river.

It is a pleasant and warm afternoon, and the snow is melting. Yet the river is still perfectly closed (as it has been for many weeks), both against Merrick's

and in the Assabet, excepting directly under this upper stone bridge and probably at mouth of Loring's Brook. I am surprised that the warm weather within ten days has not caused the river to open at Merrick's, but it was too thick to be melted.

Now first, the snow melting and the ice beginning to soften, I see those slender grayish-winged insects creeping with closed wings over the snow-clad ice, — *Perla* (?). On all parts of the river. Have seen none before, this winter.¹



Just below this bridge begins an otter-track, several days old yet very distinct, which I trace half a mile down the river. In the snow less than an inch deep, on the ice, each foot makes a track three inches wide, apparently enlarged in melting, and the whole four appear thus:

clear interval, six-
inches; the length



The
teen
occu-

pied by the four feet, fourteen inches. It looks as if some one had dragged a round timber down the middle of the river a day or two since, which bounced as it went.

There is now a crack running down the middle of the river, and it is slightly elevated there, owing, probably, to the increasing temperature.

Feb. 23. 9 A. M. — To Fair Haven Pond, up river.

A still warmer day. The snow is so solid that it still bears me, though we have had several warm suns on

¹ From a third of an inch to an inch long; of various sizes, etc. And every warm day afterward. Have in fact four wings. *Vide* Mar. 22.

it. It is melting gradually under the sun. In the morning I make but little impression in it. As it melts, it acquires a rough but regularly waved surface. It is inspiring to feel the increased heat of the sun reflected from the snow. There is a slight mist above the fields, through which the crowing of cocks sounds springlike.

I sit by a maple on a maple [*sic*]. It wears the same shaggy coat of lichens summer and winter.

At 2 P. M. the thermometer is 47°. Whenever it is near 40 there is a speedy softening of the snow.

I read in the papers that the ocean is frozen, — not to bear or walk on safely, — or has been lately, on the back side of Cape Cod; at the Highland Light, one mile out from the shore. A phenomenon which, it is said, the oldest have not witnessed before.

Feb. 24. Dr. Jarvis tells me that he thinks there was as much snow as this in '35, when he lived in the Parkman house and drove in his sleigh from November 23d to March 30th excepting one day.

Feb. 25. P. M. — To Walden and Fair Haven.

The only bare ground is the railroad track, where the snow was thin. The crust still bears, and [I] left the railroad at Andromeda Ponds and went through on crust to Fair Haven. Was surprised to see some little minnows only an inch long in an open place in Well Meadow Brook. As I stood there, saw that they had just felled my bee tree, the hemlock. The chopper even then stood at its foot. I went over and saw him cut into the cavity by my direction. He broke a piece out of

his axe as big as my nail against a hemlock knot in the meanwhile. There was no comb within. They have just been cutting wood at Bittern Cliff. The sweet syrup is out on the ends of the hickory logs there.

Gathered some facts from Henry Bond's "Genealogies of the Families of Watertown, etc."

My mother's mother was *Mary Jones*, only daughter of "Col. Elisha Jones, Esq., of Weston. A Boston newspaper, of Feb. 15, 1775, says 'On Monday last, died, in this town, in the sixty-sixth year of his age, Elisha Jones Esq., late of Weston, for many years a magistrate, Col. of a Regiment of Militia, and member of the General Assembly. In the many departments in which he acted, he eminently showed the man of principle, virtue,' &c. He married, Jan. 24, 1733-4, Mary Allen, and occupied his father's homestead." (Mary Allen was the daughter of Abel Allen, who was the son of Lewis Allen of Watertown Farms, who died 1707-8.)

The children of E. Jones and Mary Allen were (1) Nathan (2d son died in infancy), (3) Elisha, (4) Israel, (5) Daniel, (6) Elias, (7) Josiah, (8) Silas, (9) Mary (b. 1748), (10) Ephraim, (11) Simon (or Simeon), (12) Stephen, (13) Jonas, (14) Phillemore, (15) Charles.

Colonel Elisha Jones was born 1710, the son of *Captain Josiah Jones* (born, 1670, in Weston) and *Abigail Barnes*. Captain Josiah Jones was the son of *Josiah Jones* of Watertown Farms (born 1643) and *Lydia Treadway* (daughter of Nathaniel Treadway, who died in Watertown, 1689). Josiah Jones was son of *Lewis Jones*

(who appears to have moved from Roxbury to Watertown about 1650, and died 1684) and Anna (perhaps Stone? born in England). This Josiah Jones in 1666 bought "of John Stone and wife Sarah, of Wat[ertown], a farm of 124 acres on the N. side of Sud[bury] highway, about two miles from Sud[bury]."

Feb. 26. P. M. — To Hubbard's Close.

I see at bottom of the mill brook, below Emerson's, two dead frogs. The brook has part way yet a snowy bridge over it. Were they left by a mink, or killed by cold and ice? In Hubbard's maple swamp beyond, I see the snow under a dead maple, where a woodpecker has drilled a handsome round hole. Excepting the carrying it downward within, it is ready for a nest. May they not have a view to this use even now?

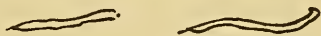
Feb. 27. Wednesday. P. M. — Up Assabet.

Am surprised to see how the ice lasts on the river. It but just begins to be open for a *foot or two* at Merrick's, and you see the motion of the stream. It has overflowed the ice for many rods a few feet in width. It has been tight even there (and of course everywhere else on the main stream, and on North Branch except at Loring's Brook and under stone bridge) since January 25th, and elsewhere on the main stream since January 7th, as it still is. That is, we may say that the river has been frozen solidly for seven weeks. On the 25th I saw a load of wood drawn by four horses up the middle of the river above Fair Haven Pond. On that day, the 25th, they were cutting the last of Baker's

wood-lot on the south side of Fair Haven. They cut the greater part of it last winter, and this was the wood they were hauling off.

I see many birch scales, freshly blown over the snow. They are falling all winter. What is that narrow, twisted, yellowish-brown scale which is seen on the snow all winter near woods?

Shaped like this:¹ —



Found, in the snow in E. Hosmer's meadow, a gray rabbit's hind leg, freshly left there, perhaps by a fox.

The papers are talking about the prospect of a war between England and America. Neither side sees how its country can avoid a long and fratricidal war without sacrificing its honor. Both nations are ready to take a desperate step, to forget the interests of civilization and Christianity and their commercial prosperity and fly at each other's throats. When I see an individual thus beside himself, thus desperate, ready to shoot or be shot, like a blackleg who has little to lose, no serene aims to accomplish, I think he is a candidate for bedlam. What asylum is there for nations to go to? Nations are thus ready to talk of wars and challenge one another,² because they are made up to such an extent of poor, low-spirited, despairing men, in whose eyes the chance of shooting somebody else without being shot themselves exceeds their actual good fortune. Who, in fact, will be the first to enlist but

¹ Probably pine stipule.

² Will it not be thought disreputable at length, as duelling between individuals now is?

the most desperate class, they who have lost all hope? And they may at last infect the rest.

Minott says that partridges will bud on black birches as on apple trees.

Feb. 28. P. M. — To Nut Meadow.

Mother says that the cat lay on her bread one night and caused it to rise finely all around her.

I go on the crust which we have had since the 13th, *i. e.* on the solid frozen snow, which settles very gradually in the sun, across the fields and brooks.

The very beginning of the river's breaking up appears to be the oozing of water through cracks in the thinnest places, and standing in shallow puddles there on the ice, which freeze solid at night. The river and brooks are quite shrunk. The brooks flow far under the hollow ice and snow-crust a foot thick, which here and there has fallen in, showing the shrunk stream far below. The surface of the snow melts into a regular waved form, like raised scales.

Miles is repairing the damage done at his new mill by the dam giving way. He is shovelling out the flume, which was half filled with sand, standing in the water. His sawmill, built of slabs, reminds me of a new country. He has lost a head of water equal to two feet by this accident. Yet he sets his mill agoing to show me how it works. What a smell as of gun-wash when he raised the gate! He calls it the sulphur from the pond. It must be the carburetted hydrogen gas from the bottom of the pond under the ice. It powerfully scents the whole mill. A powerful smelling-bottle. How pleasant are

the surroundings of a mill! Here are the logs (pail-stuff), already drawn to the door from a neighboring hill before the mill is in operation. The dammed-up meadow, the meadow [*sic*], the melted snow, and welling springs are the serf he compels to do his work. He is unruly as yet, has lately broken loose, filled up the flume, and flooded the fields below. He uses the dam of an old mill which stood here a hundred years ago, which now nobody knows anything about. The mill is built of slabs, of the worm-eaten sap-wood. The old dam had probably been undermined by muskrats. It would have been most prudent to have built a new one. Rude forces, rude men, and rude appliances.

Martial Miles, who is there, says that there are many trout in this brook. He sees them running down just before winter, and at that time Charles Snow once speared a great many, one weighing four pounds. He once came within four feet of an otter at 10 P. M., in the middle of the road, by the guide-board just north of this brook. Spoke of the one shot in a ditch at Donge Hole, as I had heard before; also of the three killed (shot) at Farrar's Swamp. The one who shot them told him that he attempted to kill them with a shovel, but that they would take it out of his hands as often as he attempted it.

Coombs came along with his dog and gun, on his way to shoot partridges, which will come out to bud this evening on certain young apple trees. He has got four or five for several nights in succession, and sees foxes there, running about on the crust. Francis Wheeler says he sold two young fox-skins to a tin ped-

bler to-day for a dollar. Coombs says they got a silver-gray fox in Lincoln this winter, and sold its skin for sixteen dollars! He says that he killed a sheldrake a month or six weeks ago in a small open place beneath the falls at the factory. This shows what hardy birds they are. Last summer he found a black duck's nest on one of the islands in Loring's Pond. He saw the duck hide in the grass, came up, and put his hand on a parcel of feathers and, raising a handful, was surprised to find the eggs under them.

How various are the talents of men! From the brook in which one lover of nature has never during all his lifetime detected anything larger than a minnow, another extracts a trout that weighs three pounds, or an otter four feet long. How much more game he will see who carries a gun, *i. e.* who goes to see it! Though you roam the woods all your days, you never will see by chance what he sees who goes on purpose to see it. One gets his living by shooting woodcocks; most never see one in their lives.

Coombs goes to shoot partridges this evening by a far-off wood-side, and M. Miles goes home to load up, for he is going to Boston with a load of wood to-night.

Our young maltese cat Min, which has been absent five cold nights, the ground covered deep with crusted snow, — her first absence, — and given up for dead, has at length returned at daylight, awakening the whole house with her mewing and afraid of the strange girl we have got in the meanwhile. She is a mere wrack of skin and bones, with a sharp nose and wiry tail. She is as one returned from the dead. There is as much

rejoicing as at the return of the prodigal son, and if we had a fatted calf we should kill it. Various are the conjectures as to her adventures, — whether she has had a fit, been shut up somewhere, or lost, torn in pieces by a certain terrier or frozen to death. In the meanwhile she is fed with the best that the house affords, minced meats and saucers of warmed milk, and, with the aid of unstinted sleep in all laps in succession, is fast picking up her crumbs. She has already found her old place under the stove, and is preparing to make a stew of her brains there.

That strong gun-wash scent from the mill-pond water was very encouraging. I who never partake of the sacrament make the more of it.

How simple the machinery of the mill! Miles has dammed a stream, raised a pond or head of water, and placed an old horizontal mill-wheel in position to receive a jet of water on its buckets, transferred the motion to a horizontal shaft and saw by a few cog-wheels and simple gearing, and, throwing a roof of slabs over all, at the outlet of the pond, you have a mill.

Returning on the crust, over Puffer's place, I saw a fine, plump hen hanging from an apple tree and a crow from another, probably poisoned to kill foxes with, — a hen which probably a fox had killed.

Stopped at Martial Miles's to taste his cider. Marvellously sweet and spirited without being bottled; alum and mustard put into the barrels.

A weight of water stored up in a meadow, applied to move a saw, which scratches its way through the trees placed before it. So simple is a sawmill.

A millwright comes and builds a dam across the foot of the meadow, and a mill-pond is created, in which, at length, fishes of various kinds are found; and muskrats and minks and otter frequent it. The pond is like a weight wound up.

Feb. 29. Minott told me this afternoon of his catching a pickerel in the Mill Brook once, — before the pond was drawn off, when the brook had four or five times as much water as now, — which weighed four pounds. Says they stayed in it all winter in those days. This was near his land up the brook. He once also caught there, when fishing for pickerel, a trout which weighed three and a half pounds. He fell within two feet of the water, but [he] succeeded in tossing him higher up. When cutting peat thereabouts, he saw a stinkpot turtle in the water eating a frog which it had just caught. Speaks of seeing a mink swimming along a little [*sic*] in his beech wood-lot, and from time to time running along the shore; part way up an alder and down again.

He loves to recall his hunting days and adventures, and I willingly listen to the stories he has told me half a dozen times already. One day he saw about twenty black ducks on Goose Pond, and stole down on them, thinking to get a shot, but it chanced that a stray dog scared them up before he was ready. He stood on the point of the neck of land between the ponds, and watched them as they flew high toward Flint's Pond. As he looked, he saw one separate from the flock when they had got half-way to Flint's Pond, or half a mile, and return straight toward Goose Pond again. He

thought he would await him, and give him a shot if he came near enough. As he flew pretty near and rather low, he fired, whereupon the duck rose right up high into the air, and he saw by his motions that he was wounded. Suddenly he dropped, by a slanting fall, into the point of a thick pine wood, and he heard him plainly strike the ground like a stone. He went there and searched for a long time, and was about giving it up, when at length he saw the duck standing, still alive and bleeding, by the side of a stump, and made out to kill him with a stick before he could reach the water.

He said he saw Emerson come home from lecturing the other day with his knitting-bag (lecture-bag) in his hand. He asked him if the lecturing business was as good as it used to be. Emerson said he did n't see but it was as good as ever; guessed the people would want lectures "as long as he or I lived."

Told again of the partridge hawk striking down a partridge which rose before him and flew across the run in the beech woods, — how suddenly he did it, — and he, hearing the fluttering of the partridge, came up and secured it, while the hawk kept out of gunshot.

V

MARCH, 1856

(ÆT. 38)

March 1. 9 A. M. — To Flint's Pond *via* Walden, by railroad and the crust.

I hear the hens cackle as not before for many months. Are they not now beginning to lay?

The catkins of the willow by the causeway and of the aspens appear to have pushed out a little further than a month ago. I see the down of half a dozen on that willow by the causeway; on the aspens pretty generally. As I go through the cut it is still, warm, and more or less sunny, springlike (about $40^{\circ}+$), and the sand and reddish subsoil is bare for about a rod in width on the railroad. I hear several times the fine-drawn *phe-be* note of the chickadee, which I heard only once during the winter. Singular that I should hear this on the first spring day.

I see a pitch pine seed with its wing, far out on Walden.

Going down the hill to Goose Pond, I slump now and then. Those dense, dry beds of leaves are gathered especially about the leafy tops of young oaks, which are bent over and held down by the snow. They lie up particularly light and crisp. The birch stubs stand around Goose Pond, killed by the water a year or two

ago, five or six feet high and thickly, as if they were an irregular stake fence a rod out.

Going up the hill again, I slump in up to my middle.

At Flint's I find half a dozen fishing. The pond cracks a very little while I am there, say at half past ten. I think I never saw the ice so thick. It measures just two feet thick in shallow water, twenty rods from shore.

Goodwin says that somewhere where he lived they called cherry-birds "port-royals."

Haynes of Sudbury brought some axe-helves which he had been making to Smith's shop to sell to-day. Those made by hand are considered stronger than those which are turned, because their outline conforms to the grain. They told him they had not sold any of the last yet. "Well," said he, "you may depend on it you will. They've got to come after them yet, for they have n't been able to get into the woods this winter on account of the snow, and they'll have to do all their chopping this month."

I like to see the farmer whittling his own axe-helve, as I did E. Hosmer a white oak one on the 27th *ult.*

It is remarkable, that though I have not been able to find any open place in the river almost all winter, except under the further stone bridge and at Loring's Brook, — this winter so remarkable for ice and snow, — Coombs should (as he says) have killed two shel-drakes at the falls by the factory, a place which I had forgotten, some four or six weeks ago. Singular that this hardy bird should have found this small opening, which I had forgotten, while the ice everywhere else

was from one to two feet thick, and the snow sixteen inches on a level. If there is a crack amid the rocks of some waterfall, this bright diver is sure to know it. Ask the sheldrake whether the rivers are completely sealed up.

March 2. Has snowed three or four inches — very damp snow — in the night; stops about 9 A. M. This will probably help carry off the old snow, so solid and deep.

P. M. — Walking up the river by Prichard's, was surprised to see, on the snow over the river, a great many seeds and scales of birches, though the snow had so recently fallen, there had been but little wind, and it was already spring. There was one seed or scale to a square foot, yet the nearest birches were, about fifteen of them, along the wall thirty rods east. As I advanced toward them, the seeds became thicker and thicker, till they quite discolored the snow half a dozen rods distant, while east of the birches there was not one. The birches appear not to have lost a quarter of their seeds yet. As I went home up the river, I saw some of the seeds forty rods off, and *perhaps*, in a more favorable direction, I might have found them much further. It suggested how unwearied Nature is, spreading her seeds. Even the spring does not find her unprovided with birch, aspen, and alder and pine seed. A great proportion of the seed that was carried to a distance lodged in the hollow over the river, and when the river breaks up will be carried far away, to distant shores and meadows.

The opening in the river at Merrick's is now increased to ten feet in width in some places.

I can hardly believe that hen-hawks may be beginning to build their nests now, yet their young were a fortnight old the last of April last year.

March 3. To Cambridge.

March 4. To Carlisle, surveying.

I had two friends. The one offered me friendship on such terms that I could not accept it, without a sense of degradation. He would not meet me on equal terms, but only be to some extent my patron. He would not come to see me, but was hurt if I did not visit him. He would not readily accept a favor, but would gladly confer one. He treated me with ceremony occasionally, though he could be simple and downright sometimes; and from time to time acted a part, treating me as if I were a distinguished stranger; was on stilts, using made words. Our relation was one long tragedy, yet I did not directly speak of it. I do not believe in complaint, nor in explanation. The whole is but too plain, alas, already. We grieve that we do not love each other, that we cannot confide in each other. I could not bring myself to speak, and so recognize an obstacle to our affection.

I had another friend, who, through a slight obtuseness, perchance, did not recognize a fact which the dignity of friendship would by no means allow me to descend so far as to speak of, and yet the inevitable effect of that ignorance was to hold us apart forever.

March 5. Snowed an inch or two in the night.

Went to Carlisle, surveying.

It is very hard turning out, there is so much snow in the road. Your horse springs and flounders in it. The snow in the wood-lot which I measured was about two feet on a level.

March 6. P. M. — Up Assabet.

The snow is softening. Methinks the lichens are a little greener for it. A thaw comes, and then the birches, which were gray on their white ground before, appear prettily clothed in green. I see various kinds of insects out on the snow now. On the rock this side the Leaning Hemlocks, is the track of an otter. He has left some scentless jelly-like substance an inch and a half in diameter there, yellowish beneath, maybe part of a fish, or clam (?), or himself. The leaves still hanging on some perhaps young swamp white oaks are remarkably fresh, almost ochre-colored brown.

See the snow discolored yellowish under a (probably) gray squirrel's nest high in a pitch pine, and acorn-shells about on it. Also a squirrel's track on the snow over Lee's Hill. The outside toe on the fore feet is nearly at right angles with the others. This also distinguishes it from a rabbit's track. It visits each apple tree, digs up frozen apples and sometimes filberts, and when it starts again, aims for an apple tree, though fifteen rods distant.

March 7. P. M. — Measured snow on account of snow which fell 2d and 4th. West of railroad, 16 + ;

east of railroad, 16; average, say $16 +$; Trillium Wood, 21. Probably quite as deep as any time before, this year. There are still two or more inches of ice next the ground in open land.

I may say that there has not been less than sixteen inches of snow on a level in open land since January 13th. My stick entered the earth in some cases in the wood, as it has not done before. There has been some thawing under the snow.

March 9. Thermometer at 2 P. M. 15° , sixteen inches of snow on a level in open fields, hard and dry, ice in Flint's Pond two feet thick, and the aspect of the earth is that of the middle of January in a severe winter. Yet this is about the date that bluebirds arrive commonly. A pail of water froze nearly half an inch thick in my chamber, with fire raked up. The train which should have got down last night did not arrive till this afternoon (Sunday), having stuck in a drift.

March 10. Thermometer at 7 A. M. 6° below zero. Dr. Bartlett's, between 6.30 and 7 A. M., was at -13° ; Smith's at -13° or -14° , at 6 A. M.

P. M. — Up river to Hubbard Bridge.

Thermometer $+9^{\circ}$ at 3.30 P. M. (the same when I return at five). The snow hard and dry, squeaking under the feet; excellent sleighing. A biting northwest wind *compels* to cover the ears. It is one of the hardest days of the year to bear. Truly a memorable 10th of March. There is no opening yet in the main stream at Prichard's, Hubbard Bath, or the Clamshell, or probably any-

where but at Merrick's, and that a dozen rods long by ten feet; and it is tight and strong under the bridges. A bluebird would look as much out of place now as the 10th of January.

I suspect that in speaking of the springing of plants in previous years I have been inclined to make them start too early generally.

The ice on ponds is as solid as ever. There has been no softening of it. Now is a good time to begin to cut; only its great thickness would hinder you. The blue shadows on snow are as fine as ever. It is hard to believe the records of previous years.

I have not seen a tree sparrow, methinks, since January. Probably the woods have been so generally buried by the snow this winter that they have migrated further south. There has not been one in the yard the past winter, nor a redpoll. I saw perhaps one redpoll in the town; that is all. The pinched crows are feeding in the road to-day in front of the house and alighting on the elms, and blue jays also, as in the middle of the hardest winter, for such is this weather. The blue jays hop about in yards.

The past has been a winter of such unmitigated severity that I have not chanced to notice a snow-flea, which are so common in thawing days.

I go over the fields now in any direction, sinking but an inch or two to the old solid snow of the winter. In the road you are on a level with the fences, and often considerably higher, and sometimes, where it is a level causeway in summer, you climb up and coast down great swells of hard-frozen snow, much higher than

the fences. I may say that I have not had to climb a fence this winter, but have stepped over them on the snow.

Think of the art of printing, what miracles it has accomplished! Covered the very waste paper which flutters under our feet like leaves and is almost as cheap, a stuff now commonly put to the most trivial uses, with thought and poetry! The woodchopper reads the wisdom of ages recorded on the paper that holds his dinner, then lights his pipe with it. When we ask for a scrap of paper for the most trivial use, it may have the confessions of Augustine or the sonnets of Shakespeare, and we not observe it. The student kindles his fire, the editor packs his trunk, the sportsman loads his gun, the traveller wraps his dinner, the Irishman papers his shanty, the schoolboy peppers the plastering, the belle pins up her hair, with the printed thoughts of men. Surely he who can see so large a portion of earth's surface thus darkened with the record of human thought and experience, and feel no desire to learn to read it, is without curiosity. He who cannot read is worse than deaf and blind, is yet but half alive, is still-born.

Still there is little or no chopping, for it will not pay to shovel the snow away from the trees; unless they are quite large, and then you must work standing in it two feet deep. There is an eddy about the large trees beside, which produces a hollow in the snow about them, but it lies close up to the small ones on every side.

10 P. M. — Thermometer at zero.

I read, when last at Cambridge, in the Philadelphia

Philosophical Transactions, that, in the cold winter of 1780, many shellfish, frogs, insects, etc., as well as birds and plants, perished.

March 11. Thermometer at 7 A. M. 6°, yet, the fire going out, Sophia's plants are frozen again. Dr. Bartlett's was -4°.

When it was proposed to me to go abroad, rub off some rust, and *better my condition* in a worldly sense, I fear lest my life will lose some of its homeliness. If these fields and streams and woods, the phenomena of nature here, and the simple occupations of the inhabitants should cease to interest and inspire me, no culture or wealth would atone for the loss. I fear the dissipation that travelling, going into society, even the best, the enjoyment of intellectual luxuries, imply. If Paris is much in your mind, if it is more and more to you, Concord is less and less, and yet it would be a wretched bargain to accept the proudest Paris in exchange for my native village. At best, Paris could only be a school in which to learn to live here, a stepping-stone to Concord, a school in which to fit for this university. I wish so to live ever as to derive my satisfactions and inspirations from the commonest events, every-day phenomena, so that what my senses hourly perceive, my daily walk, the conversation of my neighbors, may inspire me, and I may dream of no heaven but that which lies about me. A man may acquire a taste for wine or brandy, and so lose his love for water, but should we not pity him?

The sight of a marsh hawk in Concord meadows is

worth more to me than the entry of the allies into Paris. In this sense I am not ambitious. I do not wish my native soil to become exhausted and run out through neglect. Only that travelling is good which reveals to me the value of home and enables me to enjoy it better. That man is the richest whose pleasures are the cheapest.

It is strange that men are in such haste to get fame as teachers rather than knowledge as learners.

I hear that Goodwin found one of his traps frozen in this morning, where it has not frozen before this year.

P. M. — 3.30, thermometer 24° .

Cut a hole in the ice in the middle of Walden. It is just $24\frac{1}{4}$ inches thick, $11\frac{1}{2} +$ being snow ice, $12\frac{3}{4}$ water ice; and there is between 3 and 4 inches of crusted snow above this. The water rises to within $2\frac{1}{2}$ inches of the top of the ice, *i. e.* between a ninth and tenth of the whole thickness. The clear ice has therefore gained $2\frac{3}{4}$ inches beneath since the 16th of February. It has gone on freezing under $21\frac{1}{2}$ inches of ice. Yet people very commonly say that it will not continue to freeze under half that thickness of snow and ice. It is a job to cut a hole now. Snow and ice together make a curtain twenty-eight inches thick now drawn over the pond. Such is the prospect of the fishes!


March 12. The last four cold days have closed the river again against Merrick's, and probably the few other small places which *may* have opened in the town, at the mouth of one or two brooks. I hear, from two sources, of portions of brooks, etc., being frozen over within two days, which had not frozen before this winter.

We had a colder day in the winter of '54 and '55 than in the last, yet the ice did not get to be so thick. It is *long-continued, steady* cold which produces thick ice. If the present cold should continue uninterrupted a thousand years would not the pond become solid?

Rufus Hosmer says he has known the ground here to be frozen four feet deep.

I never saw such solid mountains of snow in the roads. You travel along for many rods over excellent dry solid sleighing, where the road is perfectly level, not thinking but you are within a foot of the ground, then suddenly descend four or five feet and find, to your surprise, that you had been traversing the broad back of a drift.

The crow has been a common bird in our street and about our house the past winter.

One large limb of the great elm at Davis's, sawed off, presented this outline:  a perfect harp.

March 13. P. M. — To Flint's Pond.

Much warmer at last. On Flint's Pond I cut a hole and measured the ice twenty-two rods from the shore nearest to Walden, where the water was nine feet deep (measuring from its surface in the hole). The ice was twenty-six inches thick, thirteen and one half of it being snow ice, and the ice rose above the water two inches. This ice is as solid as at any time in the winter. Three inches of snow above. It was so much work to cut this hole with a dull axe that I did not try any other place

where it may have been thicker. Perhaps it was thicker in the middle, as in '47.¹

March 14. Friday. Quite warm. Thermometer 46°.

3 P. M. — Up Assabet.

The ice formed the fore part of this week, as that at Merrick's noticed on the 12th, and heard of elsewhere in the Mill Brook, appears to have been chiefly snow ice, though no snow fell. It was apparently blown into the water during those extremely cold nights and assisted its freezing. So that it is a question whether the river would have closed again at Merrick's on the night of the 10th and 11th, notwithstanding the intense cold, if the snow had not been blown into it,—a question, I say, because the snow *was* blown into it.

I think it remarkable that, cold as it was, I should not have supposed from my sensations that it was nearly so cold as the thermometer indicated.

Tapped several white maples with my knife, but find no sap flowing; but, just above Pinxter Swamp, one red maple limb was moistened by sap trickling along the bark. Tapping this, I was surprised to find it flow freely. Where the sap had dried on the bark, shining and sticky, it tasted quite sweet. Yet Anthony Wright tells me that he attempted to trim some apple trees on the 11th, but was obliged to give up, it was so cold. They were frozen solid. This is the only one of eight or ten white and red maples that flows. I do not see why it should be.

As I return by the old Merrick Bath Place, on the

¹ Probably not, judging from Walden. *Vide* 19th.

river, — for I still travel everywhere on the middle of the river, — the setting sun falls on the osier row toward the road and attracts my attention. They certainly look brighter now and from this point than I have noticed them before this year, — greenish and yellowish below and reddish above, — and I fancy the sap fast flowing in their pores. Yet I think that on a close inspection I should find no change. Nevertheless, it is, on the whole, perhaps the most springlike sight I have seen.

March 15. Put a spout in the red maple of yesterday, and hung a pail beneath to catch the sap. Mr. Chase (of the Town School), who has lived a hundred miles distant in New Hampshire, speaks of the snow-fleas as a spring phenomenon, — probably because the winter is more uniformly cold there, — and says that they think it time to stop making maple-sugar when they observe them. They get into the sap by myriads and trouble them much.

March 16. 7 A. M. — The sap of that red maple has not begun to flow yet. The few spoonfuls in the pail and in the hole are frozen.

These few rather warmer days have made a little impression on the river. It shows a rough, snowy ice in many places, suggesting that there is a river beneath, the water having probably oozed up or the snow blown and melted off there. A rough, softening snowy ice, with some darker spots where you suspect weakness, though it is still thick enough.

2 P. M. — The red maple [sap] is now about an inch

deep in a quart pail, — nearly all caught since morning. It now flows at the rate of about six drops in a minute. Has probably flowed faster this forenoon. It is perfectly clear, like water. Going home, slipped on the ice, throwing the pail over my head to save myself, and spilt all but a pint. So it was lost on the ice of the river. When the river breaks up, it will go down the Concord into the Merrimack, and down the Merrimack into the sea, and there get salted as well as diluted, part being boiled into sugar. It suggests, at any rate, what various liquors, beside those containing salt, find their way to the sea, — the sap of how many kinds of trees!

There is, at any rate, such a phenomenon as the willows shining in the spring sun, however it is to be accounted for.

March 17. Monday. Snow going off very gradually under the sun alone. Going begins to be bad; horses slump; hard turning out. See where the cattle, which have stepped a few inches one side the sled-track, have slumped two feet or more, leaving great holes.

March 18. P. M. — Up river.

It is still quite tight at Hubbard's Bath Bend and at Clamshell, though I hesitate a little to cross at these places. There are dark spots in the soft, white ice, which will be soon worn through.

What a solid winter we have had! No thaw of any consequence; no bare ground since December 25th; but an unmelting mass of snow and ice, hostile to all greenness. Have not seen a green radical leaf even, as usual, all being covered up.

Nut Meadow Brook is open for a dozen rods from its mouth, and for a rod into the river. Higher up, it is still concealed by a snowy bridge two feet thick. I see the ripples made by some fishes, which were in the small opening at its mouth, making haste to hide themselves in the ice-covered river. This square rod and one or two others like it in the town are the only places where I could see this phenomenon now. Thus early they appear, ready to be the prey of the fish hawk. Within the brook I see quite a school of little minnows, an inch long, amid or over the bare dead stems of polygonums, and one or [two] little water-bugs (apple-seeds). The last also in the broad ditch on the Corner road, in Wheeler's meadow. Notwithstanding the backwardness of the season, all the town still under deep snow and ice, here they are, in the first open and smooth water, governed by the altitude of the sun.

I see many small furrows, freshly made, in the sand at the bottom of the brook, from half an inch to three quarters wide, which I suspect are made by some small shellfish already moving, perhaps *Paludina* ! ¹

March 19. P. M. — To Walden.

Measured the snow again. West of railroad, 15; east of railroad, $11\frac{4}{5}$; average, $13\frac{2}{5}$; Trillium Woods, $16\frac{3}{4}$. The last measurement was on the 7th, when it averaged about sixteen inches in the open land. This depth it must have preserved, owing to the remarkably cold weather, till the 13th at least. So it chances that the snow was constantly sixteen inches deep, at least,

¹ *Vide* 20th.

on a level in open land, from January 13th to March 13th. It is remarkable how rapidly it has settled on the east of the railroad as compared with the west since the 7th (or I may say rather the 13th). The whole average settling, in open land, since say the 13th, is a little less than three inches.

The thickness of the ice on Walden in the long cove on the south side, about five rods from shore, where the water is nineteen and a half feet deep, is just twenty-six inches, about one foot being snow ice. In the middle it was twenty-four and a quarter on the 11th. It is the same there now, and undoubtedly it was then twenty-six in the long cove. Probably got to be the thickest on this side. Since the warmer weather which began on the 13th, the snow, which was three or four inches deep, is about half melted on the ice, under the influence of the sun alone, and the ice is considerably softened within the last five days, thus *suddenly*, quite through, it being easier to cut and more moist, quite fine and white like snow in the hole, sticking together as damp snow when I shovel it out on my axe, the dust not at all hard, dry, and crystalline. Apparently, then, Walden is as thickly frozen about shore as Flint's.

While I am measuring, though it is quite warm, the air is filled with large, moist snowflakes, of the star form, which are rapidly concealing the very few bare spots on the railroad embankment. It is, indeed, a new snow-storm.

Another old red maple bleeds now, on the warm south edge of Trillium Wood. The first maple was old and in a warm position.

WHAT BEFELL AT MRS. BROOKS'S.

On the morning of the 17th, Mrs. Brooks's Irish girl Joan fell down the cellar stairs, and was found by her mistress lying at the bottom, apparently lifeless. Mrs. Brooks ran to the street-door for aid to get her up, and asked a Miss Farmer, who was passing, to call the blacksmith near by. The latter lady turned instantly, and, making haste across the road on this errand, fell flat in a puddle of melted snow, and came back to Mrs. Brooks's, bruised and dripping and asking for opodeldoc. Mrs. Brooks again ran to the door and called to George Bigelow to complete the unfinished errand. He ran nimbly about it and fell flat in another puddle near the former, but, his joints being limber, got along without opodeldoc and raised the blacksmith. He also notified James Burke, who was passing, and he, rushing in to render aid, fell off one side of the cellar stairs in the dark. They no sooner got the girl up-stairs than she came to and went raving, then had a fit.

Haste makes waste. It never rains but it pours. I have this from those who have heard Mrs. Brooks's story, seen the girl, the stairs, and the puddles.

No sooner is some opening made in the river, a square rod in area, where some brook or rill empties in, than the fishes apparently begin to seek it for light and warmth, and thus early, perchance, may become the prey of the fish hawk. They are seen to ripple the water, darting out as you approach.

I noticed on the 18th that springy spot on the shore just above the railroad bridge, by the ash, which for a month has been bare for two or three feet, now enlarged to eight or ten feet in diameter. And in a few other places on the meadowy shore, *e. g.* just above mouth of Nut Meadow, I see great dimples in the deep snow, eight or ten feet over, betraying springs. There the pads (*Nuphar*) and cress already spring, and shells are left by the rat. At the broad ditch on the Corner road, opposite Bear Garden, the snowy crust had slumped or fallen in here and there, and, where the bridge was perfect, I saw it quite two feet thick. In the smooth open water there, small water-bugs were gyrating singly, not enough to play the game.

I am surprised at the sudden change in the Walden ice within five days. In cutting a hole now, instead of hard, dry, transparent chips of ice, you make a fine white snow, very damp and adhering together, with but few chips in it. The ice has been affected throughout its twenty-six inches, though most, I should say, above. Hard to say exactly where the ice begins, under the two inches of snow.

March 20. It snowed three or four inches of damp snow last afternoon and night, now thickly adhering to the twigs and branches. Probably it will soon melt and help carry off the snow.

P. M. — To Trillium Wood and to Nut Meadow Brook to tap a maple, see paludina, and get elder and sumach spouts, slumping in the deep snow. It is now so softened that I slump at every third step. The

sap of red maples in *low and warm* positions now generally flows, but not in high and exposed ones.

Where I saw those furrows in the sand in Nut Meadow Brook the other day, I now explore, and find within a square foot or two half a dozen of *Paludina decisa* with their feet out, within an inch of the surface, so I have scarcely a doubt that they made them. I suppose that they do not furrow the bottom thus under the ice, but as soon as the spring sun has thawed it, they come to the surface, — *perhaps* at night only, — where there is some little sand, and furrow it thus by their motions. Maybe it is the love season. *Perhaps* these make part of the food of the crows which visit this brook and whose tracks I now see on the edge, and have all winter. Probably they also pick up some dead frogs.

Father read in a paper to-day of seven hundred and forty-odd apple tree buds recently taken out of the crop of a partridge.

Last night's snow, which is melting very fast, is evidently helping to rot the ice very fast, in the absence of rain, by settling into it, as did the older snow, indeed. Maybe it will thaw the ground in the same way. Considering how solid and thick the river was a week ago, I am surprised to find how cautious I have grown about crossing it in many places now.

For two or three days I have heard the gobbling of turkeys, the first spring sound, after the chickadees and hens, that I think of. The river has just begun to open at Hubbard's Bend. It has been closed there since January 7th, *i. e.* ten weeks and a half.

Set a pail before coming here to catch red maple sap, at Trillium Wood. I am now looking after elder and sumach for spouts. I find the latter best, for though the former has as large a pith (larger in proportion to its size), its wood commonly being less, it does not fill so large a hole, nor is it so strong. Yet there is some by A. Barrett's ditch more than two inches in diameter, very strong, but its pith small. The pith, etc., of the smooth smells to me like weak tobacco. What other shrubs have a large pith? ¹ Got my smooth sumach on the south side of Nawshawtuct. I know of no shrubs hereabout except elders and the sumachs which have a suitable pith and wood for such a purpose. The pith of the smooth sumach is a light brown, like *yellow* snuff. The ring of old wood next to it is a decayed-looking greenish yellow; the sap-wood is white. When cut or broken, it has a singularly part-colored and decayed look, there being often but a small proportion of sap-wood. A white sticky juice oozes out of the edge of the bark where cut, and soon turns yellow and hard in drops like pitch or hickory sap. This pith does not come out quite so entire and smooth as elder, being drier now at least. You can shove it past the axils of twigs. The old wood of the ivy is also yellow like this, but there is more and harder sap-wood and the pith is quite small. The pith of the poison sumach or dogwood is considerably smaller, but I think it has the same scent with the smooth. An-

¹ Only those plants which have a great growth the first year can have much pith, since apparently this does not increase afterward. *Vide* April 22d for mountain sumach.

other poison-dogwood has a very large pith, and I am not sure about the scent. The juice of the bark is not white.

March 21. George Brooks, of the North Quarter, tells me that he went a-fishing at Nagog Pond on the 18th and found the ice from thirty to thirty-seven inches thick (the greater part, or all but about a foot, snow ice), the snow having blown on to the ice there. He measured it with a rule and a hooked stick. (But at Walden, where I measured, there was no drifting of the snow.) It may have been no thicker at Nagog on an average. He says that both the gray squirrel and the red eat pine seed, but not in company. The former have been quite common about his house the past winter, and his neighbor caught two in his yard.

10 A. M. — To my red maple sugar camp. Found that, after a pint and a half had run from a single tube after 3 P. M. yesterday, it had frozen about half an inch thick, and this morning a quarter of a pint more had run. Between 10.30 and 11.30 A. M. this forenoon, I caught two and three quarters pints more, from six tubes, at the same tree, though it is completely overcast and threatening rain. Four and one half pints in all. This sap is an agreeable drink, like iced water (by chance), with a pleasant but slight sweetish taste. I boiled it down in the afternoon, and it made an ounce and a half of sugar, without any molasses, which appears to be the average amount yielded by the sugar maple in similar situations, *viz.* south edge of a wood, a tree partly decayed, two feet [in] diameter.

It is worth the while to know that there is all this sugar in our woods, much of which might be obtained by using the refuse wood lying about, without damage to the proprietors, who use neither the sugar nor the wood.

I left home at ten and got back before twelve with two and three quarters pints of sap, in addition to the one and three quarters I found collected.

I put in saleratus and a little milk while boiling, the former to neutralize the acid, and the latter to collect the impurities in a skum. After boiling it till I burned it a little, and my small quantity would not flow when cool, but was as hard as half-done candy, I put it on again, and in a minute it was softened and turned to sugar.

While collecting sap, the little of yesterday's lodging snow that was left, dropping from the high pines in Trillium Wood and striking the brittle twigs in its descent, makes me think that the squirrels are running there.

I noticed that my fingers were purpled, evidently from the sap on my auger.

Had a dispute with Father about the *use* of my making this sugar when I knew it could be done and might have bought sugar cheaper at Holden's. He said it took me from my studies. I said I made it my study; I felt as if I had been to a university.

It dropped from each tube about as fast as my pulse beat, and, as there were three tubes directed to each vessel, it flowed at the rate of about one hundred and eighty drops in a minute into it. One maple, standing

immediately north of a thick white pine, scarcely flowed at all, while a smaller, farther in the wood, ran pretty well. The south side of a tree bleeds first in spring. I hung my pails on the tubes or a nail. Had two tin pails and a pitcher. Had a three-quarters-inch auger. Made a dozen spouts, five or six inches long, hole as large as a pencil, smoothed with a pencil.

March 22. Saturday. P. M. — To white maples and up Assabet.

The ice of the river is very rapidly softening, still concealed by snow, the upper part becoming homogeneous with the melting snow above it. I *sometimes* slump into snow and *ice* six or eight inches, to the harder ice beneath.

I walk up the middle of the Assabet, and most of the way on middle of South Branch.

Many tracks of crows in snow along the edge of the open water against Merrick's at Island. They thus visit the edge of water — this and brooks — before any ground is exposed. Is it for small shellfish? The snow now no longer bears you. It has become very coarse-grained under the sun, and I hear it sink around me as I walk.

Part of the white maples now begin to flow, some perhaps two or three days. Probably in equally warm positions they would have begun to flow as early as those red ones which I have tapped. Their buds, and apparently some of the red ones, are visibly swollen. This probably follows directly on the flowing of the sap. In three instances I cut off a twig, and sap flowed

and dropped from the part attached to the tree, but in no case would any sap flow from the part cut off (I mean where I first had cut it), which appears to show that the sap is now *running up*.¹ I also cut a notch in a branch two inches in diameter, and the upper side of the cut remained dry, while sap flowed from the lower side, but in another instance both sides were wet at once and equally. The sap, then, is now generally flowing upward in red and white maples in *warm positions*. See it flowing from maple twigs which were gnawed off by rabbits in the winter.

The down of willow catkins in very warm places has in almost every case peeped out an eighth of an inch, generally over the whole willow.

On water standing above the ice under a white maple, are many of those *Perla* (?) insects, with four wings, drowned, though it is all ice and snow around the country over. Do not see any flying, nor before this.

The woodchoppers, who are cutting the wood at Assabet Spring, now at last go to their work up the middle of the river, but one got in yesterday, one leg the whole length. It is rotted through in many places behind Prichard's.

At the red maple which I first tapped, I see the sap still running and wetting the whole side of the tree. It has also oozed out from the twigs, especially those that are a little drooping, and run down a foot or two bathing them sometimes all around, both twigs and

¹ Yet the next day at Walden it flowed from *both parts*, though *considerably more* from the end attached to the tree. It will also drip from the upper carf of a woodchopper.

buds sometimes, or collected in drops on the under sides of the twigs and all evaporated to molasses, which is, for the most part, as black as blacking or ink, having probably caught the dust, etc., even over all this snow. Yet it is as sweet and thick as molasses, and the twigs and buds look as if blacked and polished. Black drops of this thick, sweet syrup spot the under sides of the twigs. No doubt the bees and other insects frequent the maples now. I thought I heard the hum of a bee, but perhaps it was a railroad whistle on the Lowell Railroad. It is as thick as molasses. See a fuzzy gnat on it. It is especially apt to collect about the bases of the twigs, where the stream is delayed. Where the sap is flowing, the red maple being cut, the inner bark turns crimson. I see many snow-fleas on the moist maple chips.

Saw a pigeon woodpecker under the swamp white oak in Merrick's pasture, where there is a small patch of bare ground. Probably Minott saw one in his doorway in midwinter.

March 23. I spend a considerable portion of my time observing the habits of the wild animals, my brute neighbors. By their various movements and migrations they fetch the year about to me. Very significant are the flight of geese and the migration of suckers, etc., etc. But when I consider that the nobler animals have been exterminated here, — the cougar, panther, lynx, wolverene, wolf, bear, moose, deer, the beaver, the turkey, etc., etc., — I cannot but feel as if I lived in a tamed, and, as it were, emasculated country. Would

not the motions of those larger and wilder animals have been more significant still? Is it not a maimed and imperfect nature that I am conversant with? As if I were to study a tribe of Indians that had lost all its warriors. Do not the forest and the meadow now lack expression, now that I never see nor think of the moose with a lesser forest on his head in the one, nor of the beaver in the other? When I think what were the various sounds and notes, the migrations and works, and changes of fur and plumage which ushered in the spring and marked the other seasons of the year, I am reminded that this my life in nature, this particular round of natural phenomena which I call a year, is lamentably incomplete. I listen to [a] concert in which so many parts are wanting. The whole civilized country is to some extent turned into a city, and I am that citizen whom I pity. Many of those animal migrations and other phenomena by which the Indians marked the season are no longer to be observed. I seek acquaintance with Nature, — to know her moods and manners. Primitive Nature is the most interesting to me. I take infinite pains to know all the phenomena of the spring, for instance, thinking that I have here the entire poem, and then, to my chagrin, I hear that it is but an imperfect copy that I possess and have read, that my ancestors have torn out many of the first leaves and grandest passages, and mutilated it in many places. I should not like to think that some demigod had come before me and picked out some of the best of the stars. I wish to know an entire heaven and an entire earth. All the great

trees and beasts, fishes and fowl are gone. The streams, perchance, are somewhat shrunk.

I see that a shopkeeper advertises among his perfumes for handkerchiefs "meadow flowers" and "new-mown hay."

P. M. — To Walden.

The sugar maple sap flows, and for aught I know is as early as the red.

I think I may say that the snow has been *not less than a foot deep on a level* in open land until to-day, since January 6th, about eleven weeks. It probably begins to be less about this date. The bare ground begins to appear where the snow is worn in the street. It has been steadily melting since March 13th, the thermometer rising daily to 40 and 45 at noon, but no rain.

The east side of the Deep Cut is nearly bare, as is the railroad itself, and, on the driest parts of the sandy slope, I go looking for *Cicindela*, — to see it run or fly amid the sere blackberry vines, — some life which the warmth of the dry sand under the spring sun has called forth; but I see none. I am reassured and reminded that I am the heir of eternal inheritances which are inalienable, when I feel the warmth reflected from this sunny bank, and see the yellow sand and the reddish subsoil, and hear some dried leaves rustle and the trickling of melting snow in some sluiceway. The eternity which I detect in Nature I predicate of myself also. How many springs I have had this same experience! I am encouraged, for I recognize this

steady persistency and recovery of Nature as a quality of myself.

The first places which I observe to be bare now, though the snow is generally so deep still, are the steep hillsides facing the south, as the side of the Cut (though it looks not south exactly) and the slope of Heywood's Peak toward the pond, also under some trees in a meadow (there is less snow there on account of eddy, and apparently the tree absorbs heat), or a ridge in the same place. Almost the whole of the steep hillside on the north of Walden is now bare and dry and warm, though fenced in with ice and snow. It has attracted partridges, four of which whirl away on my approach. There the early sedge is exposed, and, looking closer, I observe that it has been sheared off close down, when green, far and wide, and the fallen withered tops are little handfuls of hay by their sides, which have been covered by the snow and sometimes look as if they had served as nests for the mice, — for their green droppings are left in them abundantly, — yet not such plain nests as in the grain-field last spring, — probably the *Mus leucopus*, — and the wintergreen and the sere pennyroyal still retain some fragrance.

As I was returning on the railroad, at the crossing beyond the shanty, hearing a rustling, I saw a striped squirrel amid the sedge on the bare east bank, twenty feet distant. After observing me a few moments, as I stood perfectly still between the rails, he ran straight up to within three feet of me, out of curiosity; then, after a moment's pause, and looking up to my face, turned back and finally crossed the railroad. All the

red was on his rump and hind quarters. When running he carried his tail erect, as he scratched up the snowy bank.

Now then the steep south hillsides begin to be bare, and the early sedge and sere, but still fragrant, pennyroyal and rustling leaves are exposed, and you see where the mice have sheared off the sedge and also made nests of its top during the winter. There, too, the partridges resort, and perhaps you hear the bark of a striped squirrel, and see him scratch toward his hole, rustling the leaves. For all the inhabitants of nature are attracted by this bare and dry spot, as well as you.

The muskrat-houses were certainly very few and small last summer, and the river has been remarkably low up to this time, while, the previous fall, they [were] very numerous and large, and in the succeeding winter the river rose remarkably high. So much for the muskrat sign. The bare ground just begins to appear in a few spots in the road in middle of the town.

March 24. Monday. Very pleasant day. Thermometer 48° at noon.

9 A. M. — Start to get two quarts of white maple sap and home at 11.30. One *F. hyemalis* in yard. Spend the forenoon on the river at the white maples. I hear a bluebird's warble and a song sparrow's chirp. So much partly for being out the whole forenoon. Bluebirds seen in all parts of the town to-day for first time, as I hear. The *F. hyemalis* has been seen two or three days. Cross the river behind Monroe's. Go everywhere on the North Branch — it is all solid — and

almost everywhere on the South Branch. The crust bears in the morning. The snow is so coarse-grained and hard that you can hardly get up a handful to wash your hands with, except the dirty surface. The early aspen buds down very conspicuous, half an inch long; yet I detect no flow of sap.

The white maple sap does not flow fast generally at first, — or 9 A. M., — not till about ten. Yet last year I paddled my boat to Fair Haven Pond on the 19th of March! Before noon I slump two feet in the snow.

You bore a little hole with your knife, and presently the wounded sap-wood begins to glisten with moisture, and anon a clear crystalline tear-like drop flows out and runs down the bark, or drops at once to the snow. This is the sap of which the far-famed maple-sugar is made. That's the sweet liquor which the Indians boiled a thousand years ago.

Cut a piece of *Rhus Toxicodendron* resting on rock at Egg Rock, five eighths of an inch in diameter, which had nineteen rings of annual growth. It is quite hard and stiff.

My sugar-making was spoiled by putting in much soda instead of saleratus by accident. I suspect it would have made more sugar than the red did. It proved only brittle black candy. This sap flowed just about as fast as that of the red maple.

It is said that a great deal of sap will run from the yellow birch.

The river begins to open generally at the bends for ten or twenty rods, and I see the dark ice alternating

with dark water there, while the rest of the river is still covered with snow.

March 25. P. M. — To Walden.

The willow and aspen catkins have pushed out considerably since the 1st of February in warm places.

I have frequently seen the sap of maples flow in warm days in the winter, in warm localities. This was in twigs. Would it in the trunks of large trees? And if not, is not this an evidence that *this* sap did not come up from the roots?

The meadow east of the railroad causeway is bare in many spots, while that on the west is completely and deeply covered; yet a few weeks ago it was deepest on the east. I think of no reason for this, except that the causeway may keep off the cold northwest winds from the former meadow. For thirty rods distant there are no bare spots. Why is the eastern slope, now, as every spring, (almost completely) bare, long before the western? The road runs north and south, and the sun lies on the one side as long as on the other. Is it more favorable that the frozen snow be acted on by the warmed air before the sun reaches it than after it has left it? Another and second reason is probably that there is less snow on that side or on the west slope of a hill than on the eastern. Snow drifting from the northwest lodges under the west bank. So I observe to-day that the hills rising from the north and *west* (and this seems to give weight to the second reason urged above) sides of Walden are partially bare, while those on the south and east are deeply and completely covered with

snow. Mr. Bull tells me that his grapes grow faster and ripen sooner on the west than the east side of his house.

There have been few if any small migratory birds the past winter. I have not seen a tree sparrow, nut-hatch, creeper, nor more than one redpoll since Christmas. They probably went further south.

I now slump from two to four inches into Walden, though there has been no rain since I can remember. I cannot cut through, on account of the water in the softened ice flowing into the hole. At last, in a drier place, I was not troubled with water, till I had cut about a foot, or through the snow ice, when two or three streams of water half an inch or more in diameter spurted up through holes in the disorganized, partly honeycombed clear ice; so I failed to get through. Probably the clear ice is thus riddled all over the pond, for this was a drier place than usual. Is it the effect of the melted snow and surface working down? or partly of water pressing up? The whole mass in the middle is about twenty-four inches thick, but I scrape away about two inches of the surface with my foot, leaving twenty-two inches. For about a rod from the shore, on the north and west sides (I did not examine the others), it is comparatively firm and dry, then for two rods you slump four inches or more, then, and generally, only about two. Is that belt the effect of reflection from the hills?

Hear the hurried and seemingly frightened notes of a robin and see it flying over the railroad lengthwise, and afterwards its *tut tut* at a distance. This and the

birds of yesterday have come, though the ground generally is covered deep with snow. They will not only stay with us through a storm, but come when there are but resting-places for them. It must be hard for them to get their living now.

The tallest water andromedas now rise six or eight inches above the snow in the swamp.

March 26. To Cambridge.

I hear that Humphrey Buttrick found a whole covey of quails dead.¹ At Philadelphia, a month or two since, they offered a reward for live ones, more than market price, to preserve them. We have heard of an unusual quantity of ice in the course of the Liverpool packets this winter. Perhaps the Pacific has been sunk by one, as we hear that some other vessels have been. Yet the papers say it has been warmer about Lake Superior than in Kansas and that the lake will break up earlier than usual.

They are just beginning to use wheels in Concord, but only in the middle of the town, where the snow is at length worn and melted down to bare ground in the middle of the road, from two to ten feet wide. Sleighs are far the most common, even here. In Cambridge there is no sleighing. For the most part, the *middle* of the road from Porter's to the College is bare and even *dusty* for twenty to thirty feet in width. The College Yard is one half bare. So, if they have had more snow than we, as some say, it has melted much faster.

¹ *He* tells me that his dog found *four* in the winter, and as other coveys are missing, thinks they have starved.

There is also less in the towns between us and Cambridge than in Concord. The snow lies longer on the low, level plain surrounded by hills in which Concord is situated. I am struck by the more wintry aspect — almost entirely uninterrupted snow-fields — on coming into Concord in the cars.

The Romans introduced husbandry into England, where but little was practiced before, and the English have introduced it into America. So we may well read the Roman authors for a history of this art as practiced by us.

I am sometimes affected by the consideration that a man may spend the whole of his life after boyhood in accomplishing a particular design; as if he were put to a special and petty use, without taking time to look around him and appreciate the phenomenon of his existence. If so many purposes are thus necessarily left unaccomplished, perhaps unthought of, we are reminded of the transient interest we have in *this life*. Our interest in our country, in the spread of liberty, etc., strong and, as it were, innate as it is, cannot be as transient as our present existence here. It cannot be that all those patriots who die in the midst of their career have no further connection with the career of their country.

March 27. Uncle Charles died this morning, about midnight, aged seventy-six.

The frost is now entirely out in some parts of the New Burying-Ground, the sexton tells me, — half-way up the hill which slopes to the south, unless it is bare of snow, he says. In our garden, where it chances to be

bare, two or more rods from the house, I was able to dig through the slight frost. In another place near by I could not.

The river is now open in reaches of twenty or thirty rods, where the ice has disappeared by melting.

Elijah Wood, Senior, about seventy, tells me he does not remember that the river was ever frozen so long, nor that so much snow lay on the ground so long. People do not remember when there was so much old snow on the ground at this date.

March 28. Uncle Charles buried. He was born in February, 1780, the winter of the Great Snow, and he dies in the winter of another great snow,—a life bounded by great snows.

Cold, and the earth stiff again, after fifteen days of steady warm and, for the most part, sunny days (without rain), in which the snow and ice have rapidly melted.

Sam Barrett tells me that a boy caught a crow in his neighborhood the other day in a trap set for mink. Its leg was broken. He brought it home under his arm, and laid it down in a shop, thinking to keep it there alive. It looked up sidewise, as it lay seemingly helpless on the floor, but, the door being open, all at once, to their surprise, it lifted itself on its wings and flitted out and away without the least trouble. Many crows have been caught in mink-traps the past winter, they have been compelled to visit the few openings in brooks, etc., so much for food.

Barrett has suffered all winter for want of water.

I think to say to my friend, There is but one interval

between us. You are on one side of it, I on the other. You know as much about it as I, — how wide, how impassable it is. I will endeavor not to blame you. Do not blame me. There is nothing to be said about it. Recognize the truth, and pass over the intervals that are bridged.

Farewell, my friends, my path inclines to this side the mountain, yours to that. For a long time you have appeared further and further off to me. I see that you will at length disappear altogether. For a season my path seems lonely without you. The meadows are like barren ground. The memory of me is steadily passing away from you. My path grows narrower and steeper, and the night is approaching. Yet I have faith that, in the definite future, new suns will rise, and new plains expand before me, and I trust that I shall therein encounter pilgrims who bear that same virtue that I recognized in you, who will be that very virtue that was you. I accept the everlasting and salutary law, which was promulgated as much that spring that I first knew you, as this that I seem to lose you.

My former friends, I visit you as one walks amid the columns of a ruined temple. You belong to an era, a civilization and glory, long past. I recognize still your fair proportions, notwithstanding the convulsions which we have felt, and the weeds and jackals that have sprung up around. I come here to be reminded of the past, to read your inscriptions, the hieroglyphics, the sacred writings. We are no longer the representatives of our former selves.

Love is a thirst that is never slaked. Under the

coarsest rind, the sweetest meat. If you would read a friend aright, you must be able to read through something thicker and opaquer than horn. If you can read a friend, all languages will be easy to you. Enemies publish themselves. They declare war. The friend never declares his love.

March 29. Another cold day. Scarcely melts at all. Water skimmed over in chamber, with fire.

March 30. P. M. — To Walden and Fair Haven.

Still cold and blustering. I come out to see the sand and subsoil in the Deep Cut, as I would to see a spring flower, some redness in the cheek of Earth. These cold days have made the ice of Walden dry and pretty hard again at top. It is just twenty-four inches thick in the middle, about eleven inches of snow ice. It has lost but a trifle on the surface. The inside is quite moist, the clear ice very crystalline and leaky, letting the water up from below, so as to hinder my cutting. It seems to be more porous and brittle than the snow ice.

I go to Fair Haven *via* the Andromeda Swamps. The snow is a foot and more in depth there still. There is a little bare ground in and next to the swampy woods at the head of Well Meadow, where the springs and little black rills are flowing. I see already one blade, three or four inches long, of that purple or lake grass, lying flat on some water, between snow-clad banks, — the first leaf with a rich bloom on it. How silent are the footsteps of Spring! There, too, where there is a fraction of the meadow, two rods over, quite bare, under the

bank, in this warm recess at the head of the meadow, though the rest of the meadow is covered with snow a foot or more in depth, I am surprised to see the skunk-cabbage, with its great spear-heads open and ready to blossom (*i. e.* shed pollen in a day or two); and the *Caltha palustris* bud, which shows yellowish; and the golden saxifrage, green and abundant; also there are many fresh tender leaves of (apparently) the gold-thread¹ in open meadow there, all surrounded and hemmed in by snow, which [has] covered the ground since Christmas and stretches as far as you can see on every side; and there are as intense blue shadows on the snow as I ever saw. The spring advances in spite of snow and ice, and cold even. The ground under the snow has long since felt the influence of the spring sun, whose rays fall at a more favorable angle. The tufts or tussocks next the edge of the snow were crowned with dense phalanxes of stiff spears of the stiff triangularish sedge-grass, five inches high but quite yellow with a very slight greenness at the tip, showing that they pushed up through the snow, which melting, they had not yet acquired color. This is the greatest growth of any plant I have seen. I had not suspected *any*. I can just see a little greening on our bare and dry south bank. In warm recesses and clefts in meadows and rocks in the midst of ice and snow, nay, even under the snow, vegetation commences and steadily advances.

I find Fair Haven Pond and the river lifted up a foot or more, the result [of] the long, steady thaw in the sun. The water of the pond and river has run over the

¹ ? Probably not.

meadows, mixing with and partly covering the snow, making it somewhat difficult to get into the river on the east side. On the east side of the pond, the ice next the shore is still frozen to the bottom under water by one edge, while the other slants upward to meet the main body of the ice of the pond. This sort of canal on one or both sides of the river is from a rod to three or four rods wide. This is the most decided step toward breaking up as yet. But the pond and river are very solid yet. I walk over the pond and down on the middle of the river to the bridge, without seeing an opening.

Saw probably a hen-hawk (?) (saw the black tips to wings), sailing low over the low cliff next the river, looking probably for birds.¹ The south hillsides no sooner begin to be bare, and the striped squirrels and birds resort there, than the hawks come from southward to prey on them. I think that even the hen-hawk is here in winter, only as the robin is.

For twenty-five rods the Corner road is impassable to horses, because of their slumping in the old snow; and a new path has been dug, which a fence shuts off the old. Thus they have served the roads on all sides the town.

March 31. P. M. — To Peter's via Winter Street [?].

I see the scarlet tops of white maples nearly a mile off, down the river, the lusty shoots of last year. Those of the red maple do not show thus.

I see many little holes in this old and solid snow where leaves have sunk down gradually and per-

¹ May have been a marsh hawk or harrier.

pendicularly, eleven or twelve inches, — the hole no larger at the top than at the bottom, nay, often partly closed at top by the drifting, and exactly the form and size of the leaf. It is as if the sun had driven this thin shield like a bullet thus deep into the solid snow. It is remarkable how deep the leaves settle into an old snow like this.

See a small ant running about over a piece of meadow turf. The celandine begins to be conspicuous, springing under Brown's fence.

VI

APRIL, 1856

(ÆT. 38)

April 1. P. M. — Down railroad, measuring snow,
and to Fair Haven Hill.

West of railroad	East of railroad	Average	Trillium Wood
2 3	0	$5\frac{1}{2}$ inches	22
0 3	0		11
3 9	0		11
5 7	0		7
4 11	0		8
4 13	10		12
4 13	8		11
5 12	0		11
3 13	0		11
5 14	0		6
5 13	0		9
7 15	0		14
8 16	0		11
14 13	0		10
9 12	0		10
7 17	0		11
3 11	0		8
10 11	0		8
5 15	3		6
5 15	9		3
40)344(8½	6		20)200(10 inches
	0		
	1		
	20		
	24)57(2½		

It appears from the above how rapidly the snow has melted on the east side of the railroad causeway, though eight to twelve rods from it, being sheltered by it from the northwest wind.¹ It is for the most part bare ground there. Adhering to these localities, the average depth in open land is five and one half inches, but the east side of railroad is a peculiarly sheltered place and hence bare, while the earth generally is covered. It is probably about seven inches deep on a level generally in open land. It has melted at about the same rate west of railroad and in Trillium Woods since the 19th. It is a question whether it is better sleighing or wheeling now, taking all our roads together. At any rate we may say the sleighing lasted till April. In some places it still fills the roads level with the walls, and bears me up still in the middle of the day. It grows more and more solid, apparently freezing at night quite through. William Wheeler (of the Corner road) tells me that it was more solid this morning than any time in the winter, and he was surprised to find that it would bear his oxen where three or four feet deep behind his house. On some roads you walk in a path recently shovelled out, with upright walls of snow three or four feet high on each side and a foot of snow beneath you, for twenty or thirty rods; and this is old snow. We have had none since March 20th, and that was very moist and soon melted. The drifts on the east side of the depot, which have lain there a great part of the winter, still reach up to the top of the first pane of glass. But, generally speaking, we slump so much, especially

¹ *Vide* Apr. 11.

in the woods, except in the morning, and the snow is so deep, that we are confined to the roads or the river still. Choppers cannot work in the woods yet, and teams cannot get in for wood yet.

A new snow of this depth would soon go off, but this old snow is solid and icy and wastes very slowly. It seems to be gradually turning to ice. I observe that, while the snow has melted unevenly in waves and ridges, there is a transparent icy glaze about one sixteenth of an inch thick but as full of holes as a riddle, spread like gauze level over all, resting on the prominent parts of the snow, leaving hollows beneath from one inch to six or more inches in depth. I often see the spiders running underneath this. This is the surface, which has melted and formed an icy crust, and, being transparent, it has transmitted the heat to the snow beneath and has outlasted that. This crashes and rattles under your feet.

The bare places now are the steep south and west, or southwest, sides of hills and cliffs, and also next to woods and houses on the same sides, the bridges and brows of hills and slighter ridges and prominences in the fields, low open ground protected from the northwest wind, under trees, etc. I might have put the roads second.

Going by the path to the Springs, I find great beds of oak leaves, sometimes a foot thick, very dry and crisp and filling the path, or one side of it, in the woods for a quarter of a mile, inviting one to lie down. They have absorbed the heat and settled, like the single one seen yesterday, in mass a foot or more, making a path to

that depth. Yet when they are unusually thick they preserve the snow beneath and are found to cover an almost icy mound.

April 2. 8 A. M. — To Lee's Cliff *via* railroad, Andromeda Ponds, and Well Meadow.

I go early, while the crust is hard. I hear a few song sparrows tinkle on the alders by the railroad. They skulk and flit along below the level of the ground in the ice-filled ditches; and bluebirds warble over the Deep Cut. A foot or more of snow in Andromeda Ponds.

In the warm recess at the head of Well Meadow, which makes up on the northeast side of Fair Haven, I find many evidences of spring. Pushed up through the dead leaves, yet flattened by the snow and ice which has just melted here, behold! the skunk-cabbage has been in bloom, *i. e.* has shed pollen some time and been frost-bitten and decayed. All that now sheds pollen here has been frost-bitten. Others are ready to shed it in a day or two. I find no other flower nearly so forward as this. The cowslip appears to be coming next to it. Its buds are quite yellowish and half an inch, almost, in diameter. The alder scales do not even appear relaxed yet. This year, at least, the cabbage is the first flower; and perhaps it is always earlier than I have thought, if you seek it in a favorable place.¹ The springy soil in which it grows melts the snows early, and if, beside, it is under the south side of a hill in an open oozy alder swamp in a recess sheltered from cold winds like this, it *may commonly* be the first flower.²

¹ It *may* possibly be a little. *Vide* the 4th *inst.*

² Doubtful.

It will take you half a lifetime to find out where to look for the earliest flower. I have hitherto found my earliest at Clamshell, a much more exposed place.¹ Look for some narrow meadowy bay, running north into a hill and protected by the hill on the north and partly on the east and west. At the head of this meadow, where many springs ooze out from under the hill and saturate all the ground, dissolving the snow early in the spring, in the midst, or on the edge, of a narrow open alder swamp, there look for the earliest skunk-cabbage and cowslip, where some little black rills are seen to meander or heard to tinkle in the middle of the coldest winter. There appear the great spear-heads of the skunk-cabbage, yellow and red or uniform mahogany-color, ample hoods sheltering their purple spadixes. The plaited buds of the hellebore are four or five inches high. There are beds of fresh green moss in the midst of the shallow water. What is that coarse sedge-like grass, rather broadly triangularish, two inches high in the water? This and the cress have been eaten, probably by the rabbits, whose droppings are abundant. I see where they have gnawed and chipped off the willow osiers. Common grass is quite green.

Here, where I come for the earliest flowers, I might also come for the earliest birds. They seek the same warmth and vegetation. And so probably with quadrupeds, — rabbits, skunks, mice, etc. I hear now, as I stand over the first skunk-cabbage, the notes of the first red-wings,² like the squeaking of a sign, over amid the maples yonder. Robins are peeping and flitting

¹ *Vide* 4th.

² Or grackles?

about. Am surprised to hear one sing regularly their morning strain, seven or eight rods off, yet so low and smothered with its ventriloquism that you would say it was half a mile off. It seems to be wooing its mate, that sits within a foot of it.

There are many holes in the surface of the bare, springy ground amid the rills, made by the skunks or mice, and now their edges are bristling with feather-like frostwork, as if they were the breathing-holes or nostrils of the earth.

That grass which had grown five inches on the 30th is apparently the cut-grass of the meadows. The withered blades which are drooping about the tufts are two feet long. I break the solid snow-bank with my feet and raise its edge, and find the stiff but tender yellow shoots beneath it. They seem not to have pierced it, but are prostrate beneath it. They have actually grown beneath it, but not directly up into it to any extent; rather flattened out beneath it.

Cross Fair Haven Pond to Lee's Cliff. The crow-foot and saxifrage seem remarkably backward; no growth as yet. But the catnep has grown even six inches, and perfumes the hillside when bruised. The columbine, with its purple leaves, has grown five inches, and one is flower-budded, apparently nearer to flower than anything there. *Turritis stricta* very forward, four inches high.

It is evident that it depends on the character of the season whether this flower or that is the most forward; whether there is more or less snow or cold or rain, etc. I am tempted to stretch myself on the bare ground above

the Cliff, to feel its warmth in my back, and smell the earth and the dry leaves. I see and hear flies and bees about. A large buff-edged butterfly flutters by along the edge of the Cliff, — *Vanessa antiopa*. Though so little of the earth is bared, this frail creature has been warmed to life again. Here is the broken shell of one of those large white snails (*Helix albolabris*) on the top of the Cliff. It is like a horn with ample mouth wound on itself. I am rejoiced to find anything so pretty. I cannot but think it nobler, as it is rarer, to appreciate some beauty than to feel much sympathy with misfortune. The Powers are kinder to me when they permit me to enjoy this beauty than if they were to express any amount of compassion for me. I could never excuse them that.

A woodchuck has been out under the Cliff, and patted the sand, cleared out the entrance to his burrow.

Muskrat-houses have been very scarce indeed the past winter. If they were not killed off, I cannot but think that their instinct foresaw that the river would not rise. The river has been at summer level through the winter up to April!

I returned down the middle of the river to near the Hubbard Bridge without seeing any opening.

Some of the earliest plants are now not started because covered with snow, as the stellaria and shepherd's-purse. Others, like the *Carex Pennsylvanica*, the crowfoot, saxifrage, callitriche, are either covered or recently uncovered. I think it must be partly owing to the want of rain, and not wholly to the snow, that the first three are so backward.

The white maples and hazels and, for the most part, the alders still stand in snow; yet those alders on the bare place by the skunk-cabbage, above named, appear to be no more forward! Maybe trees, rising so high, are more affected by cold winds than herbaceous plants.

April 3. When I awoke this morning I heard the almost forgotten sound of rain on the roof. I think there has not been any of any consequence since Christmas Day. Looking out, I see the air full of fog, and that the snow has gone off wonderfully during the night. The drifts have settled and the patches of bare ground extended themselves, and the river is fast spreading over the meadows. The pattering of the rain is a soothing, slumberous sound, which tempts me to lie late, yet there is more fog than rain. Here, then, at last, is the end of the sleighing, which began the 25th of December. Not including that date and to-day it has lasted ninety-nine days. I hear that young Demond of the Factory will have come into town one hundred times in his sleigh the past winter, if he comes to-day, having come probably only once in a day.

P. M. — To Hunt's Bridge.

It is surprising how the earth on bare south banks begins to show some greenness in its russet cheeks in this rain and fog, — a precious emerald-green tinge, almost like a green mildew, the growth of the night, — a *green* blush suffusing her cheek, heralded by twittering birds. This sight is no less interesting than the corresponding bloom and ripe blush of the fall. How encouraging to perceive again that faint tinge of green,

spreading amid the russet on earth's cheeks! I revive with Nature; her victory is mine. This is my jewelry. It rains very little, but a dense fog, fifteen or twenty feet high, rests on the earth all day, spiriting away the snow, — behind which the cockerels crow and a few birds sing or twitter. The osiers look bright and fresh in the rain and fog, like the grass. Close at hand they are seen to be beaded with drops from the fog. There seems to be a little life in the bark now, and it strips somewhat more freely than in winter. What a lusty growth have these yellow osiers! Six feet is common the last year, chiefly from the summit of the pollards, — but also from the sides of the trunk, — filling a quadrant densely with their yellow rays. The white maple buds on the south side of some trees have slightly opened, so that I can peep into their cavities and detect the stamens.¹ They will probably come next to the skunk-cabbage this year, if the cowslip does not. Yet the trees stand in the midst of the old snow.

I see small flocks of robins running on the bared portions of the meadow. Hear the sprayey tinkle of the song sparrow along the hedges. Hear also, squeaking notes of an advancing flock of red-wings,² somewhere high in the sky. At length detect them high overhead, advancing northeast in loose array, with a broad extended front, competing with each other, winging their way to some northern meadow which they remember. The note of



¹ This happened in February (!), 1857.

² Or grackles; am uncertain which makes that squeak.

some is like the squeaking of many signs, while others accompany them with a steady dry *tchuck, tchuck*.

Hosmer is overhauling a vast heap of manure in the rear of his barn, turning the ice within it up to the light; yet he asks despairingly what life is for, and says he does not expect to stay here long. But I have just come from reading Columella, who describes the same kind of spring work, in that to him new spring of the world, with hope, and I suggest to be brave and hopeful with nature. Human life may be transitory and full of trouble, but the perennial mind, whose survey extends from that spring to this, from Columella to Hosmer, is superior to change. I will identify myself with that which did not die with Columella and will not die with Hosmer.¹

Coming home along the causeway, a robin sings (though faintly) as in May. The road is a path, here and there shovelled through drifts which are considerably higher than a man's head on each side.

People are talking about my Uncle Charles. Minott tells how he heard Tilly Brown once asking him to show him a peculiar (inside?) lock in wrestling. "Now, don't hurt me, don't throw me hard." He struck his antagonist inside his knees with his feet, and so deprived him of his legs. Hosmer remembers his tricks in the barroom, shuffling cards, etc. He could do anything with cards, yet he did not gamble. He would toss up his hat, twirling it over and over, and catch it on his head invariably. Once wanted to live at Hosmer's, but the latter was afraid of him. "Can't we study up something?" he asked. H. asked him into the house

¹ [Channing, p. 88.]

and brought out apples and cider, and Charles talked. "You!" said he, "I burst the bully of Lowell" (or Haverhill?). He wanted to wrestle; would not be put off. "Well, we won't wrestle in the house." So they went out to the yard, and a crowd got round. "Come spread some straw here," said C. "I don't want to hurt him." He threw him at once. They tried again. He told them to spread more straw and he "burst" him.

He had a strong head and never got drunk; would drink gin sometimes, but not to excess. Did not use tobacco, except snuff out of another's box sometimes. Was very neat in his person. Was not profane, though vulgar.

Very few men take a wide survey; their knowledge is very limited and particular. I talked with an old man the other day about the snow, hoping he would give me some information about past winters. I said, "I guess you don't remember so much old snow on the ground at this season." He answered, "I never saw the snow so deep between my house and John's." It was n't a stone's throw.¹

Uncle Charles used to say that he had n't a single tooth in his head. The fact was they were all double, and I have heard that he lost about all of them by the time he was twenty-one. Ever since I knew him he could swallow his nose.

The river is now generally and rapidly breaking up. It is surprising what progress has been made since yesterday. It is now generally open about the town. It has gradually worn and melted away at the bends,

¹ The same man in summer of '59 said he never saw the river so low! ! Of what use to be old?

where it is shallow and swift, and now small pieces are breaking off around the edges and floating down these reaches. It is not generally floated off, but dissolved and melted where it is, for the open reaches gradually extend themselves till they meet, and there is no space or escape for floating ice in any quantity, until the ice is all gone from the channel. I think that what I have seen floating in former years is *commonly* such as had risen up afterward from the bottom of flooded meadows. Sometimes, however, you observe great masses of floating ice, consisting of that which is later to break up, the thicker and more lasting ice from broad bays or between bridges. There is now an open water passage on each side of the broad field of ice in the bay above the railroad. The water, which is rapidly rising, has overflowed the icy snow on the meadows, which is seen a couple of feet beneath it, for there is no true ice there. It is this rising of the water that breaks up the ice more than anything. The Mill Brook has risen much higher comparatively than the river.

April 4. P. M. — To Clamshell, etc.

The alder scales south of the railroad, beyond the bridge, are loosened. This corresponds to the opening (not merely expansion showing the fuzziness) of the white maple buds.

There is still but little rain, but the fog of yesterday still rests on the earth. My neighbor says it is the frost coming out of the ground. This, perhaps, is not the best description of it. It is rather the moisture in this warm air, condensed by contact with the snow and ice

and frozen ground. Where the fields are bare I slump now three or four inches into the oozy surface, also on the bare brows of hills clad with cladonias. These are as full of water as a sponge. The muskrats, no doubt, are now being driven out of the banks. I hear, as I walk along the shore, the dull sound of guns — probably most of them fired at muskrats — borne along the river from different parts of the town; one every two or three minutes.

Already I hear of a small fire in the woods in Emerson's lot, set by the engine, the leaves [*sic*] that are bare are so dry.

I find many sound cabbages shedding their pollen under Clamshell Hill. They are even more forward *generally* here than at Well Meadow. Probably two or three only, now dead among the alders at the last place, were earlier. This is simply the earliest flower such a season as this, *i. e.* when the ground continues covered with snow till very late in the spring. For this plant occupies ground which is the earliest to be laid bare, those great dimples in the snow about a springy place in the meadow, five or ten feet over, where the sun and light have access to the earth a month before it is generally bare. In such localities, then, they will enjoy the advantage over most other plants, for they will not have to contend with abundance of snow, but only with the cold air, which may be no severer than usual. Cowslips and a few other plants sometimes enjoy the same advantage. Sometimes, *apparently*, the original, now outer, spathe has been frost-bitten and is decayed, and a fresh one is pushing up. I see some



Skunk-Cabbage



of these in full bloom, though the opening to their tents is not more than half an inch wide. They are lapped like tent doors, effectually protected. Methinks most of these hoods open to the south. It is remarkable how completely the spadix is protected from the weather, first by the ample hood, whose walls are distant from it, next by the narrow tent-like doorway, admitting air and light and sun, generally I think on the south side, and also by its pointed top, curved downward protectingly over it. It looks like a monk in his crypt with powdered head. The sides of the doorway are lapped or folded, and one is considerably in advance of the other. It is contrived best to catch the vernal warmth and exclude the winter's cold. Notwithstanding all the snow the skunk-cabbage is earlier than last year, when it was also the earliest flower and blossomed on the 5th of April. It is, perhaps, owing to the long-continued warm weather from March 13th to 28th.

Yet it has been a hard winter for many plants, on dry, exposed hills. I am surprised to see the clover, cinquefoil, etc., etc., on the top of the bank at Clamshell completely withered and straw-colored, probably from the snow resting on it so long and incessantly. And plants that grow on high land are more backward than last year.

The ground no sooner begins to be bare to a considerable extent than I see a marsh hawk, or harrier.

The sap of the *white* birch at Clamshell begins to flow.

April 5. The April weather still continues. It looks repeatedly as if the sun would shine, and it rains five

minutes after. I look out to see how much the river has risen. Last night there were a great many portions or islets visible, now they are engulfed, and it is a smooth expanse of water and icy snow. The water has been steadily deepening on Concord meadows all night, rising with a dimple about every stem and bush.

P. M. — To North River at Tarbell's.

Fair weather again. Saw half a dozen blackbirds, uttering that sign-like note, on the top of Cheney's elm, but noticed no red at this distance. Were they grackles? Hear after some red-wings sing *boby-lee*. Do these ever make the sign-like note? Is not theirs a fine shrill *whistle*?

The ice from the sides of the rivers has wheeled round in great cakes and lodged against each of the railroad bridges, *i. e.* over each stream. Near the town there is the firmest body of ice (in the river proper) above Hubbard's Bridge.

A warm and pleasant afternoon. The river not yet so high by four or five feet as last winter. Hear, on all sunny hillsides where the snow is melted, the chink-clicking notes of the *F. hyemalis* flitting before me. I am sitting on the dried grass on the south hillside behind Tarbell's house, on the way to Brown's. These birds know where there is a warm hillside as well as we. The warble of the bluebird is in the air. From Tarbell's bank we had looked over the bright moving flood of the Assabet with many maples standing in it, the purling and eddying stream, with a hundred rills of snow water trickling into it.

Further toward J. P. Brown's, saw two large ant-hills (red before, black abdomens), quite covered on all the sunny portion with ants, which appeared to have come forth quite recently and were removing obstructions from their portals. Probably the frost is quite out there. Their black abdomens glistened in the sun. Each was bringing up some rubbish from beneath.

The outlines of one of these hills were a very regular cone; both were graceful curves. Came out upon the high terrace behind Hosmer's, whence we overlooked the *bright-blue* flood alternating with fields of ice (we being on the same side with the sun). The first sight of the blue water in the spring is exhilarating.

Saw half a dozen white sheldrakes in the meadow, where Nut Meadow Brook was covered with the flood. There were two or three females with them. These ducks would all swim together first a little way to the right, then suddenly turn together and swim to the left, from time to time making the water fly in a white spray, apparently with a wing. Nearly half a mile off I could see their green crests in the sun. They were partly concealed by some floating pieces of ice and snow, which they resembled.

On the hill beyond Clamshell scared up two turtle doves.

It is that walking when we must pick the hardest and highest ground or ice, for we commonly sink several inches in the oozy surface.

*April 6. 7 A. M. — To Willow*¹ Bay.

The meadow has frozen over, skimmed over in the

¹ That is, Lily.

night. The ducks must have had a cold night of it. I thought [I] heard white-bellied swallows over the house before I arose.¹ The hedges resound with the song of the song sparrow. He sits high on a spray singing, while I stand near, but suddenly, becoming alarmed, drops down and skulks behind the bushes close to the ground, gradually removing far to one side. I am not certain but I have seen the grass-bird ² as well as song sparrow this year, — on the 2d, — a sparrow with a light breast and less brown about the cheeks and head. The song sparrow I see now has a very brown breast. What a sly, skulking fellow! I have a glimpse of him skulking behind a stone or a bush next to the ground, or perhaps he drops into a ditch just before me, and when I run forward he is not to be seen in it, having flitted down it four or five rods to where it intersected with another, and then up that, all beneath the level of the surface, till he is in the rear of me.

Just beyond Wood's Bridge, I hear the pewee. With what confidence after the lapse of many months, I come out to this waterside, some warm and pleasant spring morning, and, listening, hear, from farther or nearer, through the still concave of the air, the note of the first pewee! If there is one within half a mile, it will be here, and I shall be sure to hear its simple notes from those trees, borne over the water. It is remarkable how large a mansion of the air you can explore with your ears in the still morning by the waterside.

¹ Probably, for they surely came next morning. They twitter over the house only in the morning at first.

² No, probably not, for it has no dark splashes on throat. *Vide* 7th.

I can dig in the garden now, where the snow is gone, and even under six inches of snow and ice I make out to get through the frost with a spade. The frost will all be out about as soon as last year, for the melting of the snow has been taking it out. It is remarkable how rapidly the ground dries, for where the frost is out the water does not stand, but is soaked up.

There has been no skating the last winter, the snow having covered the ice immediately after it formed and not melting, and the river not rising till April, when it was too warm to freeze thick enough.

As we sat yesterday under the warm, dry hillside, amid the *F. hyemalis* by Tarbell's, I noticed the first bluish haze—a small patch of it—over the true Nut Meadow, seen against the further blue pine forest over the near low yellow one. This was of course the subtle vapor which the warmth of the day raised from Nut Meadow. This, while a large part of the landscape was covered with snow, an affecting announcement of the approach of summer. The one wood seemed but an underwood on the edge of the other, yet all Nut Meadow's varied surface intervened, with its brook and its cranberries, its sweet-gale, alder, and willow, and this was its blue feather!

P. M. — To Hubbard's second grove, by river.

At Ivy Tree, hear the fine *tseep* of a sparrow, and detect the fox-colored sparrow on the lower twigs of the willows and from time to time scratching the ground beneath. It is quite tame, — a single one with its ashy head and mottled breast.

It is a still and warm, overcast afternoon, and I am

come to look for ducks on the smooth reflecting water which has suddenly surrounded the village, — water half covered with ice or icy snow. On the 2d it was a winter landscape, — a narrow river covered thick with ice for the most part, and only snow on the meadows. In three or four days the scene is changed to these vernal lakes, and the ground more than half bare. The reflecting water alternating with unreflecting ice.

Apparently song sparrows may have the dark splash on each side of the throat but be more or less brown on the breast and head. Some are quite light, some quite dark. Here is one of the light-breasted on the top of an apple tree, sings unweariedly at regular intervals something like *tchulp* | *chilt chilt, chilt chilt*, (faster and faster) *chilt chilt, chilt chilt* | *tuller tchay ter splay-ee*. The last, or third, bar I am not sure about. It flew too soon for me. I only remember that the last part was sprinkled on the air like drops from a rill, as if its strain were moulded by the spray it sat upon. Now see considerable flocks of robins hopping and running in the meadows; crows next the water-edge, on small isles in the meadow.

As I am going along the Corner road by the meadow mouse brook, hear and see, a quarter of a mile north-west, on those conspicuous white oaks near the river in Hubbard's second grove, the crows buffeting some intruder. The crows had betrayed to me some large bird of the hawk kind which they were buffeting. I suspected it before I looked carefully. I saw several crows on the oaks, and also what looked to my naked eye like a cluster of the palest and most withered oak

leaves with a black base about as big as a crow. Looking with my glass, I saw that it was a great bird. The crows sat about a rod off, higher up, while another crow was occasionally diving at him, and all were cawing. The great bird was just starting. It was chiefly a dirty white with great broad wings with black tips and black on other parts, giving it the appearance of dirty white, barred with black. I am not sure whether it was a white-headed eagle or a fish hawk. There appeared much more white than belongs to either, and more black than the fish hawk has. It rose and wheeled, flapping several times, till it got under way; then, with its rear to me, presenting the least surface, it moved off steadily in its orbit over the woods northwest, with the slightest possible undulation of its wings, — a noble planetary motion, like Saturn with its ring seen edgewise. It is so rare that we see a large body self-sustained in the air. While crows sat still and silent and confessed their lord. Through my glass I saw the outlines of this sphere against the sky, trembling with life and power as it skimmed the topmost twigs of the wood toward some more solitary oak amid the meadows. To my naked eye it showed only so much black as a crow in its talons might. Was it not the white-headed eagle in the state when it is called the sea eagle? Perhaps its neck-feathers were erected.

I went to the oaks. Heard there a nuthatch's faint vibrating *tut-tut*, somewhat even like croaking of frogs, as it made its way up the oak bark and turned head down to peck. Anon it answered its mate with a *gnah gnah*. Smelt a skunk on my return, at Hubbard's blue-

berry swamp, which some dogs that had been barking there for half an hour had probably worried, for I did not smell it when I went along first. I smelt this all the way thence home, the wind being southwest, and it was quite as perceptible in our yard as at the swamp. The family had already noticed it, and you might have supposed that there was a skunk in the yard, yet it was three quarters of a mile off, at least.

April 7. Monday. Launched my boat, through three rods of ice on the riverside, half of which froze last night. The meadow is skimmed over, but by mid-forenoon it is melted.

P. M. — Up river in boat.

The first boats I have seen are out to-day, after muskrats, etc. Saw one this morning breaking its way far through the meadow, in the ice that had formed in the night. How independent they look who have come forth for a day's excursion! Melvin is out, and Goodwin, and another boat still. They can just row through the thinnest of the ice. The first boat on the meadows is exciting as the first flower or swallow. It is seen stealing along in the sun under the meadow's edge. One breaks the ice before it with a paddle, while the other pushes or paddles, and it grates and wears against the bows.

We see Goodwin skinning the muskrats he killed this forenoon on bank at Lee's Hill, leaving their red and mutilated carcasses behind. He says he saw a few geese go over the Great Meadows on the 6th. The half of the meadows next the river, or more, is covered with

snow ice at the bottom, which from time to time rises up and floats off. These and more solid cakes from over the river clog the stream where it is least broken up, bridging it quite over. Great cakes rest against every bridge. We were but just able to get under the stone arches by lying flat and pressing our boat down, after breaking up a large cake of ice which had lodged against the upper side. Before we get to Clamshell, see Melvin ahead scare up two black ducks, which make a wide circuit to avoid both him and us. Shel-drakes pass also, with their heavy bodies. See the red and black bodies of more muskrats left on the bank at Clamshell, which the crows have already attacked. Their hind legs are *half-webbed*, the fore legs not at all. Their paunches are full apparently of chewed roots, yellowish and bluish. Goodwin says they are fatter than usual, perhaps because they have not been driven out of their holes heretofore. The open channel is now either over the river or on the upper side of the meadows next the woods and hills. Melvin floats slowly and quietly along the willows, watching for rats resting there, his white hound sitting still and grave in the prow, and every little while we hear his gun announcing the death of a rat or two. The dog looks on understandingly and makes no motion.

At the Hubbard Bridge, we hear the incessant note of the phœbe, — *pevet, pe-e-vet, pevee'*, — its innocent, somewhat impatient call. Surprised to find the river not broken up just above this bridge and as far as we can see, probably through Fair Haven Pond. Probably in some places you can cross the river still on the ice.

Yet we make our way with some difficulty, through a very narrow channel over the meadow and drawing our boat over the ice on the river, as far as foot of Fair Haven. See clams, fresh-opened, and roots and leaf-buds left by rats on the edge of the ice, and see the rats there. By rocking our boat and using our paddles, we can make our way through the softened ice, six inches or more in thickness.

The tops of young white birches now have a red-pink color. Leave boat there.

See a yellow-spotted tortoise in a ditch; and a bay-wing sparrow. It has no dark splash on throat and has a light or gray head.

April 8. 1 P. M. — To boat at Cardinal Shore, and thence to Well Meadow and back to port.

Another very pleasant and warm day. The white-bellied swallows have paid us twittering visits the last three mornings. You must rush out quickly to see them, for they are at once gone again. Warm enough to do without greatcoat to-day and yesterday, though I carry it and put it on when I leave the boat.

Hear the crack of Goodwin's piece close by, just as I reach my boat. He has killed another rat. Asks if I am bound up-stream. "Yes, to Well Meadow." Says I can't get above the hay-path a quarter of a mile above on account of ice; if he could, he 'd 'a' been at Well Meadow before now. But I think I will try, and he thinks if I succeed he will try it. By standing on oars, which sink several inches, and hauling over one cake of ice, I manage to break my way into an open canal

above, where I soon see three rats swimming. Goodwin says that he got twenty-four minks last winter, more than ever before in one season; trapped most, shot only two or three. From opposite Bittern Cliff, I pushed along, with more or less difficulty, to Well Meadow Brook. There was a water passage ten feet wide, where the river had risen beyond the edge of the ice, but not more than four or five feet was clear of the bushes and trees. By the side of Fair Haven Pond it was particularly narrow. I shoved the ice on the one hand and the bushes and trees on the other all the way. Nor was the passage much wider below, as far back as where I had taken my boat. For all this distance, the river *for the most part*, as well as all the pond, was an unbroken field of ice. I went winding my way and scraping between the maples. Half a dozen rods off on the ice, you would not have supposed that there was room for a boat there. In some places you could have got on to the ice from the shore without much difficulty. But all of Well Meadow was free of ice, and I paddled up to within a rod or two of where I found the cowslips so forward on the 2d. It is difficult pushing a boat over the meadows now, for even where the bottom is not covered with slippery snow ice which affords no hold to the paddle, the meadow is frozen and icy hard, for it thaws slowly under water. *This* meadow is completely open, because none of the snow ice has risen up. Sometimes you see a small piece that has been released come up suddenly, with such force as to lift it partly out of water, but, sinking again at once, it looks like a shel-drake which has dived at a distance.

There, in that slow, muddy brook near the head of Well Meadow, within a few rods of its source, where it winds amid the alders, which shelter the plants somewhat, while they are open enough now to admit the sun, I find two cowslips in full bloom, shedding pollen; and they may have opened two or three days ago; for I saw many conspicuous buds here on the 2d which now I do not see. Have they not been eaten off? Do we not often lose the earliest flowers thus? A little more, or if the river had risen as high as frequently, they would have been submerged. What an arctic voyage was this in which I find cowslips, the pond and river still frozen over for the most part as far down as Cardinal Shore!

Saw two marsh hawks this afternoon, circling low over the meadows along the water's edge. This shows that frogs must be out. Goodwin and Puffer both fired at one from William Wheeler's shore. They say they made him duck and disturbed his feathers some. The muskrats are now very fat. They are reddish-brown beneath and dark-brown above. I see not a duck in all this voyage. Perhaps they are moving forward this bright and warm day.

Was obliged to come down as far as Nut Meadow (being on the west side), before I could clear the ice, and, setting my sail, tack across the meadow for home, the wind northwesterly. The river is still higher than yesterday.

About 8.30 P. M., hear geese passing quite low over the river.

Found beneath the surface, on the sphagnum, near

the cowslips, a collection of little hard nuts with wrinkled shells, a little like nutmegs, perhaps bass nuts, collected after a freshet by mice! I noticed that the fibres of the alder roots in the same place were thickly [*sic*] with little yellow knubby fruit. Was not that clear light-brown snail in that sphagnum a different species from the common one in brooks? See a few cranberries and smell muskrats.

On the Fair Haven Cliff, crowfoot and saxifrage are very backward. That dense-growing moss on the rocks shows now a level surface of pretty crimson cups.

Noticed, returning, this afternoon, a muskrat sitting on the ice near a small hole in Willow Bay, so motionless and withal round and featureless, of so uniform a color, that half a dozen rods off I should not have detected him if not accustomed to observing them. Saw the same thing yesterday. It reminds me of the truth of the Indian's name for it, — "that sits in a round form on the ice." You would think it was a particularly round clod of meadow rising above the ice. But while you look, it concludes its meditations or perchance its meal, and deliberately takes itself off through a hole at its feet, and you see no more of it. I noticed five muskrats this afternoon without looking for them very carefully. Four were swimming in the usual manner, showing the vertical tail, and plunging with a half-somerset suddenly before my boat. While you are looking, these brown clods slide off the edge of the ice, and it is left bare. You would think that so large an animal, sitting right out upon the ice, would be sure to be seen or detected, but not so. A citizen might paddle within two rods and

not suspect them. Most countrymen might paddle five miles along the river now and not see one muskrat, while a sportsman a quarter of a mile before or behind would be shooting one or more every five minutes. The other, left to himself, might not be able to guess what he was firing at.

The marsh hawks flew in their usual irregular low tacking, wheeling, and circling flight, leisurely flapping and beating, now rising, now falling, in conformity with the contour of the ground. The last I think I have seen on the same beat in former years. He and his race must be well acquainted with the Musketcook and its meadows. No sooner is the snow off than he is back to his old haunts, scouring that part of the meadows that is bare, while the rest is melting. If he returns from so far to these meadows, shall the sons of Concord be leaving them at this season for slight cause?

River had risen so since yesterday I could not get under the bridge, but was obliged to find a round stick and roll my boat over the road.

April 9. Wednesday. Another fine day.

7 A. M. — To Trillium Woods.

Air full of birds. The line I have measured west of railroad is now just bare of snow, though a broad and deep bank of it lies between that line and the railroad. East of railroad has been bare some time. The line in Trillium Woods is apparently just bare also. There is just about as much snow in these woods now as in the meadows and fields around generally; *i. e.*, it is confined to the coldest sides, as in them. There is not so

much as on the east side of Lee's Hill. It is toward the north and east sides of the wood. Hence, apparently, in a level wood of this character the snow lies no longer than in adjacent fields divided by fences, etc., or even without them.

The air is full of birds, and as I go down the causeway, I distinguish the seringo note. You have only to come forth each morning to be surely advertised of each newcomer into these broad meadows. Many a larger animal might be concealed, but a cunning ear detects the arrival of each new species of bird. These birds give evidence that they prefer the fields of New England to all other climes, deserting for them the warm and fertile south. Here is their paradise. It is here they express the most happiness by song and action. Though these spring mornings may often be frosty and rude, they are exactly tempered to their constitutions, and call forth the sweetest strains.

The yellow birch sap has flowed abundantly, probably before the white birch.

8 A. M. — By boat to V. palmata¹ Swamp for *white birch sap*.

Leave behind greatcoat. The waters have stolen higher still in the night around the village, bathing higher its fences and its dry withered grass stems with a dimple. See that broad, smooth vernal lake, like a painted lake. Not a breath disturbs it. The sun and warmth and smooth water and birds make it a carnival of Nature's. I am surprised when I perceive men

¹ Muhlenbergii.

going about their ordinary occupations. I presume that before ten o'clock at least all the villagers will have come down to the bank and looked over this bright and placid flood, — the child and the man, the housekeeper and the invalid, — even as the village beholds itself reflected in it. How much would be subtracted from the day if the water was taken away! This liquid transparency, of melted snows partially warmed, spread over the russet surface of the earth! It is certainly important that there be some priests, some worshippers of Nature. I do not imagine anything going on to-day away from and out of sight of the waterside.

Early aspen catkins have curved downward an inch, and began to shed pollen apparently yesterday. White maples also, the sunny sides of clusters and sunny sides of trees in favorable localities, shed pollen to-day.

I hear the note of a lark amid the other birds on the meadow. For two or three days, have heard delivered often and with greater emphasis the loud, clear, sweet *phebe* note of the chickadee, elicited by the warmth. Cut across Hosmer's meadow from Island to Black Oak Creek, where the river, still rising, is breaking over with a rush and a rippling. Paddled quite to the head of Pinxter Swamp, where were two black ducks amid the maples, which went off with a hoarse quacking, leaving a feather on the smooth dark water amid the fallen tree-tops and over the bottom of red leaves.

Set two sumach spouts in a large white birch in the southward swamp, and hung a tin pail to them, and set off to find a yellow birch. Wandering over that

high huckleberry pasture, I hear the sweet jingle of the *Fringilla juncorum*.

In a leafy pool in the low wood toward the river, hear a rustling, and see yellow-spot tortoises dropping off an islet, into the dark, stagnant water, and four or five more lying motionless on the dry leaves of the shore and of islets about. Their spots are not very conspicuous out of water, and in most danger. The warmth of the day has penetrated into these low, swampy woods on the northwest of the hill and awakened the tortoises from their winter sleep. These are the only kind of tortoise I have seen this year. Probably because the river did not rise earlier, and the brooks, and thaw them out. When I looked about, I saw the shining black backs of four or five still left, and when I threw snowballs at them, they would not move. Yet from time to time I walk four or five rods over deep snow-banks, slumping in on the north and east sides of hills and woods. Apparently they love to feel the sun on their shells.

As I walk in the woods where the dry leaves are just laid bare, I see the bright-red berries of the Solomon's-seal still here and there above the leaves, affording food, no doubt, for some creatures.

Not finding the birches, I returned to the first swamp and tapped two more white birches. They flow generally faster than the red or white maples when I tried them. I sit on a rock in the warm, sunny swamp, where the ground is bare, and wait for my vessels to be filled. It is perfectly warm and perhaps drier than ever here. The great butterflies, black with buff-edged wings, are fluttering about, and flies are buzzing over

this rock. The spathes of the skunk-cabbage stand thickly amid the dead leaves, the only obvious sign of vegetable life. A few rods off I hear some sparrows busily scratching the floor of the swamp, uttering a faint *tseep tseep* and from time to time a sweet strain. It is probably the fox-colored sparrow. These always feed thus, I think, in woody swamps, a flock of them rapidly advancing, flying before one another, through the swamp. A robin peeping at a distance is mistaken for a hyla. A gun fired at a muskrat on the other side of the island towards the village sounds like planks thrown down from a scaffold, borne over the water. Meanwhile I hear the sap dropping into my pail. The birch sap flows thus copiously before there is any other sign of life in the tree, the buds not visibly swollen. Yet the aspen, though in bloom, shows no sap when I cut it, nor does the alder. Will their sap flow later? Probably this birch sap, like the maple, flows little if any at night. It is remarkable that this dead-looking trunk should observe such seasons, — that a stock should distinguish between day and night.

When I return to my boat, I see the snow-fleas like powder, in patches on the surface of the smooth water, amid the twigs and leaves. I had paddled far into the swamp amid the willows and maples. The flood has reached and upset, and is floating off the chopper's corded wood. Little did he think of this thief. It is quite hazy to-day. The red-wing's *o'gurgle-ee-e* is in singular harmony with the sound and impression of the lapsing stream or the smooth, swelling flood beneath his perch. He gives expression to the flood. The water

reaches far in amid the trees on which he sits, and they seem like a water-organ played on by the flood. The sound rises up through their pipes. There was no wind, and the water was perfectly smooth, — a Sabbath stillness till 11 A. M. We have had scarcely any wind for a month.

Now look out for fires in the woods, for the leaves are never so dry and ready to burn as now. The snow is no sooner gone, — nay, it may still cover the north and west sides of hills, — when a day or two's sun and wind will prepare the leaves to catch at the least spark. Indeed these are such leaves as have never yet been wet, as have blown about and collected in heaps on the snow, and they would burn there in midwinter, though the fire could not spread much.

If the ground were *covered* with snow, would any degree of warmth produce a *blue* haze like this?

But such a fire can only run up the south and southwest sides of hills at this season. It will stop at the summit and not advance forward far, nor descend at all toward the north and east.

P. M. — Up railroad. A very warm day.

The *Alnus incana*, especially by the railroad opposite the oaks, sheds pollen. At the first-named alder saw a striped snake, which probably I had scared into the water from the warm railroad bank, its head erect as it lay on the bottom and swaying back and forth with the waves, which were quite high, though considerably above it. I stood there five minutes at least, and probably it could remain there an indefinite period.

The wind has now risen, a warm, but pretty stormy southerly wind, and is breaking up those parts of the river which were yet closed. The great mass of ice at Willow Bay has drifted down against the railroad bridge. I see no ducks, and it is too windy for muskrat-shooters. In a leafy pond by railroad, which will soon dry up, I see large skater insects, where the snow is not all melted. The willow catkins there near the oaks show the red of their scales at the base of the catkins dimly through their down, — a warm crimson glow or blush. They are an inch long, others about as much advanced but rounded. They will perhaps blossom by day after tomorrow, and the hazels on the hillside beyond as soon at least, if not sooner. They are loose and begin to dangle. The stigmas already peep out, minute crimson stars, — Mars. The skaters are as forward to play on the first smooth and melted pool, as boys on the first piece of ice in the winter. It must be cold to their feet.

I go off a little to the right of the railroad, and sit on the edge of that sand-crater near the spring by the railroad. Sitting there on the warm bank, above the broad, shallow, crystalline pool, on the sand, amid russet banks of curled early sedge-grass, showing a little green at base, and dry leaves, I hear one hyla peep faintly several times. This is, then, a degree of warmth sufficient for the hyla. He is the first of his race to awaken to the new year and pierce the solitudes with his voice. He shall wear the medal for this year. You hear him, but you will never find him. He is somewhere down amid the withered sedge and alder bushes there

by the water's edge, but where? From that quarter his shrill blast sounded, but he is silent, and a kingdom will not buy it again.

The communications from the gods to us are still deep and sweet, indeed, but scanty and transient,—enough only to keep alive the memory of the past. I remarked how many old people died off on the approach of the present spring. It is said that when the sap begins to flow in the trees our diseases become more violent. It is now advancing toward summer apace, and we seem to be reserved to taste its sweetness, but to perform what great deeds? Do we detect the reason why we also did not die on the approach of spring?

I measured a white oak stump, just sawed off, by the railroad there, averaging just two feet in diameter with one hundred and forty-two rings; another, near by, an inch and a half broader, had but one hundred and five rings.

While I am looking at the hazel, I hear from the old locality, the edge of the great pines and oaks in the swamp by the railroad, the note of the pine warbler. It sounds far off and faint, but, coming out and sitting on the iron rail, I am surprised to see it within three or four rods, on the upper part of a white oak, where it is busily catching insects, hopping along toward the extremities of the limbs and looking off on all sides, twice darting off like a wood pewee, two rods, over the railroad, after an insect and returning to the oak, and from time to time uttering its simple, rapidly iterated, cool-sounding notes. When heard a little within the wood, as he hops to that side of the oak, they sound

particularly cool and inspiring, like a part of the ever-green forest itself, the trickling of the sap. Its bright-yellow or golden throat and breast, etc., are conspicuous at this season, — a greenish yellow above, with two white bars on its bluish-brown wings. It sits often with loose-hung wings and forked tail.

Meanwhile a bluebird sits on the same oak, three rods off, pluming its wings. I hear faintly the warbling of one, apparently a quarter of a mile off, and [am] very slow to detect that it is even this one before me, which, in the intervals of pluming itself, is apparently practicing in an incredibly low voice.

The water on the meadows now, looking with the sun, is a far deeper and more exciting blue than the heavens.

The thermometer at 5 P. M. is 66° $+$, and it has probably been 70° or more; and the last two days have been nearly as warm.

This degree of heat, then, brings the *Fringilla jun-corum* and pine warbler and awakes the hyla.

April 10. Thursday. Fast-Day. — Some fields are dried sufficiently for the games of ball with which this season is commonly ushered in. I associate this day, when I can remember it, with games of baseball played over behind the hills in the russet fields toward Sleepy Hollow, where the snow was just melted and dried up, and also with the uncertainty I always experienced whether the shops would be shut, whether we should have an ordinary dinner, an extraordinary one, or none at all, and whether there would be more than one service at

the meeting-house. This last uncertainty old folks share with me. This is a windy day, drying up the fields; the first we have had for a long time.

Therien describes to me the diagonal notch he used to cut in maples and birches (not having heard of boring) and the half-round spout, cut out of chestnut or other straight-grained wood with a half-round chisel, sharpened and driven into a new-moon cut made by the same tool partly sidewise to the tree. This evidently injured the trees more than the auger. He says they used to boil the birch down to a syrup, and he thought that the black birch would run more than any tree.

P. M. — I set out to sail, the wind northwest, but it is so strong, and I so feeble, that I gave it up. The waves dashed over into the boat and with their sprinkling wet me half through in a few moments. Our meadow looks as angry now as it ever can. I reach my port, and go to Trillium Wood to get yellow birch sap.

The Deep Cut is full of dust. This wind, unlike yesterday's, has a decidedly cold vein in it. The ditch by Trillium Wood is strewn with yellowish hemlock leaves, which are still falling. In the still warmer and broader continuation of this ditch, south of the wood, in the southwest recess, I see three or four frogs jump in, some probably large *Rana palustris*, others quite small. They are in before I see them plainly, and bury themselves in the mud before I can distinguish them clearly. They were evidently sitting in the sun by that leafy ditch in that still and warm nook. Let them beware of marsh hawks. I saw also four yellow-spot tor-

toises paddling about under the leaves on the bottom there. Once they were all together. This ditch is commonly dry in the summer.

The yellow birch sap runs very fast. I set three spouts in a tree one foot in diameter, and hung on a quart pail; then went to look at the golden saxifrage in Hubbard's Close. When I came back, the pail was running over. This was about 3 P. M. Each spout dropped about as fast as my pulse, but when I left, at 4 P. M., it was not dropping so fast. The red maples here do not run at all now, nor did they yesterday. Yet one up the Assabet did yesterday. Apparently the early maples have ceased to run.

We may now say that the ground is bare, though we still see a few patches or banks of snow on the hillsides at a distance, especially on the northeast sides of hills. You see much more snow looking west than looking east. Thus does this remarkable winter disappear at last. Here and there its veteran snow-banks spot the russet landscapes. In the shade of walls and north hillsides and cool hollows in the woods, it is panting its life away. I look with more than usual respect, if not with regret, on its last dissolving traces.

Is not that a *jungermannia* which so adorns the golden epidermis of the yellow birch with its fine fingers?

I boil down about two quarts of this yellow birch sap to two teaspoonfuls of a smart-tasting syrup. I stopped there; else should have boiled it all away. A slightly medicinal taste, yet not disagreeable to me. It yields but little sugar, then.

April 11. 8.30 A. M. — To Tarbell's to get black and canoe birch sap.

Going up the railroad, I see a male and female rusty grackle alight on an oak near me, the latter apparently a flaxen brown, with a black tail. She looks like a different species of bird. Wilson had heard only a *tchuck* from the grackle, but this male, who was courting his mate, broke into incipient warbles, like a bubble burst as soon as it came to the surface, it was so aerated. Its air would not be fixed long enough.

Set two spouts in a canoe birch fifteen inches [in] diameter, and two in a black birch two feet plus in diameter. Saw a kingfisher on a tree over the water. Does not its arrival mark some new movement in its finny prey? He is the bright buoy that betrays it! And hear in the old place, the pitch pine grove on the bank by the river, the pleasant ringing note of the pine warbler. Its *a-che, vitter vitter, vitter vitter, vitter vitter, vitter vitter, vet* rings through the open pine grove very rapidly. I also heard it at the old place by the railroad, as I came along. It is remarkable that I have so often heard it first in these two localities, *i. e.* where the railroad skirts the north edge of a small swamp densely filled with tall old white pines and a few white oaks, and in a young grove composed wholly of pitch pines on the otherwise bare, very high and level bank of the Assabet. When the season is advanced enough, I am pretty sure to hear its ringing note in both those places.

The hazel sheds pollen to-day; some elsewhere possibly yesterday. The sallow up railroad will, if it is pleasant, to-morrow.¹

¹ Not till 13th.

When I cut or break white pine twigs now, the turpentine exudes copiously from the bark, even from twigs broken off in the fall and now freshly broken, clear as water, or crystal. How early did it?

The canoe birch sap flowed rather the fastest. I have now got four kinds of birch sap. That of the white birch is a little tinged brown, apparently by the bark; the others are colorless as water. I am struck by the coolness of the sap, though the weather may be warm. Like wild apples, it must be tasted in the fields, and then it has a very slightly sweetish and acid taste, and cool as iced water. I do not think I could distinguish the different kinds of birch with my eyes shut. I drank some of the black birch wine with my dinner for the name of it; but, as a steady drink, it is only to be recommended to outdoor men and foresters. Now is apparently the very time to tap birches of all kinds. I saved a bottleful each of the white, canoe, and black birch sap (the yellow I boiled), and, in twenty-four hours, they had all three acquired a slight brown tinge, but the white birch the most brown. They were at first colorless. On the whole, I have not observed so much difference in the amount of sap flowing from the six kinds of trees which I have tapped as I have observed between different trees of the same kind, depending on position and size, etc. This flowing of the sap under the dull rinds of the trees is a tide which few suspect.

Though the snow melted so much sooner on the east side of the railroad causeway than on the west, I notice that it still lies in a broad, deep bank on the east side

of Cheney's row of arbor-vitæ, while the ground is quite bare on the west. Whence this difference?

A few more hylas peep to-day, though it is not so warm as the 9th.

These warm pleasant days I see very few ducks about, though the river is high.

The current of the Assabet is so much swifter, and its channel so much steeper than that of the main stream, that, while a stranger frequently cannot tell which way the latter flows by his eye, you can perceive the declination of the channel of the former within a very short distance, even between one side of a tree and another. You perceive the waters heaped on the upper side of rocks and trees, and even twigs that trail in the stream.

Saw a pickerel washed up, with a wound near its tail, dead a week at least. Was it killed by a fish hawk? Its oil, when disturbed, smoothed the surface of the water with splendid colors. Thus close ever is the fair to the foul. The iridescent, oily surface. The same object is ugly or beautiful, according to the angle from which you view it. Here, also, in the river wreck is the never-failing tease, telling of the factory above, and sawdust from the mill. The *teased* river! These I do not notice on the South Branch.

I hear of one field plowed and harrowed, — George Heywood's. Frost out there earlier than last year.

You thread your way amid the rustling oak leaves on some warm hillside sloping to the south, detecting no growth as yet, unless the flower-buds of the amelan-chier are somewhat expanded, when, glancing along the dry stems, in the midst of all this dryness, you detect

the crimson stigmas of the hazel, like little stars peeping forth, and perchance a few catkins are dangling loosely in the zephyr and sprinkling their pollen on the dry leaves beneath.

You take your way along the edge of some swamp that has been cleared at the base of some south hillside, where there is sufficient light and air and warmth, but the cold northerly winds are fended off, and there behold the silvery catkins of the sallows, which have already crept along their lusty osiers, more than an inch in length, till they look like silvery wands, though some are more rounded, like bullets. The lower part of some catkins which have lost their bud-scales emit a tempered crimson blush through their down, from the small scales within. The catkins grow longer and larger as you advance into the warmest localities, till at last you discover one catkin in which the reddish anthers are beginning to push from one side near the end, and you know that a little yellow flame will have burst out there by to-morrow, if the day is fair.

I might [have] said on the 8th: Behold that little hemisphere of green in the black and sluggish brook, amid the open alders, sheltered under a russet tussock. It is the cowslips' forward green. Look narrowly, explore the warmest nooks; here are buds larger yet, showing more yellow, and yonder see two full-blown yellow disks, close to the water's edge. Methinks they dip into it when the frosty nights come. Have not these been mistaken for dandelions?

Or, on the 9th: This still warm morning paddle your boat into yonder smooth cove, close up under the

south edge of that wood which the April flood is bathing, and observe the great mulberry-like catkins of yonder aspen curving over and downward, some already an inch or more in length, like great reddish caterpillars covered thickly with down, forced out by heat, and already the sides and ends of some are loose and of a pale straw-color, shedding their pollen. These, for their forwardness, are indebted to the warmth of their position.

Now for the white maple the same day: Paddle under yonder graceful tree which marks where is the bank of the river, though now it stands in the midst of a flood a quarter of a mile from land; hold fast by one of its trailing twigs, for the stream runs swiftly here. See how the tree is covered with great globular clusters of buds. Are there no anthers nor stigmas to be seen? Look upward to the sunniest side. Steady! When the boat has ceased its swaying, do you not see two or three stamens glisten like spears advanced on the sunny side of a cluster? Depend on it, the bees will find it out before noon, far over the flood as it is.

Seek out some young and lusty-growing alder (as on the 9th), with clear, shining, and speckled bark, in the warmest possible position, perchance where the heat is reflected from some bank or hillside and the water bathes its foot. The scales of the catkins generally are loosened, but on the sunniest cheek of the clump, behold one or two far more considerably loosened, wholly or partially dangling and showing their golden insides. Give the most forward of these a chuck, and you will get a few grains of its yellow dust in your hand. Some

will be in full bloom above, while their extremities are comparatively dead, as if struck with a palsy in the winter. Soon will come a rude wind and shake their pollen copiously over the water.

April 12. There is still a little snow ice on the north side of our house, two feet broad, a relic of the 25th of December. This is all there is on our premises.

According to Rees's Cyclopædia, the sap of the birches is fermentable in its natural state. Also, "Ratray, the learned Scot, affirms, that he has found by experiment, that the liquor which may be drawn from the birch tree in the springtime is equal to the whole weight of the tree, branches, roots, and all together."

I think on the whole that, of the particular trees which I tapped, the yellow and canoe birches flowed the fastest.

Hazy all day, with wind from the west, threatening rain. Haze gets to be very thick and perhaps smoky in the afternoon, concealing distinct forms of clouds, if there are any. Can it have anything to do with fires in woods west and southwest? Yet it is warm.

5 P. M. — Sail on the meadow.

There suddenly flits before me and alights on a small apple tree in Mackay's field, as I go to my boat, a splendid purple finch. Its glowing redness is revealed when it lifts its wings, as when the ashes is blown from a coal of fire. Just as the oriole displays its gold.

The river is going down and leaving the line of its wrack on the meadow. It was at its height when the snow *generally* was quite melted here, *i. e.* yesterday.

Rains considerably in the evening. Perhaps this will raise the river again.¹

April 13. Sunday. 8 A. M. — Up railroad.

Cold, and froze in the night. The sallow will not open till some time to-day.

I hear a bay-wing on the railroad fence sing — the rhythm — somewhat like, *char char* (or *here here*), *che che, chip chip chip* (fast), *chitter chitter chitter chit* (very fast and jingling), *tchea tchea* (jinglingly). It has another strain, considerably different, but a second also sings the above. Two on different posts are steadily singing the same, as if contending with each other, notwithstanding the cold wind.

P. M. — To Walden and Fair Haven Ponds.

Still cold and windy.

The early gooseberry leaf-buds in garden have burst, — now like small green frilled horns. Also the amelan-chier flower-buds are bursting.

As I go down the railroad causeway, I see a flock of eight or ten bay-wing sparrows flitting along the fence and alighting on an apple tree. There are many robins about also. Do they not incline more to fly in flocks a cold and windy day like this?

The snow ice is now all washed and melted off of Walden, down to the dark-green clear ice, which appears to be seven or eight inches thick and is quite hard still. At a little distance you would mistake it for water; further off still, as from Fair Haven Hill, it is blue as in

¹ No.

summer. You can still get on to it from the southerly side, but elsewhere there is a narrow canal, two or three to twelve feet wide, next the shore. It may last four or five days longer, even if the weather is warm.

As I go by the Andromeda Ponds, I hear the *tut tut* of a few croaking frogs, and at Well Meadow I hear once or twice a prolonged stertorous sound, as from river meadows a little later usually, which is undoubtedly made by a different frog from the first.

Fair Haven Pond, to my surprise, is completely open. It was so entirely frozen over on the 8th that I think the finishing stroke must have been given to it but by last night's rain. Say then apparently April 13th (?).

Return over the Shrub Oak Plain and the Cliff. Still no cowslips nor saxifrage. There were alders out at Well Meadow Head, as large bushes as any. Can they be *A. serrulata*? *Vide* leaves by and by.

Standing on the Cliffs, I see most snow when I look southwest; indeed scarcely a particle in any other direction, far or near, from which and from other observations, I infer that there is most snow now under the northeast sides of the hills, especially in ravines there.

At the entrance to the Boiling Spring wood, just beyond the orchard (of Hayden), the northeast angle of the wood, there is still a snow-drift as high as the wall, or three and a half feet deep, stretching quite across the road at that height, and the snow reaches six rods down the road. I doubt if there is as much in the road anywhere else in the town. It is quite impassable there still to a horse, as it has been all winter. This is the heel of the winter.

Scare up two turtle doves in the dry stubble in Wheeler's hill field by the railroad. I saw two together once before this year; probably they have paired.

April 14. Monday. A raw, overcast morning.

8 A. M. — Up Assabet.

See one striped squirrel chasing another round and round the Island, with a faint squeak from time to time and a rustling of the dry leaves. They run quite near to the water.

Hear the flicker's cackle on the old aspen, and his tapping sounds afar over the water. Their tapping resounds thus far, with this peculiar ring and distinctness, because it is a hollow tree they select to play on, as a drum or tambour. It is a hollow sound which rings distinct to a great distance, especially over water.

I still find small turtle's eggs on the surface entire, while looking for arrowheads by the Island.

See from my window a fish hawk flying high west of the house, cutting off the bend between Willow Bay and the meadow, in front of the house, between one vernal lake and another. He suddenly wheels and, straightening out his long narrow wings, makes one circle high above the last meadow, as if he had caught a glimpse of a fish beneath, and then continues his course down the river.

P. M. — Sail to Hill by Bedford line.

Wind southwest and pretty strong; sky overcast; weather cool. Start up a fish hawk from near the swamp white oaks southwest of the Island, undoubtedly the one

of the morning. I now see that this is a much darker bird, both above and beneath, than that bird of the 6th. It flies quite low, surveying the water, in an undulating, buoyant manner, like a marsh hawk, or still more a nighthawk, with its long curved wings. He flies so low westward that I lose sight of him against the dark hillside and trees.

The river is going down rapidly, yet the Hunt's Bridge causeway is but just bare. The south side of Ponkawtasset looks much greener and more forward than any part of the town I have noticed. It is almost like another season there. They are already plowing there.

I steer down straight through the Great Meadows, with the wind almost directly aft, feeling it more and more the farther I advance into them. They make a noble lake now. The boat, tossed up by the rolling billows, keeps falling again on the waves with a chucking sound which is inspiriting. There go a couple of ducks, which probably I have started, now scaling far away on motionless pinions, with a slight descent in their low flight, toward some new cove. Anon I scare up two black ducks which make one circle around me, reconnoitring and rising higher and higher, then go down the river. Is it they that so commonly practice this manœuvre? Peter's is now far behind on a forgotten shore. The boat moored beneath his hill is no longer visible, and the red russet hill which is my goal rises before me. I moor my boat to a tree at the base of this hill.

The waves are breaking with violence on this shore,

as on a sea-beach, and here is the first painted tortoise just cast up by them and lying on his back amid the stones, in the most favorable position to display his bright-vermilion marks, as the waves still break over him. He makes no effort to turn himself back, probably being weary contending with the waves. A little further is another, also at the mercy of the waves, which greatly interfere with its staid and measured ways, its head helplessly wagging with every billow. Their scales are very clean and bright now. The only yellow I notice is about the head and *upper* part of the tail. The scales of the back are separated or bordered with a narrow greenish-yellow edging.

Looking back over the meadow from the top of this hill, I see it regularly *watered* with foam-streaks from five to ten feet apart, extending quite across it in the direction of the wind. Washed up against this shore, I see the first dead sucker. You see nowadays on every side, on the meadow bottom, the miserable carcasses of the musquash stripped of their pelts. I saw one plunge from beneath the monument. There is much lumber — fencing-stuff, etc. — to be gathered now by those inclined.

I see an elm-top at the Battle-Ground covered [with blackbirds] uttering their *squeaks* and split whistles, as if they had not got their voices yet, and a coarse, rasping *tchuck* or *char*, not in this case from a crow blackbird.

Again I see the fish hawk, near the old place. He alights on the ground where there is a ridge covered with bushes, surrounded by water, but I scare him

again, and he finally goes off northeast, flying high. He had apparently stayed about that place all day fishing.

April 15. 6.30 A. M. — To Hill.

It is warmer and quite still; somewhat cloudy in the east. The water quite smooth, — April smooth waters. I hear very distinctly Barrett's sawmill at my landing. The purple finch is singing on the elms about the house, together with the robins, whose strain it resembles, ending with a loud, shrill, ringing *chilt chilt chilt chilt*. I push across the meadow and ascend the hill. The white-bellied swallows are circling about and twittering above the apple trees and walnuts on the hillside. Not till I gain the hilltop do I hear the note of the *Fringilla juncorum* (huckleberry-bird) from the plains beyond. Returned again toward my boat, I hear the rich watery note of the martin, making haste over the edge of the flood. A warm morning, over smooth water, before the wind rises, is the time to hear it. Near the water are many recent skunk probings, as if a drove of pigs had passed along last night, death to many beetles and grubs. From amid the willows and alders along the wall there, I hear a bird sing, *a-chitter chitter chitter chitter chitter chitter, che che che che*, with increasing intensity and rapidity, and the yellow redpoll hops in sight. A grackle goes over (with two females), and I hear from him a sound like a watchman's rattle, — but little more musical.

What I think the *Alnus serrulata* (?) will shed pollen to-day on the edge of Catbird Meadow. Is that one at

Brister's Spring and at Depot Brook crossing? Also grows on the west edge of Trillium Wood.

Coming up from the riverside, I hear the harsh rasping *char-r char-r* of the crow blackbird, like a very coarsely vibrating metal, and, looking up, see three flying over.

Some of the early willow catkins have opened in my window. As they open, they curve backwards, exposing their breasts to the light.

By 9 A. M. the wind has risen, the water is ruffled, the sun seems more permanently obscured, and the character of the day is changed. It continues more or less cloudy and rain-threatening all day.

First salmon and shad at Haverhill to-day.

Ed. Emerson saw a toad in his garden to-day, and, coming home from his house at 11 P. M., a still and rather warm night, I am surprised to hear the first loud, clear, prolonged ring of a toad, when I am near Charles Davis's house. The same, or another, rings again on a different key. I hear not more than two, perhaps only one. I had only thought of them as commencing in the warmest part of some day, but it would seem that [they] may first be heard in the night. Or perhaps this one may have piped in the day and his voice been drowned by day's sounds. Yet I think that this night is warmer than the day has been. While all the hillside else, perhaps, is asleep, this toad has just awaked to a new year. It was a rather warm, moist night, the moon partially obscured by misty clouds, all the village asleep, only a few lights to be seen in some windows, when, as I passed along under the warm hillside, I heard a clear,

shrill, prolonged ringing note from a toad, the first toad of the year, sufficiently countenanced by its Maker in the night and the solitude, and then again I hear it (before I am out of hearing, *i. e.* it is deadened by intervening buildings), on a little higher key. At the same time, I hear a part of the hovering note of my first snipe, circling over some distant meadow, a mere waif, and all is still again. A-lulling the watery meadows, fanning the air like a spirit over some far meadow's bay. And now for vernal sounds there is only the low sound of my feet on the Mill-Dam sidewalks.

April 16. I have not seen a tree sparrow, I think, since December.

5.30 A. M. — To Pinxter Swamp over Hill.

A little sunshine at the rising. I, standing by the river, see it first reflected from E. Wood's windows before I can see the sun. Standing there, I hear that same stertorous note of a frog or two as was heard the 13th, apparently from quite across all this flood, and which I have so often observed before. What kind is it? It seems to come from the edge of the meadow, which has been recently left bare. Apparently this low sound can be heard very far over the water. The robins sing with a will now. What a burst of melody! It gurgles out of all conduits now; they are choked with it. There is such a tide and rush of song as when a river is straightened between two rocky walls. It seems as if the morning's throat were not large enough to emit all this sound. The robin sings most before 6 o'clock now. I note

where some suddenly cease their song, making a quite remarkable vacuum.

As I walk along the bank of the Assabet, I hear the *yeep yeep yeep yeeep yeeep yeep*, or perhaps *peop*, of a fish hawk, repeated *quite fast*, but not so shrill and whistling as I think I have heard it, and directly I see his long curved wings undulating over Pinxter Swamp, now flooded.

From the hilltop I see bare ground appearing in ridges here and there in the Assabet meadow.

A grass-bird, with a sort of spot on its breast, sings, *here here hé, che che che, chit chit chit, t' chip chip chip chip chip*. The latter part especially fast. The *F. junco* says, *phe phe phe phe ph-ph-p-p-p-p-p-p-p-p*, faster and faster; flies as I advance, but is heard distinctly still further off.

A moist, misty, rain-threatening April day. About noon it *does* mizzle a little. The robin sings throughout it. It is rather raw, tooth-achy weather.

P. M. — Round Walden.

The *Stellaria media* is abundantly out. I did not look for it early, it was so snowy. It evidently blossomed as soon after the 2d of April — when I may say the [snow] began to go off in earnest — as possible. The shepherd's-purse, too, is well out, three or four inches high, and may have been some days at least.

Cheney's elm shows stamens on the warm side pretty numerously. Probably that at Lee's Cliff a little earlier.

Plowing and planting are now going on commonly. As I go down the railroad, I see two or three teams in

the fields. Frost appears to be out of most soil. I see a pine warbler, much less yellow than the last, searching about the needles of the pitch and white pine. Its note is somewhat shorter, — a very rapid and continuous trill or jingle which I remind myself of by *vetter vetter vetter vetter vet'*, emphasizing the last syllable.

Walden is still covered with ice, which [is] still darker green and more like water than before. A large tract in the middle is of a darker shade and particularly like water. Mr. Emerson told me yesterday that there was a large tract of water in the middle! This ice trembles like a batter for a rod around when I throw a stone on to it. One as big as my fist, thrown high, goes through. It appears to be three or four inches thick. It extends quite to the shore on the north side and is there met by snow.

The needles of the pines still show where they were pressed down by the great burden of snow last winter. I see a maple twig eaten off by a rabbit four and a quarter feet from the ground, showing how high the snow was there. Golden saxifrage at Hubbard's Close. Frogs sit round Callitriche Pool, where the tin is cast. We have waste places — pools and brooks, etc., — where to cast tin, iron, slag, crockery, etc. No doubt the Romans and Ninevites had such places. To what a perfect system this world is reduced! A place for everything and everything in its place!

April 17. Was awakened in the night by a thunder and lightning shower and hail-storm — the old familiar burst and rumble, as if it had been rumbling somewhere

else ever since I heard it last, and had not lost the knack. I heard a thousand hailstones strike and bounce on the roof at once. What a clattering! Yet it did not last long, and the hail took a breathing-space once or twice. I did not know at first but we should lose our windows, the blinds being away at the painters'. These sounds lull me into a deeper slumber than before. Hail-storms are milked out of the first summer-like warmth; they belong to lingering cool veins in the air, which thus burst and come down. The thunder, too, sounds like the final rending and breaking up of winter; thus precipitous is its edge. The first one is a skirmish between the cool rear-guard of winter and the warm and earnest vanguard of summer. Advancing summer strikes on the edge of winter, which does not drift fast enough away, and fire is elicited. Electricity is engendered by the early heats. I love to hear the voice of the first thunder as of the toad (though it returns irregularly like pigeons), far away in *his* moist meadow where he is warmed to life, and see the flash of his eye.

Hear a chip-bird high on an elm this morning, and probably that was one I heard on the 15th. You would not be apt to distinguish the note of the earliest. I still see quite a snow-bank from my window on the hillside at the northeast end of Clamshell, say a northeast exposure. This is on the surface, but the snow lies there in still greater quantity, in two hollows where sand has been dug for the meadow, on the hillside, though sloping to the southeast, where it is quite below the general surface. We have had scarcely any rain this spring, and the snow has been melting very gradually in the sun.

P. M. — Start for Conantum in boat, wind southwest. I can hide my oars and sail up there and come back another day. A moist muggy afternoon, rain-threatening, true April weather, after a particularly warm and pleasant forenoon. The meadows are still well covered, and I cut off the bends. The red-wing goes over with his *che-e-e che-e-e*, chatter, chatter, chatter. On Hubbard's great meadow I hear the sound of some fowl, perhaps a loon, rushing through the water, over by Dennis's Hill, and push for it. Meanwhile it grows more and more rain-threatening, — all the air moist and muggy, a great ill-defined cloud darkening all the west, — but I push on till I feel the first drops, knowing that the wind will take me back again. Now I hear ducks rise, and know by their hoarse quacking that they are black ones, and see two going off as if with one mind, along the edge of the wood.

Now comes the rain with a rush. In haste I put my boat about, raise my sail, and, cowering under my umbrella in the stern, with the steering oar in my hand, begin to move homeward. The rain soon fulls up my sail, and it catches all the little wind. From under the umbrella I look out on the scene. The big drops pepper the watery plain, the *aequor*, on every side. It is not a hard, dry pattering, as on a roof, but a softer, liquid pattering, which makes the impression of a double wateriness. You do not observe the drops descending but where they strike, for there they batter and indent the surface deeply like buckshot, and they, or else other drops which they create, rebound or hop up an inch or two, and these last you see, and also when they

fall back broken into small shot and roll on the surface. Around each shot-mark are countless circling dimples, running into and breaking one another, and very often a bubble is formed by the force of the shot, which floats entire for half a minute. These big shot are battering the surface every three inches or thicker. I make haste to take down my sail at the bridges, but at the stone arches forgot my umbrella, which was unavoidably crushed in part. Even in the midst of this rain I am struck by the variegated surface of the water, different portions reflecting the light differently, giving what is called a watered appearance. Broad streams of light water stretch away between streams of dark, as if they were different kinds of water unwilling to mingle, though all are equally dimpled by the rain, and you detect no difference in their condition. As if Nature loved variety for its own sake. It is a true April shower, or rain, — I think the first. It rains so easy, — has a genius for it and infinite capacity for [it]. Many showers will not exhaust the moisture of April.

When I get home and look out the window, I am surprised to see how it has greened the grass. It springs up erect like a green flame in the ditches on each side the road, where we had not noticed it before. Grass is born. There is a quite distinct tinge of green on the hillside seen from my window now. I did not look for the very first.

I learn from the papers that an unusual number of fruit trees have been girdled by the mice under the deep snow of the past winter. Immense damage has been done to nurseries and orchards. I saw where a prostrate

maple in the Great Meadows had been gnawed nearly bare.

Our river was *generally* breaking up on the 3d of April, though some parts were frozen till the 12th.

I see by the papers that the ice had left Lake St. Peter (St. Lawrence) the 12th. Another paper (of the 11th) has heard that the St. Lawrence was open from Quebec to Three Rivers, or before the Hudson. The ice on Lake Champlain was broken up on the 12th. Fair Haven Pond was quite open the 13th. The ice moved down the Penobscot, and the river opened the 15th. Lake Ontario was free of ice the 16th. The Kennebec is expected to open this week. (To-day is Thursday.) There is still ice in Walden.¹

April 18. P. M. — To Lee's Cliff by boat.

A strong northwest wind. The waves were highest off Hubbard's second grove, where they had acquired their greatest impetus and felt the full force of the wind. Their accumulated volume was less beyond on account of the turn in the river. The greatest undulation is at the leeward end of the longest broad reach in the direction of the wind. I was steering there diagonally across the black billows, my boat inclined so as almost to drink water. Scare up the same two black ducks (and twice again). The under sides of their wings show quite light and silvery as they rise in the light.

Red maple stamens in some places project considerably, and it will probably blossom to-morrow if it is pleasant.²

¹ Opens 18th.

² *Vide 23d.*

The farmer neglects his team to watch my sail. The slippery elm, with its round rusty woolly buds and pale-brown ashy twigs. That pretty, *now brown-stemmed* moss with green oval fruit. Common saxifrage and also early sedge I am surprised to find abundantly out—both—considering their backwardness April 2d. Both must have been out some, *i. e.* four or five, days half-way down the face of the ledge. Crowfoot, apparently two or three days. *Antennaria* at end of Cliff as you descend, say yesterday. *Turritis stricta*. Columbine, and already eaten by bees. Some with a hole in the side. It is worth the while to go there to smell the catnep. I always bring some home for the cat at this season.

See those great chocolate puffballs burst and diffusing their dust on the side of the hill. At the sandy place where I moored my boat, just this side this Cliff, the *Selaginella apus* is abundant, and on Conantum shore near elms thirty or forty rods below.

Left boat opposite Bittern Cliff.

Bear-berry grows by path from river, seven rods beyond last pine, south side, now strongly flower-budded. Observed a large mass of white lily root with the mud washed up, the woolly steel-blue root, with singular knobs for offshoots and long, large, succulent white roots from all sides, the leaf-buds yellow and lightly rolled up on each side. Small sallow next above *tristis*, three feet high, in path to Walden.

Walden is open entirely to-day for the first time,



owing to the rain of yesterday and evening. I have observed its breaking up of different years commencing in '45, and the average date has been April 4th.

This evening I hear the snipes *generally* and peeping of hylas from the door.

A small brown wasps' (?) nest (last year's, of course) hung to a barberry bush on edge of Lee's Cliff.

April 19. Was awakened in the night to a strain of music dying away, — passing travellers singing. My being was so expanded and infinitely and divinely related for a brief season that I saw how unexhausted, how almost wholly unimproved, was man's capacity for a divine life. When I remembered what a narrow and finite life I should anon awake to!

Though, with respect to our channels, our valleys, and the country we are fitted to drain, we are Amazons, we ordinarily live with dry channels.

The arbor-vitæ by riverside behind Monroe's appears to be just now fairly in blossom. I notice acorns sprouted. My birch wine now, after a week or more, has become pretty clear and colorless again, the brown part having settled and now coating the glass.

Helped Mr. Emerson set out in Sleepy Hollow two over-cup oaks, one beech, and two arbor-vitæ.

As dryness will open the pitch pine cone, so moisture closes it up again. I put one which had been open all winter into water, and in an hour or two it shut up nearly as tight as at first.

April 20. Rain, rain, rain, — a northeast storm. I

see that it is raising the river somewhat again. Some little islets which had appeared on the meadow north-west of Dodd's are now fast being submerged again.

April 22. It has rained two days and nights, and now the sun breaks out, but the wind is still easterly, and the storm probably is not over. In a few minutes the air is full of mizzling rain again.

8 A. M. — Go to my boat opposite Bittern Cliff.

Monroe's larches by river will apparently shed pollen soon. The staminate flowers look forward, but the pistillate scarcely show any red. There is snow still (of the winter) in the hollows where sand has been dug on the hillside east of Clamshell. 'Going through Hubbard's root-fence field, see a pigeon woodpecker on a fence-post. He shows his lighter back between his wings cassock-like and like the smaller woodpeckers. Joins his mate on a tree and utters the wooing note *o-week o-week*, etc.

The seringo also sits on a post, with a very distinct yellow line over the eye, and the *rhythm* of its strain is *ker chick | ker che | ker-char-r-r-r-r | chick*, the last two bars being the part chiefly heard. The huckleberry buds are much swollen. I see the tracks of some animal which has passed over Potter's sand, perhaps a skunk. They are quite distinct, the ground being smoothed and softened by rain. The tracks of all animals are much more distinct at such a time. By the path, and in the sandy field beyond, are many of those star-fingered puffballs. I think they must be those which are so white, like pigeons' eggs, in the fall, the thick, leathery rind

bursting into eight to eleven segments, like those of a boy's batting ball, and curving back. They are very pretty and remarkable now, sprinkled over the sand, smooth and plump on account of the rain. (I find some beyond at Mountain Sumach Knoll, smaller with a very thin rind and more turned back, a different species plainly.) The inside of the rind, which is uppermost, approaches a chocolate-color; the puffball is a rough dirty or brownish white; the dust which does not fly now at any rate is chocolate-colored. Seeing these thus open, I should know there had been wet weather.¹

The mountain sumach berries have no redness now, though the smooth sumach berries have. Its twigs are slender and so have a small pith. Its heart-wood is not yellow, like the smooth and the dogwood, but green. Its bark is more gray than that of the smooth, which last, when wet, is slightly reddish. Its bark sap or juice is not yellow like that of the smooth, and is slower to harden.

Some hellebore leaves are opened in the Cliff Brook Swamp. My boat is half full of water. There are myriads of snow-fleas in the water amid the bushes, apparently washed out of the bark by the rain and rise of river.

I push up-stream to Lee's Cliff, behind Goodwin, who is after musquash. Many suckers and one perch have washed up on the Conantum shore, the wind being southeasterly. I do not detect any wound. Their eyes are white, — it would be worth while to see how long before this happens, — and they appear to have

¹ *Vide* two pages forward.

been dead some time; their fins are worn, and they are slimy. I cut open a sucker, and it looked rather yellow within. I also see sometimes their bladders washed up. They float on their backs. When cut open they sink, but the double bladder is uppermost and protruded as far as possible. Saw some pieces of a sucker recently dropped by some bird or beast, eight or ten rods from the shore. Much root and leaf-bud washed up. A gull. Very perfect and handsome clamshells, recently opened by the musquash, *i. e.* during the storm, lie on the meadow and the hillside just above water-mark. They are especially handsome because wet by the rain. I buy a male muskrat of Goodwin, just killed. He sometimes baits his mink-traps with muskrat; always with some animal food. The musquash does not eat this, though he sometimes treads on the trap and is caught. It rains hard and steadily again, and I sail before it. Now I see many more ducks than in all that fair weather, — sheldrakes, etc. A marsh hawk, in the midst of the rain, is skimming along the shore of the meadow, close to the ground, and, though not more than thirty rods off, I repeatedly lose sight of it, it is so nearly the color of the hillside beyond. It is looking for frogs. The small slate-colored hawk which I have called pigeon hawk darts away from a bushy island in the meadow.

The muskrat, which I bought for twelve cents, weighs three pounds, six ounces. Goodwin thought that some would weigh a half to three quarters of a pound more than this; I think a pound more. Thought this was a young one of last year, — judged by the tail,

— and that they hardly came to their growth in one year. Extreme length, twenty-three inches; length of *bare* tail, nine inches; breadth of tail, seven eighths of an inch; breadth of body, etc., as it lies, six and a half. An oval body, dark-brown above (black in some lights, the coarse wind hairs aft), reddish-brown beneath. Thus far the color of the hair. The fur within slate-color. Tail black; feet a delicate glossy dark slate (?), with white nails. The hind feet half webbed, and their sides and toes fringed thickly with stiff hair, apparently to catch water; ears (the head is wet and bruised), partly concealed in the fur, short and round; long black mustachial bristles; fore legs, quite short, more like hands; hind ones, about three inches without the line of the body's fur and hair. Tail, on the skin, is a little curved downwards.

The star fungi, as they dried in my chamber in the course of two or three hours, drew in the fingers. The different segments curled back tightly upon the central puff, the points being strongly curled downward into the middle dimple-wise. It requires wet weather, then, to expand and display them to advantage. They are hygrometers. Their coat seems to be composed of two thicknesses of different material and quality, and I should guess that the inside chocolate-colored had a great affinity for moisture and, being saturated with it, swelled, and so necessarily burst off and turned back, and perchance the outside dirty-white or pale-brown one expands with dryness.

A single male sheldrake rose from amid the alders against Holden Swamp Woods, as I was sailing down in

the rain, and flew with outstretched neck at right angles across my course, only four or five rods from me and a foot or two above the water, finally circling round into my rear.

Soon after I turned about in Fair Haven Pond, it began to rain hard. The wind was but little south of east and therefore not very favorable for my voyage. I raised my sail and, cowering under my umbrella in the stern, wearing the umbrella like a cap and holding the handle between my knees, I steered and paddled, almost perfectly sheltered from the heavy rain. Yet my legs and arms were a little exposed sometimes, in my endeavors to keep well to windward so as to double certain capes ahead. For the wind occasionally drove me on to the western shore. From time to time, from under my umbrella, I could see the ducks spinning away before me, like great bees. For when they are flying low directly from you, you see hardly anything but their vanishing dark bodies, while the rapidly moving wings or paddles, seen edgewise, are almost invisible. At length, when the river turned more easterly, I was obliged to take down my sail and paddle slowly in the face of the rain, for the most part not seeing my course, with the umbrella slanted before me. But though my progress was slow and laborious, and at length I began to get a little wet, I enjoyed the adventure because it combined to some extent the advantages of being at home in my chamber and abroad in the storm at the same time.

It is highly important to invent a dress which will enable us to be abroad with impunity in the severest

storms. We cannot be said to have fully invented clothing yet. In the meanwhile the rain-water collects in the boat, and you must sit with your feet curled up on a paddle, and you expose yourself in taking down your mast and raising it again at the bridges. These rain-storms — this is the third day of one — characterize the season, and belong rather to winter than to summer. Flowers delay their blossoming, birds tarry in their migrations, etc., etc. It is surprising how so many tender organizations of flowers and insects survive them uninjured.

The muskrat must do its swimming chiefly with its hind feet. They are similar in form and position to those of the sheldrake. Its broad oval and flattish body, too, must help keep it up.

Those star puffballs which had closed up in my chamber, put into water, opened again in a few hours.

What is that little bodkin-shaped bulb which I found washed up on the edge of the meadow, white with a few



a fac simile

small greenish rounded leafets? ¹

On the 19th, when setting out one of those overcup oaks in Sleepy Hollow, digging at the decayed stump of an apple tree, we disturbed, dug up, a toad, which probably had buried itself there last fall and had not yet come out.


April 23. P. M. — Up Assabet to white cedars.

The river risen again, on account of the rain of the

¹ *Ludwigia palustris.*

last three days, to nearly as high as on the 11th. I can just get over Hosmer's meadow. The red maple did not shed pollen on the 19th and could not on the 20th, 21st, or 22d, on account of rain; so this must be the first day, — the 23d, — though I see none quite so forward by the river. The wind is now westerly and pretty strong. No sap to be seen in the bass. The white birch sap flows yet from a stump cut last fall, and a few small bees, flies, etc., are attracted by it. Along the shore by Dove Rock I hear a faint *tseep* like a fox-colored sparrow, and, looking sharp, detect upon a maple a white-throated sparrow. It soon flies to the ground amid the birches two or three rods distant, a plump-looking bird and, with its bright white and yellow marks on the head distinctly separated from the slate-color, methinks the most brilliant of the sparrows. Those bright colors, however, are not commonly observed.

The white cedar swamp consists of hummocks, now surrounded by water, where you go jumping from one to another. The fans are now dotted with the minute reddish staminate flowers, ready to open. The skunk-cabbage leaf has expanded in one open place there; so it is at least as early as the hellebore of yesterday. Returning, when near the Dove Rock saw a musquash crossing in front. He dived without noise in the middle of the river, and I saw by a bubble or two where he was crossing my course, a few feet before my boat. He came up quietly amid the alders on my right, and lay still there with his head and back partly out. His back looked reddish-brown with a black grain inmixed.

I think that that white root washed up since the ice broke up, with a stout stem flat on one side and narrow green or yellowish leaf-bud rolled up from each side, with a figure  in the middle, is the yellow lily, and probably I have seen no pontederia. The white lily root is thickly clothed with a slate-blue fur or felt, close-fitting, reflecting prismatic colors under the microscope, but generally the slate-color of the fur of most animals, and perhaps it is designed to serve a similar use, viz. for warmth and dryness. The end of the root is abruptly rounded and sends forth leaves, and along the sides of the root are attached oval bulb-like offshoots, one or two inches long, with very narrow necks, ready, apparently, to be separated soon from the parent stock.

Hear the yellow redpoll sing on the maples below Dove Rock, — a peculiar though not very interesting strain, or jingle.

A very handsome little beetle, deep, about a quarter of an inch long, with *pale*-golden wing-cases, artificially and handsomely marked with burnished dark-green marks and spots, one side answering to the other; front and beneath burnished dark-green; legs brown or cinnamon-color. It was on the side of my boat. Brought it home in a clam's shells tied up, — a good insect-box.

April 24. A rain-threatening April day. Sprinkles a little in the forenoon.

P. M. — To mayflower.

The yellow willow peels fairly, probably for several days. Its buds are bursting and showing a little green,

at end of railroad bridge. On Money-Diggers' Shore, much *large* yellow lily root washed up; that white root with white fibres and yellowish leaf-buds. I doubt if I have seen any pontederia this year. I find, on the southeast side of Lupine Hill, nearly four rods from the water and a dozen feet above its level, a young *Emys picta*, one and five eighths inches long and one and a half wide. I think it must have been hatched year before last. It was headed up-hill. Its rear above was already covered with some kind of green moss (?) or the like, which probably had adhered or grown to it in its winter quarters.

Warren Miles at his new mill tells me that he found a mud turtle of middling size in his brook there last Monday, or the 21st. I saw a wood tortoise there. He has noticed several dead trout, the young man says, and eels, about the shore of the pond, which had apparently died in the winter, washed up about his mill, some that would weigh a pound, and thought that they had been killed by that strong-scented stagnant water of his pond. They could not get down. Also they can't get above his mill *now*, in the spring. He says that at his mill near the factory, where he used a small undershot wheel, eighteen inches in diameter, for grinding lead, he was prevented from grinding at night by the eels stopping the wheel. It was in August, and they were going down-stream. They never ran till about dark, nor after daylight, but at that season one would get under the wheel every five minutes and stop it, and it had to be taken out. There was not width enough beneath the wheel, a small undershot one, *i. e.* between

the wheel and the apron, to allow an eel of ordinary size to pass, and they were washed in sidewise so as to shut this space up completely. They were never troubled by them when going up, which he thought was in April. At the factory they can sometimes catch a bushel in a night at the same time in the box of wire in which they wash wool. Said that they had a wheel at the paper-mills above which killed every eel that tried to go through.

A Garfield (I judge from his face) confirmed the story of sheldrakes killed in an open place in the river between the factory and Harrington's, just after the first great snow-storm (which must have been early in January), when the river was all frozen elsewhere. There were three, and they persisted in staying and fishing there. He killed one.

The epigæa on the upper edge of the bank shows a good deal of the pink, and may open in two or three days if it is pleasant. *Equisetum arvense*, by path beyond second brook, probably yesterday. As usual, am struck with the forwardness of the dark patch of slender rush at the cowslip place.

Returning, in the low wood just this side the first Second Division Brook, near the meadow, see a brown bird flit, and behold my hermit thrush, with one companion, flitting silently through the birches. I saw the fox-color on his tail-coverts, as well as the brown streaks on the breast. Both kept up a constant jerking of the tail as they sat on their perches.

This season of rain and superabundant moisture makes attractive many an unsightly hollow and recess.

I see some roadside lakes, where the grass and clover had already sprung, owing to previous rain or melted snow, now filled with perfectly transparent April rain-water, through which I see to their emerald bottoms, — paved with emerald. In the pasture beyond Nut Meadow Brook Crossing, the unsightly holes where rocks have been dug and blasted out are now converted into perfect jewels. They are filled with water of crystalline transparency, paved with the same emerald, with a few hardhacks and meadow-sweets standing in them, and jagged points of rock, and a few skaters gliding over them. Even these furnish goblets and vases of perfect purity to hold the dews and rains, and what more agreeable bottom can we look to than this which the earliest moisture and sun had tinged green? We do not object to see dry leaves and withered grass at the bottom of the goblet when we drink, if these manifestly do not affect the purity of the water. What wells can be more charming? If I see an early grasshopper drowning in one, it looks like a fate to be envied. Here is no dark unexplored bottom, with its imagined monsters and mud, but perfect sincerity, setting off all that it reveals. Through this medium we admire even the decaying leaves and sticks at the bottom.

The brook had risen so, owing to Miles's running his mill, that I could not get over where I did going.

April wells, call them, vases clean as if enamelled.

There is a slight sea-turn. I saw it like a smoke beyond Concord from Brown's high land, and felt the cool fresh east wind. Is it not common thus early?

The old caterpillar-nests which now lie on the ground

under wild cherry trees, and which the birds may use, are a quite light-colored cottony web, close and thick-matted, together with the dried excrement of caterpillars, etc., on the inside.

See a dog's-bane with two pods open and partially curved backward on each side, but a third not yet open. This soon opens and scatters its down and seeds in my chamber. The outside is a dull reddish or mahogany-



color, but the inside is a singularly *polished* very pale brown. The inner bark of this makes a strong twine like that of the milkweed, but there is not so much of it.

What is that now ancient and decayed fungus by the first mayflowers, — trumpet-shaped with a very broad mouth, the chief inner part green, the outer dark brown?



The earliest gooseberry leaf has spread a third of an inch or more.

Goodwin shot, about 6 P. M., and brought to me a cine-reous coot (*Fulica Americana*) which was flying over the willows at Willow Bay, where the water now runs up.

It measures fourteen inches to end of tail; eighteen and one half to end of legs. Tail projects a half-inch beyond closed wings. Alar extent twenty-six inches. (These dimensions are somewhat stretched.) Above it is a bluish slate, passing into olive behind the wings, the primaries more brownish. Beneath, ash-color or pale slate. Head and neck, uniform deep black. Legs, clear green in front, passing into lead-color behind and on the lobes. Edging of wings, white; also the tips of the secondaries for one fourth of an inch, and a small space under the tail. Wings beneath, very light, almost silvery, slate. Vent, for a small space, black. Bill, bluish-white, with a chestnut bar near tip, and corresponding chestnut spot on each side of lower mandible and a somewhat diamond-shaped chestnut spot at base in front. No noticeable yellow on bill. Irides, reddish. No noticeable whitish spot beneath eyes; only bare lid. Legs and feet are very neat; talons very slender, curving, and sharp, the middle ones $\frac{1}{2}$ inch + long. Lobes chiefly on the inner side of the toes. Legs bare half an inch above the joint. From its fresh and tender look I judge it to be a last year's bird. It is quite lousy.

According to Nuttall, they range from 55° north latitude to Florida and Jamaica and west to Oregon (?) and Mexico. Probably breed in every part of North

America, — even in Fresh Pond, he would imply, — but their nests, eggs, and breeding-habits are yet unknown. Nocturnal, hiding by day. In Florida in the winter. Come to Fresh Pond in September. A pair there in April, and seen with young birds in June. When alarmed utter a “hoarse *kruk*.” Called “flusterers” in Carolina, according to Lawson, because they fly trailing their legs or pattering with them over the water. Food: vegetables, also small shellfish, insects, gravel, etc. Leave the Northern States in November.

April 25. Minott tells me of David Wheeler of the Virginia Road, who used to keep an account of the comings and goings, etc., of animals. He was one of the few who knew [how] to set a trap for a fox so that he would get into it; scented it in a peculiar way, perhaps. Brought one home once on his shoulder, feigning death, which came to life suddenly in his entry and ran off with the trap.

Minott says that he could hardly raise cucumbers in his garden by the brook, the tortoises (painted, I judge, from his description) used to eat them so, both small and large, eating out the insides of the last. He sometimes found three or four there at once, and they lay all day hid among the vines.

Saw wasps about his dooryard.

P. M. — To Hill by boat.

Sweet-gale is out in some parts of the Island birch meadow, next the Indian field, probably several days, at least in some places. Larch not yet sheds pollen.

The toads have begun fairly to ring at noonday in

earnest. I rest awhile on my oars in this meadow amid the birches [?] to hear them. The wind is pretty strong and easterly. There are many, probably squatted about the edge of the falling water, in Merrick's pasture. (The river began to fall again, I think, day before yesterday.) It is a low, terrene sound, the undertone of the breeze. Now it sounds low and indefinitely far, now rises, as if by general consent, to a higher key, as if in another and nearer quarter, — a singular alternation. The now universal hard metallic ring of toads blended and partially drowned by the rippling wind. The voice of the toad, the herald of warmer weather.

The cinquefoil well out. I see two or three on the hemlock dry plain, — probably a day or two. I observe a male grackle with a brownish head and the small female on one tree, red-wings on another. Return over the top of the hill against the [wind]. The Great Meadows now, at 3.30 P. M., agitated by the strong easterly wind this clear day, when I look against the wind with the sun behind me, look particularly *dark* blue.

Aspen bark peels; how long?

I landed on Merrick's pasture near the rock, and when I stepped out of the boat and drew it up, a snipe flew up, and lit again seven or eight rods off. After trying in vain for several minutes to see it on the ground there, I advanced a step and, to my surprise, scared up two more, which had squatted on the bare meadow all the while within a rod, while I drew up my boat and made a good deal of noise. In short, I scared up twelve, one or two at a time, within a few rods, which were feeding on the edge of the meadow just laid bare,

each rising with a sound like *squeak squeak*, hoarsely. That part of the meadow seemed all alive with them. It is almost impossible to see one on the meadow, they squat and run so low, and are so completely the color of the ground. They rise from within a rod, fly half a dozen rods, and then drop down on the bare open meadow before your eyes, where there seems not stubble enough to conceal [them], and are at once lost as completely as if they had sunk into the earth. I observed that some, when finally scared from this island, flew off rising quite high, one a few rods behind the other, in their peculiar zigzag manner, rambling about high over the meadow, making it uncertain where they would settle, till at length I lost sight of one and saw the other drop down almost perpendicularly into the meadow, as it appeared.

5 P. M. — Went to see Tommy Wheeler's bounds.

Warren Miles had caught three more snapping turtles since yesterday, at his mill, one middling-sized one and two smaller. He said they could come down through his mill without hurt. Were they all bound down the brook to the river? ¹ I brought home one of the small ones. It was seven and one eighth inches long. Put it in a firkin for the night, but it got out without upsetting it. It had four points on each side behind, and when I put it in the river I noticed half a dozen points or projections on as many of its rear plates, in keeping with the crest of its tail. It buried itself in the grassy bottom within a few feet of the shore. Moves off very flat on

¹ They all came down from the pond through the mill, and another one the 7th of May, *q. v.*

the bottom. These turtles have been disturbed or revealed by his operations.

Anne Karney, our neighbor, looking over her garden yesterday with my father, saw what she said was shamrock, which the Irish wear on their caps on St. Patrick's Day, the first she had ever seen in this country. My father pointed it out in his own garden to the Irishman who was working for him, and he was glad to see it, for he had had a dispute with another Irishman as to whether it grew in this country and now he could convince him, and he put it in his pocket. I saw it afterward and pronounced it common white clover, and, looking into Webster's Dictionary, I read, under Shamrock: "The Irish name for a three-leaved plant, the *Oxalis Acetosella*, or common wood-sorrel. It has been often supposed to be the *Trifolium repens*, white trefoil or white clover." This was very satisfactory, though perhaps Webster's last sentence should have been, The *Trifolium repens* has often been mistaken for it.

At evening see a spearer's light.

April 26. Worm-piles about the door-step this morning; how long?

The white cedar gathered the 23d does not shed pollen in house till to-day, and I doubt if it will in swamp before to-morrow.¹ Monroe's larch will, apparently, by day after to-morrow. The white birch at Clamshell, which I tapped long ago, still runs and is partly covered with a pink froth. Is not this the only birch which shows this colored froth, as its sap is the

¹ *Vide 29th.*

most tinged and most inclined to ferment? — a sort of mother which is left on the bark and in the hole.

Looked over hastily the first two hundred lines of Lucretius, but was struck only with the lines referring to Prometheus, whose *vivida vis animi*

“extra

Processit longe flammantia moenia mundi.

“But the custom of our ancestors also permitted these things on holidays: to pound wheat, cut torches, make candles, cultivate a hired vineyard, clear out and purge fish-ponds, ponds, and old ditches, mow grass ground a second time, spread dung, store up hay on scaffolds, gather the fruit of a hired olive yard, spread apples, pears, and figs, make cheese, bring home trees for the sake of planting on our shoulders or on a pack-mule, but not with one harnessed to a cart, nor to plant them when brought home, nor to open the ground, nor prune a tree, not even to attend to sowing seed, unless you have first sacrificed a puppy.”¹

This reminds me of my bringing home an apple tree on my shoulder one Sunday and meeting the stream of meeting-goers, who seemed greatly outraged; but they did not know whether I set it out or not that day, or but that I sacrificed a puppy if I did.

April 27. P. M. — Up Assabet.

I find none of Monroe's larch buds shedding pollen, but the anthers look crimson and yellow, and the female flowers are now fully expanded and very pretty, but small. I think it will first scatter pollen to-morrow.

¹ [Columella.]

Apparently a small bullfrog by riverside, though it looks somewhat like a *Rana fontinalis*; also two or three (apparently) *R. palustris* in that well of Monroe's, which have jumped in over the curb, perhaps. I see quite a number of tortoises out sunning, just on the edge of the Hosmer meadow, which is rapidly becoming bare. Their backs shine from afar in the sun. Also one *Emys insculpta* out higher up. From close by I hear a red-wing's clear, loud whistle, — not squeak (which I think may be confined to the grackle). It is like *pte'-a pte'-a*, or perhaps without the *p*.

The tapping of a woodpecker is made a more remarkable and emphatic sound by the hollowness of the trunk, the expanse of water which conducts the sound, and the morning hour at which I commonly hear it. I think that the pigeon woodpeckers must be building, they frequent the old aspen now so much.

At the Hemlocks I see a rock which has been moved since last fall seven or eight feet into the river, though the ground is but little descending. The rock is about five and a half feet by three by one. I see [a] rather large devil's-needle coursing over the low osiers in Pinxter Swamp. Is it not early for one? The white birch which I tapped in V. *palmata* Swamp still runs; and the holes are full of, and the base of the tree covered with, a singular sour-tasted, rather hard-crustured *white* (not pink) froth, and a great many of those flat beetles (?), lightning-bug-like, and flies, etc., are sucking it.

April 28. Surveying the Tommy Wheeler farm.¹

¹ I believe it was this morning there was quite a fog.

Again, as so many times, I [am] reminded of the advantage to the poet, and philosopher, and naturalist, and whomsoever, of pursuing from time to time some other business than his chosen one, — seeing with the side of the eye. The poet will so get visions which no deliberate abandonment can secure. The philosopher is so forced to recognize principles which long study might not detect. And the naturalist even will stumble upon some new and unexpected flower or animal.

Mr. Newton, with whom I rode, thought that there was a peculiar kind of sugar maple which he called the white; knew of a few in the middle of Framingham and said that there was one on our Common.

How promising a simple, unpretending, quiet, somewhat reserved man, whether among generals or scholars or farmers! How rare an equanimity and serenity which are an encouragement to all observers! Some youthfulness, some manliness, some goodness. Like Tarbell, a man apparently made a deacon on account of some goodness, and not on account of some hypocrisy and badness as usual.

Is not the Hubbard Ditch plant the same I see in a Nut Meadow pool, and a remarkable evergreen? with much slime and many young snails on it?

I hear to-day frequently the *seezer seezer seezer* of the black and white creeper, or what I have referred to that, from J. P. Brown's wood bounding on Dugan.¹ It is not a note, nor a bird, to attract attention; only suggesting still warmer weather, — that the season has revolved so much further. See, but not yet hear, the familiar

¹ Can it be myrtle-birds?

chewink amid the dry leaves amid the underwood on the meadow's edge.

Many *Anemone nemorosa* in full bloom at the further end of Yellow Thistle Meadow, in that warm nook by the brook, some probably a day or two there. I think that they are thus early on account of Miles's dam having broken away and washed off all the snow for some distance there, in the latter part of the winter, long before it melted elsewhere. It is a warm corner under the south side of a wooded hill, where they are not often, if ever before, flooded.

As I was measuring along the Marlborough road, a fine little blue-slate butterfly fluttered over the chain. Even its feeble strength was required to fetch the year about. How daring, even rash, Nature appears, who sends out butterflies so early! Sardanapalus-like, she loves extremes and contrasts.¹

I began to survey the meadow there early, before Miles's new mill had been running long this Monday morning and flooded it, but a great stream of water was already rushing down the brook, and it almost rose over our boots in the meadow before we had done.

Observing the young pitch pines by the road south of Loring's lot that was so heavily wooded, George Hubbard remarked that if they were cut down oaks would spring up, and sure enough, looking across the road to where Loring's white pines recently stood so densely, the ground was all covered with young oaks. *Mem.* — Let me look at the site of some thick pine woods which I remember, and see what has sprung up; *e. g.*

¹ [Channing, p. 104.]

the pitch pines on Thrush Alley and the white pines on Cliffs, also at Baker's chestnuts, and the chestnut lot on the Tim. Brooks farm.

This was a very pleasant or rather warm day, looking a little rainy, but on our return the wind changed to easterly, and I felt the cool, fresh sea-breeze.

This has been a remarkably pleasant, and I think warm, spring. We have not had the usual sprinklings of snow, having had so much in the winter, — none since [that] I can remember. There is none to come down out of the air.

April 29. Was awakened early this morning by thunder and some rain, — the second thunder-shower of the season, — but it proved a fair day. At mid-forenoon saw a fish hawk flying leisurely over the house northeasterly.

P. M. — To Cedar Swamp.

Monroe's larch staminate buds have now erected and separated their anthers, and they look *somewhat* withered, as if they had shed a part of their pollen. *If so*, they began yesterday.

It was quite warm when I first came out, but about 3 P. M. I felt a fresh easterly wind, and saw quite a mist in the distance produced by it, a sea-turn. There was the same phenomenon yesterday at the same hour, and on the 24th, later in the day. Yet to-day the air was not much cooled. Your first warning of it *may* be the seeing a thick mist on all the hills and in the horizon. The wind is southeast.

I see great devil's-needles whiz by, coupled.

Do not sail well till I reach Dove Rock, then glide swiftly up the stream. I move upward against the current with a moderate but fair wind, the waves somewhat larger, probably because the wind contends with the current. The sun is in my face, and the waves look particularly lively and sparkling. I can steer and write at the same time. They gurgle under my stern, in haste to fill the hollow which I have created. The waves seem to leap and roll like porpoises, with a slight surging sound when their crests break, and I feel an agreeable sense that I am swiftly gliding over and through them, bound on my own errands, while their motion is chiefly but an undulation, and an apparent one. It is pleasant, exhilarating, to feel the boat tossed up a little by them from time to time. Perhaps a wine-drinker would say it was like the effect of wine. It is flattering to a sense of power to make the wayward wind our horse and sit with our hand on the tiller. Sailing is much like flying, and from the birth of our race men have been charmed by it.

Near the little larch, scared a small dark-brown hawk from an apple tree, which flew off low to another apple tree beside Barrett's Pond. Just before he flew again I saw with my glass that his tail was barred with white. Must it not be a pigeon hawk then? He looked a dark slate as he sat, with tawny-white thighs and under head, — far off. He soon started a third time, and a crow seemed to be in chase of him. I think I have not described this white-barred hawk before, but for the black-barred *vide* May 8, 1854, and April 16, 1855.

The white cedar now sheds pollen abundantly.

Many flowers are effete, though many are not open. Probably it began as much as three days ago. I strike a twig, and its peculiar pinkish pollen fills the air. Sat on the knoll in the swamp, now laid bare. How pretty a red maple in bloom (they are now in prime), seen in the sun against a pine wood, like these little ones in the swamp against the neighboring wood, they are so light and ethereal, not a heavy mass of color impeding the passage of the light, and they are of so cheerful and lively a color.

The pine warbler is heard very much now at mid-day, when already most birds are quiet. It must be the female which has so much less yellow beneath. Do not the toads ring most on a windy day like this? I heard but few on the still 27th. A pigeon woodpecker alights on a dead cedar top near me. Its cackle, thus near, sounds like *eh eh eh eh eh*, etc., rapidly and emphatically repeated. Some birch sprouts in the swamp are leafed as much as any shrub or tree. Barn swallows and chimney, with white-bellied swallows, are flying together over the river. I thought before that I distinguished the twitter of the chimney swallow.

April 30. Surveying the Tommy Wheeler farm.

A fine morning. I hear the first brown thrasher singing within three or four rods of me on the shrubby hillside in front of the Hadley place. I think I had a glimpse of one darting down from a sapling-top into the bushes as I rode by the same place on the morning of the 28th. This, I think, is the very place to hear them early, a dry hillside sloping to the south, covered with young

wood and shrub oaks. I am the more attracted to that house as a dwelling-place. To live where you would hear the first brown thrasher! First, perchance, you have a glimpse of one's ferruginous long brown back, instantly lost amid the shrub oaks, and are uncertain if it was a thrasher, or one of the other thrushes; and your uncertainty lasts commonly a day or two, until its rich and varied strain is heard. Surveying seemed a noble employment which brought me within hearing of this bird. I was trying to get the exact course of a wall thickly beset with shrub oaks and birches, making an opening through them with axe and knife, while the hillside seemed to quiver or pulsate with the sudden melody. Again, it is with the side of the ear that you hear. The music or the beauty belong not to your work itself but some of its accompaniments. You would fain devote yourself to the melody, but you will hear more of it if you devote yourself to your work.

Cutting off the limbs of a young white pine in the way of my compass, I find that it strips freely. How long this?

By the time I have run through to the Harvard road, I hear the small pewee's *tche-vet'* repeatedly.

The Italian with his hand-organ stops to stare at my compass, just as the boys are curious about *his* machine. We have exchanged places.

As I go along the Assabet, a peetweet skims away from the shore. The canoe birch sap still flows. It is much like that of the white, and is now pink, white, and yellow on the bark.

Bluets out on the bank by Tarbell's spring brook, maybe a day or two.

This was a very warm as well as pleasant day, but at one o'clock there was the usual fresh easterly wind and sea-turn, and before night it grew quite cold for the season. The regularity of the recurrence of this phenomenon is remarkable. I have noticed [it], at least, on the 24th late in the day, the 28th and the 29th about 3 P. M., and to-day at 1 P. M. It has been the order. Early in the afternoon, or between one and four, the wind changes (I suppose, though I did not notice its direction in the forenoon), and a fresh cool wind from the sea produces a mist in the air.

About 3.30 P. M., when it was quite cloudy as well as raw, and I was measuring along the river just south of the bridge, I was surprised by the great number of swallows — white-bellied and barn swallows and perhaps republican — flying round and round, or skimming very low over the meadow, just laid bare, only a foot above the ground. Either from the shape of the hollow or their circling, they seemed to form a circular flock three or four rods in diameter and one swallow deep. There were two or three of these centres and some birds equally low over the river. It looked like rain, but did not rain that day or the next. Probably their insect food was flying at that height over the meadow at that time. There were a thousand or more of swallows, and I think that they had recently arrived together on their migration. Only this could account for there being so many together. We were measuring through one little circular meadow, and many of them were not driven off by our nearness. The noise of their wings and their twittering was quite loud.

VII

MAY, 1856

(ÆT. 38)

May 1. 6 P. M. — To Hill.

I judge that the larch blossomed when the anthers began to be loose and dry and yellow on their edges. Say then the 28th. The water on the meadows is rapidly going down. I am now confined to the river for the most part. The water begins to feel as warm or warmer than the air when cool.

The scrolls of the ferns clothed in wool at Sassafras Shore, five or six inches high. *Thalictrum anemonoides* well out, probably a day or two, same shore, by the apple trees. *Viola ovata* ¹ on southwest side of hill, high up near pines. How pleasing that early purple grass in smooth water! Half a dozen long, straight purple blades of different lengths but about equal width, close together and exactly parallel, resting flat on the surface of the water. There is something agreeable in their parallelism and flatness.

From the hilltop I look over Wheeler's maple swamp. The maple-tops are now, I should say, a bright brick red. It is the red maple's reign now, as the peach and the apple will have theirs. Looking over the swamps a quarter of a mile distant, you see dimly defined cres-

¹ Edith Emerson, Apr. 29th.

cents of bright brick red above and amid a maze of ash-colored branches.

May 2. The *tea lee* of the yellow-rump warbler ¹ in the street, at the end of a cool, rainy day.

May 3. Another cool, rainy day. A staminate balm-of-Gilead poplar by Peter's path. Many of the catkins fallen and effete in the rain, but many anthers still red and unopen. Probably began five or six days ago.

May 4. P. M. — To Cedar Swamp *via* Assabet.

Among others, I see republican swallows flying over river at Island. Again I see, as on the 30th of April, swallows flying low over Hosmer's meadow, over water, though comparatively few. About a foot above the water, about my boat, are many of those little fuzzy gnats, and I suspect that it is these they are attracted by. (On the 6th, our house being just painted, the paint is peppered with the *myriads* of the same insects which have stuck to it. They are of various sizes, though all small, and there are a few shad-flies also caught. They are particularly thick on the coping under the eaves, where they look as if they had been dusted on, and dense swarms of them are hovering within a foot. Paint a house now, and these are the insects you catch. I suspect it is these fuzzy gnats that the swallows of the 30th were catching.)

The river is gone down so much — though checked by the rain of the 2d and 3d — that I now observe the tortoises on the bottom, a sternothærus among them.

¹ White-throat sparrow.

Hear the something like *twe twe twe twe twé, ter té te twe twe* of the myrtle-bird, and see the bird on the swamp white oaks by Island.

The aspen there just begun to leaf; not quite the white maple. I observe that the river meadows, especially Hosmer's, are divided by two or more ridges and valleys (the latter alone now covered with water and so revealed), parallel with the river. The same phenomenon, but less remarkable, on the Wheeler meadow. Are they the traces of old river-banks, or where, in freshets, the current of the river meets the meadow current, and the sediment is deposited?

See a peetweet on Dove Rock, which just peeps out. As soon as the rocks begin to be bare the peetweet comes and is seen teetering on them and skimming away from me.

Having fastened my boat at the maple, met, on the bank just above, Luke Dodge, whom I met in a boat fishing up that way once or twice last summer and previous years. Was surprised to hear him say, "I am in my eighty-third year." He still looks pretty strong and has a voice like a nutmeg-grater. Within two or three years at most, I have seen him walking, with that remarkable gait. It is encouraging to know that a man may fish and paddle in this river in his eighty-third year. He says he is older than Winn, though not the oldest man in the town. Mr. Tolman is in his eighty-sixth year.

Went up Dodge's (an Englishman who once lived up it and no relation of the last-named) Brook and across Barrett's dam. In the Cedar Swamp *Andromeda caly-*

culata abundantly out; how long? *Viburnum nudum* leafing. *Smilacina trifolia* recently up; will apparently open in ten or twelve days.

At the dam, am amused with the various curves of jets of water which leak through at different heights. According to the pressure. For the most part a thin sheet was falling smoothly over the top and cutting short off some smaller jets from the first crack (or edge of the first plank), leaving them like white spikes seen through the water. The dam leaked in a hundred places between and under the planks, and there were as many jets of various size and curve. Reminds me of the tail-piece in Bewick, of landlord drawing beer (?) from two holes, and knowledge of artist shown.

Shad-flies on the water, schooner-like. Hear and see a goldfinch, on the ground.

May 6. To Clamshell by river.

Our earliest currant out. Oat spawn showing little pollywogs (?) in meadow water. The horse-chestnut and mountain-ash leafing. Knawel out at Clamshell; how long? *Cerastium* out there under the bank. That early white birch there has about done running sap. *Equisetum sylvaticum* a day or two on the ditch bank there.

May 7. Wednesday. Fresh easterly wind.

2 P. M. — To bear-berry on Major Heywood road.

In Deacon Hosmer's barn meadows, hear the *don't don't* of a bullfrog.

In the first hollow in the bank this side of Clam-

shell, where sand has been dug for the meadow, are a hundred or more bank swallows at 2 P. M. (I suspect I have seen them for some time) engaged in prospecting and digging their holes and circling about. It is a snug place for them,—though the upright portion of the bank is only four or five feet high,—a semi-circular recess facing the southeast. Some are within scratching out the sand,—I see it cast out of the holes behind them,—others hanging on to the entrance of the holes, others on the flat sandy space beneath in front, and others circling about, a dozen rods off over the meadow. Theirs is a low, dry, grating twitter, or rather rattle, less metallic or musical than the *vite vite* and twittering notes of barn and white-bellied swallows. They are white-bellied, dark winged and tailed, with a crescent of white [*sic*] nearly around the lower part of the neck, and mouse-colored heads and backs. The upper and greater part of this bank is a coarse sliding gravel, and they build only in the perpendicular and sandy part (I sit and watch them within three or four rods) and close to the upper part of it. While I am looking, they all suddenly with one consent take to wing, and circle over the hillside and meadow, as if they chose to work at making their holes a little while at a time only. I find the holes on an average about a foot deep only as yet, some but a few inches.

In the meanwhile I hear, through this fresh, raw east wind, the *te-a-lea* of myrtle-birds¹ from the woods across the river.

The bear-berry will perhaps open to-morrow.²

¹ White-throat sparrows.

² It does.

I hear the evergreen-forest note close by; and hear and see many myrtle-birds, at the same time that I hear what I have called the black and white creeper's note. Have I ever confounded them?

Over the edge of Miles's mill-pond, now running off, a bumblebee goes humming over the dry brush. I think I saw one on the 5th also.

Miles began last night to let the water run off. The pond falls about three inches in twenty-four hours. The brook below is full of fishes, — suckers, pouts, eels, trouts, — endeavoring to get up, but his dam prevents. This morning his young man killed a number of pouts and eels and suckers with a shovel. Here he comes now, at 4 P. M., with a spear, and raises the gate and waits a few moments for the water, which was two or three feet deep just below the mill, to run off; and then I see a good-sized trout, four or five pouts, and several suckers, and one eel still making their way upward, though the water hardly covers their backs. They do not turn and go down the stream with the water which is thus suddenly and rapidly let off. Meanwhile this young man picks out half a dozen pouts, eels, and suckers with his spear. Twenty rods down the brook I saw many more suckers trying to make their way up. They found it difficult now to get over the bars where the water was very shallow, and were sometimes confined to the hollows between. I saw two or three in company trying to squeeze through a narrow passage under some alder boughs, which was blocked up by two spotted tortoises; and one large eel squirming directly over an indifferent wood turtle, concluding

to go down the stream, but it soon hid under a projecting bank. The pouts, etc., would suddenly bury themselves in the sand or mud and be lost. The fishes seemed unwilling to turn and go down the brook, and for the most part would come so near in the shallow water that they could easily be struck with the spear.

The water thus suddenly let off, there were many spotted and wood tortoises seen crawling about on the bottom. One little snapping (making the fifth of its species here), three and a half inches long, going down a few rods below the dam. This, like the larger ones, going down the brook. Where to? and why? He cannot be old enough to breed yet, and it is too early to be laying at the desert. This young snapping turtle was very strong-scented. Its tail appeared particularly long, as long as its shell, and very tapering, and very distinctly and sharply keeled. The first half-dozen of its dorsal serrations were very prominent and sharp, and its bill was very sharp also. It had four sharp points on each side of its shell behind, and I noticed that it swam better than other kinds of tortoises. Its head was as large as that of an ordinary wood tortoise. There were tracks of other turtles on the sandy bank.

The young man said that the eels came along as many as three in an hour in the night, and this morning there were a great many of them about the wheel. Last fall (this dam being made late in the fall), they found in the hollow under the wheel which they bailed out sixteen trout which weighed eight pounds. It is surprising how many fishes will run up and breed in such a little brook as this. The fishes generally would

conceal themselves in the mud under a projecting bank, or in some deep hole in the sand in mid-channel which communicated with the mud beneath.

One of those larger snapping turtles seized the one I had by the head and they braced and struggled awhile.

The miller now raises his gate and lets his pond run off. Do they not generally earlier?

For a week the road has been full of cattle going up country.

May 10. The third day of rain. The river has again gone over the meadows, which were almost bare.

P. M. — To Walden in rain.

R. Rice speaks of having seen myriads of eels formerly, going down the Charles River, young ones not longer than his hand, stopped behind a board at the dam. That once there, when repairing the dam, he saw, while standing on the bared bottom below it, a large eel come up close by it through hard gravel and he believed it had just come down the river and had penetrated through six feet in thickness of the same character, for the dam was carried down to that depth below the bottom of the river.

That the snapping turtle caught fish by lying buried in the mud with only his eyes out, was Rice's supposition.

Some Vaccinium Pennsylvanicum out in Cut woods; maybe a day, as it has rained steadily the last two days. It seems to bloom with or immediately after the bear-berry.

I would gladly walk far in this stormy weather, for now I see and get near to large birds. Two quails

whir away from the old shanty stubble-field, and two turtle doves go off from an apple tree with their *clikit*. Also at Walden shore a pigeon hawk (or else sharp-shinned), with deep-brown back, went off from close at hand.

I see there, just above the edge of the Pool in Hubbard's Wood Path, the *Viola blanda* passing into the *V. lanceolata*, which last also is now in bloom, probably earlier there than in wetter places. May have been as early as the *blanda*.

Where the pitch pines were cut some years ago on Thrush Alley, I now see birches, oaks, and pitch and white pines.

On the railroad causeway against Trillium Wood, I see an apparently native willow, a shrub, with greenish bark and conspicuous yellow catkins, now in full bloom, apparently a little earlier than the *Salix alba*, but its leaflets or bracts much less advanced and conspicuous. Another on the Walden road. What is it? Mr. Prichard's Canada plum will open as soon as it is fair weather.¹

May 11. Rains still.

I noticed the other day that the stump of the large oak at Clamshell Hill, cut down fifteen years ago or more, was quite rotten, while the trunk which lay by its side, having never been removed, was comparatively sound.

The Roman writers Columella and Palladius warn not to build in a low valley or by a marsh, and the same

¹ *Vide 12th.*

rule is observed here to-day. In the West the prudent settler avoids the banks of rivers, choosing high and open land. It suggests that man is not completely at one with Nature, or that she is not yet fitted to be his abode. Adam soon found that he must give a marsh a wide berth, — that he must not put his bower in or near a swamp in the new country, — else he would get the fever and ague or an intermittent fever. Either nature may be changed or man. Some animals, as frogs and musquash, are fitted to live in the marsh. Only a portion of the earth is habitable by man. Is the earth improving or deteriorating in this respect? Does it require to be improved by the hands of man, or is man to live more naturally and so more safely?

P. M. — To Cedar Swamp up Assabet.

There is at length a prospect of fair weather. It will clear up at evening this fourth day of the rain. The river is nearly as high as it has been this spring.

The *Salix alba* by my boat is out and beaten by the rain; perhaps three or four days in some places, but not on the 6th. It does not rain now, though completely overcast, but looks as if it would clear up before night.

There are many swallows circling low over the river behind Monroe's, — bank swallows, barn, republican, chimney, and white-bellied. These are all circling together a foot or two over the water, passing within ten or twelve feet of me in my boat. It is remarkable how social the different species of swallow are one with another. They recognize their affinity more than usual. On the prospect of fair weather after so long a storm,

the birds are more lively than ever. As I float through the Wheeler Indian field meadow, I see a very hopping silent under the alders. The black and white creeper also is descending the oaks, etc., and uttering from time to time his *seeser seeser seeser*. What a rich, strong striped blue-black (?) and white bird, much like the myrtle-bird at a little distance, when the yellow of the latter is not seen. At a distance I hear the first yellow-bird.

The *Salix sericea* at Island rock is out, also the *S. cordata* off Prichard's, both apparently with *S. alba*. But I have not yet compared them (for date) quite accurately enough. I think I can pretty well distinguish the *sericea* by the grayness of the female catkins, twig and all, but am not sure I have seen the staminate. Neither am I sure that I see the staminate *S. cordata*. Those at Prichard's are apparently all female. There are many staminate ones now in full bloom in the Wheeler meadow, I suspect like that of the railroad causeway, male and female side by side, five rods north of *S. alba*; also male, west side below ring-post (*vide* May 10th), or they may be staminate plants of *S. cordata*, or some perhaps of *S. sericea*. *Vide* how many different kinds of leaves and mark them six weeks hence. *Vide* if those just off the north end of Holden Wood (Conantum) are all *S. cordata*, for there are many staminate ones like the last-named; also *vide* that one on the north side of the road and root fence beyond brook on Corner road (perhaps like the railroad one), male and female now a little past prime. All these willows blossom when the early willows, which bloom before leafing, are going to seed.

Large white maples are leafing.

I see, near the top of the bank at the further end of the first hemlocks, dirty-white fungi in nests, each about three quarters of an inch [in] diameter, without any thick rind which peels off. Each one is burst a little at top, and is full of dust of a yellowish rotten-stone color, which is perfectly dry and comes forth like a puff of smoke on being pinched, now after four days of rain, before the fair weather has come, and though each one is nearly half full of water. This dust certainly has but little affinity for moisture and might be of use in some cases.

I leave my boat in Hosmer's poke-logan and walk up the bank. A bluebird's nest and five eggs in a hollow apple tree three feet from ground near the old bank swallow pit, made with much stubble and dried grass. Can see the bird sitting from without.

There are a great many large flat black cockroach(?) -like beetles floating and paddling on the flood on the meadows, which have perhaps fallen in in the night (if not washed out of the grass); also a few of the thick dull reddish-brown ones.

May 12. A glorious day.

P. M. — Walked round by Dennis's and Hollowell place with Alcott.

It is suddenly very warm. A *washing* day, with a slight haze accompanying the strong, warm wind. I see, in the road beyond Luther Hosmer's, in different places, two bank swallows which were undoubtedly killed by the four days' northeast rain we have just had.

Puffer says he has seen two or three dead sparrows also. The sudden heat compels us to sit in the shade at the bars above Puffer's, whence we hear the first bobolink. How suddenly the birds arrive after the storm, — even yesterday before it was fairly over, — as if they had foreseen its end! How much life the note of the bobolink imparts to the meadow! I see a cultivated cherry in bloom, and Prichard's Canada plum will probably bloom to-morrow. The river is higher than yesterday, about the same as when highest before this spring, and goes no higher. Thus attains its height the day after the rain.

May 13. Hear a warbling vireo. Dandelions by roadside; probably several days in some places.

P. M. — Up river to *Kalmia glauca* Swamp.

In the swallows' holes behind Dennis's, I find two more dead bank swallows, and one on the sand beneath, and the feathers of two more which some creature has eaten. This makes at least seven dead bank swallows in consequence of the long, cold northeast rain. A male harrier, skimming low, had nearly reached this sand-pit before he saw me and wheeled. Could it have been he that devoured the swallows?

These swallows were $10\frac{3}{4}$ + alar extent, $4\frac{3}{4}$ inches long; a wing $4\frac{3}{4}$ + by $1\frac{3}{4}$ +. Above they were a light brown on their backs, wings blackish, beneath white, with a dark-brown band over the breast and again white throat and side of neck; bill small and black; reddish-brown legs, with long, sharp, slender claws. It chanced that each one of two I tried weighed between

five and six sixteenths of an ounce, or between five and six drams avoirdupois. This seems to be the average weight, or say six drams because they have pined a little. A man who weighs one hundred and fifty pounds weighs sixty-four hundred times as much as one. The wing of one contains about seven square inches, the body about five, or whole bird nineteen. If a man were to be provided with wings, etc., in proportion to his weight, they would measure about 844 square feet, and one wing would cover 311 feet, or be about 33 feet long by 14 wide. This is to say nothing of his muscles.

The *Kalmia glauca* will not open for some days at least.

Mrs. Ripley told me last night that Hill said the toads rang till they died if their call was not answered or attended to.

At the swamp, hear the *yorrick* of Wilson's thrush; the tweezer-bird or *Sylvia Americana*. Also the oven-bird sings. Caterpillars' nests on an apple two inches [in] diameter. Downy amelanchier just out at Lupine Bank; elsewhere, *maybe*, a day or two.

Where my sap has dried on the white birch bark it has now turned a bright light red. What a variety of colors it assumes!

Potter has a remarkable field of mulleins, sown as thickly as if done with a machine (under Bear Garden Hill). I remarked them last year. William Wheeler thinks the seed lies in the ground an indefinite period ready to come up. I thought that it might have been introduced with his grain when it was sown lately. Wheeler says that many a pasture, if you plow it up

after it has been lying still ten years, will produce an abundant crop of wormwood, and its seeds must have lain in the ground. Why do not the chemists in their analyses of soils oftener mention the seeds of plants? Would not a careful analysis of old pasture sod settle the question?

I suspect that I can throw a little light on the fact that when a dense pine wood is cut down oaks, etc., may take its place. There were only pines, no other tree. They are cut off, and, after two years have elapsed, you see oaks, or perhaps a few other hard woods, springing up with scarcely a pine amid them, and you wonder how the acorns could have lain in the ground so long without decaying. There is a good example at Loring's lot. But if you look through a thick pine wood, even the exclusively pitch pine ones, you will detect many little oaks, birches, etc., sprung probably from seeds carried into the thicket by squirrels, etc., and blown thither, but which are overshadowed and choked by the pines. This planting under the shelter of the pines may be carried on annually, and the plants annually die, but when the pines are cleared off, the oaks, etc., having got just the start they want, and now secured favorable conditions, immediately spring up to trees. Scarcely enough allowance has been made for the agency of squirrels and birds in dispersing seeds.¹

At the Kalmia Swamp, the parti-colored warbler, and was that *switter switter switter switter swit!* also by it? ²

¹ [*Excursions*, pp. 188, 189; Riv. 231, 232.]

² Probably by this or the redstart, which last I distinguish on the 17th *inst.*

May 14. Air full of golden robins. Their loud clear note betrays them as soon as they arrive. Yesterday and to-day I see half a dozen tortoises on a rail, — their first appearance in numbers. Catbird amid shrub oaks. Female red-wing. Flood tells me he saw cherry-birds on the 12th of April in Monroe's garden.

May 15. A fog this morning. Our peach out.

P. M. — To beeches.

As I sat by the Riordan crossing, thought it was the tanager I heard? I think now, only because it is so early, that it *may* have been the yellow-throat vireo.¹

See also, for a moment, in dry woods, a warbler with blue-slate head and apparently all yellow beneath for a minute, nothing else conspicuous; note slightly like *tseep, tseep, tseep, tseep, tsit sitter ra-re-ra*, the last fast, on maples, etc. Maybe I heard the same yesterday.²

Northern wild red cherry out, cut by railroad; maybe day or two elsewhere. At Heywood Spring I see a clumsy woodchuck, now, at 4 P. M., out feeding, gray or grizzly above, brown beneath. It runs, or waddles, to its hole two or three rods off, and as usual pauses, listening, at its entrance till I start again, then dives in.

Viola cucullata abundant now. Just on the brink of this Heywood Spring, I find what may be the *Stellaria borealis* (if it is not the *longifolia*, but it is not in cymes like that; only a single flower to each axil, now at

¹ No; it must have been a tanager, which I hear frequently the 19th.

² No doubt the *Sylvia Americana*, blue yellow-back or parti-colored warbler; heard before.

least), though Bigelow makes its calyx-divisions nerveless. These are three-nerved, and one flower, at least, has five (!) styles. It has been out perhaps several days. Some of the flowers are without petals, others with those very deeply cleft or divided white petals. The others *may* have pollen.¹

Strawberry well out; how long? On *Amelanchier Botryapium*, many narrow dark bronze-colored beetles (say three fourths inch long) coupled and at same time eating the flowers, calyx and all. Night-warbler. Hickory leafets not so large as beech. Beech leaves two inches long. Say it has leafed a day or two. White birch pollen. Beech not out yet.

Checker-berries very abundant on south side of Pine Hill, by pitch pine wood. Now is probably best time to gather them.

Cleared out the Beech Spring, which is a copious one. So I have done some service, though it was a wet and muddy job. Cleared out a spring while you have been to the wars. Now that warmer days make the traveller thirsty, this becomes an important work. This spring was filled and covered with a great mass of beech leaves, amid and beneath which, damp and wet as they were, were myriads of snow-fleas and also their white exuviae; the latter often whitening a whole leaf, mixed with live ones. It looks as if for coolness and moisture — which the snow had afforded — they were compelled to take refuge here.

Cerasus pumila, south side Pine Hill, not yet by Cut woods. Perceive *some* of that delicious meadow fra-

¹ Two inches high; leaves rather broad. *Vide* the 21st.


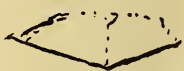
grance coming over the railroad causeway. Measured a chestnut stump cut last winter on Pine Hill; twenty-five inches in diameter and fifty-six rings.

May 16. Rainy day.

May 17. Rain still or lowering.

P. M. — To my boat at Cardinal Shore, thence to Lee's Cliff.

Kingbird. The beech twigs I gathered the 15th show anthers to-day in chamber; so it probably blossoms to-day or to-morrow in woods. *Vaccinium vacillans* apparently a day or two at least. *Veronica serpyllifolia* abundant now on banks, erected. Maryland yellow-throat heard afar in meadows, as I go along the road towards Hubbard's Bridge. It is warm, but still overcast and sprinkling occasionally, near the end of the rain, and the birds are very lively. A goldfinch twitters over.

In the dry lupine bank pasture, about fifteen rods from the river, apparently travelling up the hill, I see a box tortoise, the first I have found in Concord.¹ Beside being longer (its upper shell five and one half by four and one fourth inches), it is much flatter and more oblong, less oval, than the one I found on Cape Cod last July. Especially it is conspicuously broader and flatter forward. The two rear marginal plates  have a triangular sinus between them, while the Cape Cod ones come to a point. The fifth and sixth marginal plates do  not project by their edges beyond the

¹ *Vide* July 19.

shell. The yellow marks are much narrower, and more interrupted and like Oriental characters, than in the Cape Cod one. The sternum also is less oval, uniformly blackish-brown except a few slight bone- [?] or horn-colored blotches, while the Cape Cod one is light-yellow with a few brown blotches. The scales of the sternum in this are much less sharp-angled than in the Cape Cod one. The sternum more hollow or depressed.

The tail about three eighths of an inch long only, beyond the anus (?). The bill is very upright, somewhat like this:

like any Cæsar's.
legs covered
orange-colored
Hind ones
brown or bronze



A beak
Fore
with
scales.
mostly
with a

few orange spots. Beside the usual hiss, uttered in the evening as I was carrying it, a single, as it were involuntary, squeak much like a croaking frog. Iris, bright light red, or rather vermilion, remarkable. Head, brown above with yellow spots; orange beneath and neck.

The river is about a foot lower than on the 13th, notwithstanding yesterday's and to-day's rain.

At the Kalmia Swamp, see and hear the redstart, very lively and restless, flirting and spreading its reddish tail. The sylvias — *S. Americana* and redstart and summer yellowbird, etc. — are very lively there now after the rain, in the warm, moist air, amid the hoary bursting buds of maples, oaks, etc.

I stand close on the edge of the swamp, looking for

the kalmia. Nothing of its flower to be seen yet. The rhodora *there* will open in a day or two.

Meanwhile I hear a loud hum and see a splendid male hummingbird coming zigzag in long tacks, like a bee, but far swifter, along the edge of the swamp, in hot haste. He turns aside to taste the honey of the *Andromeda calyculata* (already visited by bees) within a rod of me. This golden-green gem. Its burnished back looks as if covered with green scales dusted with gold. It hovers, as it were stationary in the air, with an intense humming before each little flower-bell of the humble *Andromeda calyculata*, and inserts its long tongue in each, turning toward me that splendid ruby on its breast, that glowing ruby. Even this is coal-black in some lights! There, along with me in the deep, wild swamp, above the andromeda, amid the spruce. Its hum was heard afar at first, like that of a large bee, bringing a larger summer. This sight and sound would make me think I was in the tropics, — in Demerara or Maracaibo.¹

Nemopanthes on that very swamp-edge. *Vaccinium corymbosum* (?) or the high blueberry.

Hear the first veery note and doubtless the *Muscicapa olivacea*. The *Sylvia Americana* (parti-colored warbler, etc.) is very numerous there, darting about amid the hoary buds of the maples and oaks, etc. It seems the most restless of all birds, blue more [or] less deep above, with yellow dust on the back, yellow breast, and white beneath (the male with bright-orange throat, and some with a rufous crescent on breast); wings and tail,

¹ Another on our cherry blossoms the next day. A long, slender black bill.

dark, black, with two white bars or marks, dark bill and legs.

At Lee's the *Turritis stricta* pods three inches long, and plant two and a half feet high by measure. Get some to press. *Myosotis stricta* above there, maybe several days. *Ranunculus bulbosus* a day or two at least. *Arenaria serpyllifolia*.

Mrs. Ripley showed me, from her son Gore in Minnesota, a few days ago, the first spring flower of the prairie there, a hairy-stemmed, slender-divisioned, and hairy-involucrated, six-petalled blue flower, probably a species of hepatica. No leaves with it. Not described in Gray.¹

Yellow columbine well out at Lee's, one rod from rock, one rod east of ash.

How plainly we are a part of nature! For we live like the animals around us. All day the cow is cropping the grass of yonder meadow, appropriating, as it were, a part of the solid earth into herself, except when she rests and chews the cud; and from time to time she wends her way to the river and fills her belly with that. Her food and drink are not scarce and precious, but the commonest elements of which nature is composed. The dry land in these latitudes, except in woods and deserts, is almost universally clothed with her food, and there are inland seas, ready mixed, of the wine that she loves. The Mississippi is her drink, the prairie grass her food.

The shrub oak and some other oak leafets, just expanding, now begin to be pretty.

Within the shell of my box turtle, in the cavity be-

¹ Yes. They say it is *Pulsatilla patens*.

tween its thighs and its body, were small dry leaves and seeds, showing where it laid. From these I should say it had come from amidst the alders.

May 18. Ed. Emerson says he saw at Medford yesterday many ground-birds' nests and eggs under apple trees.

R. W. E.'s black currant ¹ (which the wild *Ribes floridum* is said to be much like), maybe a day.

R. W. E. says that Agassiz tells him he has had turtles six or seven years, which grew so little, compared with others of the same size killed at first, that he thinks they may live four or five hundred years.

P. M. — To Kalmia Swamp.

Go across fields from R. W. E.'s to my boat at Cardinal Shore. In A. Wheeler's stubble-field west of Deep Cut, a female (?) goldfinch on an oak, without any obvious black, is mewling incessantly, the note ending rather musically. When I get over the fence, a flock of twenty or more, male and female, rise from amid the stubble, and, alighting on the oaks, sing pleasantly all together, in a lively manner.

Going along the Spring Path, hear an oft-repeated *tchip tchar*, *tchip tchar*, etc., or *tchip tcharry* (this is a common note with birds) from a large bird on a tree-top, a sort of flaxen olive. Made me think of a female rose-breasted grosbeak, though we thought the beak more slender.

On the surface of the water amid the maples, on the Holden Wood shore where I landed, I noticed some of

¹ Apparently it is American.

the most splendid iridescence or opalescence from some oily matter, where the water was smooth amid the maples, that I ever saw. It was where some sucker or other fish, perchance, had decayed. The colors are intense blue and crimson, with dull golden. The whole at first covering seven or eight inches, but broken by the ripples I have made into polygonal figures like the fragments of a most wonderfully painted mirror. These fragments drift and turn about, apparently, as stiffly on the surface as if they were as thick and strong as glass. The colors are in many places sharply defined in fine lines, making unaccountable figures, as if they were produced by a sudden crystallization. How much color or expression can reside in so thin a substance! With such accompaniments does a sucker die and mix his juices with the river. This beauty like the rainbow and sunset sky marks the spot where his body has mingled with the elements. A somewhat similar beauty reappears painted on the clam's shell. Even a dead sucker suggests a beauty and so a glory of its own. I leaned over the edge of my boat and admired it as much as ever I did a rainbow or sunset sky. The colors were not faint, but strong and fiery, if not angry.

Found a young turtle about two inches long of a flat roundish form, with scales as rough as usual, but a dull reddish or yellowish spot in middle of each scale, and edges beneath were also a pinkish red. Can it be a young yellow-spot?

I have not noticed a tree sparrow since December!

A *Sylvia Americana*, — parti-colored warbler, — in

the Holden Wood, sings *a, tshrea tshrea tshrea, tshre' tshritty tshrit'*.

One low *Kalmia glauca*, before any rhodora thereabouts. Several kalmias, no doubt, to-morrow. The rhodora there maybe to-morrow. Elsewhere I find it (on Hubbard's meadow) to-day.

The swamp is all alive with warblers about the hoary expanding buds of oaks, maples, etc., and amid the pine and spruce. They swarm like gnats now. They fill the air with their little *tshree tshree* sprayey notes. I see close by, hopping close up to the main stem of young white pines, what you would call a Maryland yellow-throat, but less chubby, yellow throat, beneath, and vent, and dark under tail, black side; but hear no note. Also another clear pure white beneath, and vent, and side-head; black above, finely marked with yellow; yellow bars on wings; and golden crown; black bill and legs; with a clear, sweet warble like *tche tche tche, tchut tchutter we*. Can this be a chestnut-sided warbler, and I not see the chestnut?¹ Hopping amid oak twigs? I think I hear a yellow-throated vireo. Hear a tree-toad.

Sailed back on Hubbard's redstart path, and there saw a mud turtle draw in his head, of which I saw the half, about eight rods off. Pushed to the spot, where the water was about a foot deep, and at length detected him spread out on the bottom, his monstrous head and tail and legs outspread, probably directly under where he had appeared. At first, I suspect, I mistook him for a rock, for he was thickly covered with a short green moss-like conferva (?), — a venerable object,

¹ It is. *Vide* 20th. Saw it also the 17th here.

a true son of the meadow, suggesting what vigor! what naturalness! Perchance to make the moss grow on your back without injuring your health! How many things can he sustain on his shell where the mosses grow? He looked like an antediluvian under that green, shaggy shell, tougher than the rock you mistake it for. No wonder the Indian revered him as a god. Think of the time when he was an infant. There is your native American, who was before Columbus, perchance. Grown, not gray, but green with the lapse of ages. Living with the life of the meadow. I took off my coat, stripped up my shirt-sleeve, and caught him by his great rough tail. He snapped at me and my paddle, striking his snout against the side of the boat till he made it bleed. Though I held him down with an oar for a lever and my foot on it, he would suddenly lift all together, or run out his head and knock the oar and my leg aside. He held up his head to me and, with his mouth wide open, hissed in his breathing like a locomotive for a quarter of an hour, and I could look straight down his monstrous gullet ten inches. The only way to hold him and paddle too was to turn him on his back, then, putting the end of a paddle under a seat, slant it over his sternum and press my foot on the other end. He was fourteen and one half inches long by twelve at the broadest places, and weighed twenty-five pounds and three ounces. The claws were an inch and a quarter long beyond the skin, and very stout. You had to exert yourself to turn him over on a plane surface, he held down so firmly with his claws, as if grown to it. He took my hand into his shell with his tail and took the skin

off it. The sternum is broadest forward. This turtle was not roundish like the shell I have, but nearly an oblong square; nearly as long as that, but much less wide. The usual number of scallops behind.

I know of a young lady who, when riding, came across one in the road, which not wishing to run over, she got out and tried to drive it out of the way with her whip, but it "screamed" at and terrified her. A caravan could not make him budge under those circumstances.

E. Emerson finds half a dozen yellow violets. A hair-bird's nest building. I hear whip-poor-wills about R. W. E.'s.

May 19. Thick fog in the morning, which lasted late in the forenoon and left behind it rainy clouds for the afternoon.

P. M. — To Cedar Swamp.

Landed at Island Neck, and saw a small striped snake in the act of swallowing a *Rana palustris*, within three feet of the water. The snake, being frightened, released his hold, and the frog hopped off to the water. Hear and see a yellow-throated vireo, which methinks I have heard before. Going and coming, he is in the top of the same swamp white oak and singing indolently, *ullia* — *eelya*, and sometimes varied to *eelyec*. The tanager is now heard plainly and frequently.

I see running along the water's edge on the Island Neck, amid the twigs, a new bird, slender and somewhat warbler-like, but plainly a *Turdus*, with a deep, dark chocolate-brown back (apparently uniformly), apparently cream-colored beneath, handsomely and abundantly

spotted with dark brown, vent white, light flesh-colored legs, yellowish or cream-colored line over eyes. Me-thinks it teetered or wagged its tail. Flew soon and was quite shy. I think it must have been the *Turdus aquaticus* from its dark chocolate-brown back and running along the water's edge. Feel pretty sure, yet that is said to have white (?) over eye. I lost it before I had examined fully. Quite a discovery. *Vide* golden-crowned thrush carefully.

Apple in bloom; some, no doubt, earlier. Night-hawk's squeak. Red-wing's nest made, and apparently a kingbird's (?), on black willow four feet above water.¹

As I sail up the reach of the Assabet above Dove Rock with a fair wind, a traveller riding along the highway is watching my sail while he hums a tune. How inspiring and elysian it is to hear when the traveller or the laborer from a call to his horse or the murmur of ordinary conversation rises into song! It paints the landscape suddenly as no agriculture, no flowery crop that can be raised. It is at once another land, the abode of poetry. I am always thus affected when I hear in the fields any singing or instrumental music at the end of the day. It implies a different life and pursuits than the ordinary. As he looked at my sail, I listened to his singing. Perchance they were equally poetic, and we repaid each other. Why will not men oftener advertise me of musical thoughts? The singer is in the attitude of one inviting the muse, — aspiring.

The Maryland yellow-throat amid the alders sings now, *whit-we-chee whit-we-chee whit-we-chee whit-whit*,

¹ It is a robin's without mud.

the last two fast, or *whit* alone, or none. Wood pewee. Woolly aphides on alder.

The *Smilacina trifolia* will apparently bloom to-morrow or next day.¹

Returning, stopped at Barrett's sawmill while it rained a little. Was also attracted by the music of his saw. He was sawing a white oak log; was about to saw a very ugly and knotty white oak log into drag plank, making an angle. Said that about as many logs were brought to his mill as ten years ago, — he did not perceive the difference, — but they were not so large, and perhaps they went further for them. I observed that he was not grinding. No, he said, it was the first day he had not had a grist, though he had plenty of water; probably because the farmers were busy planting. There [were] white oak, pine, maple, and walnut logs waiting to be sawed.

A bullfrog, sluggish, by my boat's place.

On the 13th I saw washed up to the edge of the meadow, this side of Clamshell, portions of one or two large bluish-white eggs, apparently a size larger than hens' eggs, which may have been laid last year by some wild fowl in the meadow.

If my friend would take a quarter part the pains to show me himself that he does to show me a piece of roast beef, I should feel myself irresistibly invited. He says, —

“Come and see
Roast beef and me.”

I find the beef fat and well done, but him rare.

¹ In house, the 21st.

May 20. Fir-balsam (ours in grove) apparently two or three days, for it [is] almost entirely effete; cones white, one inch long nearly.

Was awaked and put into sounder sleep than ever early this morning by the distant crashing of thunder, and now, —

P. M. (to Beck Stow's), —

I hear it in mid-afternoon, muttering, crashing in the muggy air in mid-heaven, a little south of the village as I go through it, like the tumbling down of piles of boards, and get a few sprinkles in the sun. Nature has found her hoarse summer voice again, like the lowing of a cow let out to pasture. It is Nature's rutting season. Even as the birds sing tumultuously and glance by with fresh and brilliant plumage, so now is Nature's grandest voice heard, and her sharpest flashes seen. The air has resumed its voice, and the lightning, like a yellow spring flower, illumines the dark banks of the clouds. All the pregnant earth is bursting into life like a mildew, accompanied with noise and fire and tumult. Some œstrus stings her that she dashes headlong against the steeples and bellows hollowly, making the earth tremble. She comes dropping rain like a cow with overflowing udder. The winds drive her; the dry fields milk her. It is the familiar note of another warbler, just arrived, echoing amid the roofs.¹

I see, on a locust in the locust [*sic*] burying-ground, the *Sylvia striata*, or black-poll warbler, busily picking about the locust buds and twigs. Black head and above, with olive (green) wings and two white bars; white all

¹ [Channing, p. 123.]

beneath, with a very distinct black line from throat to shoulders; flesh-colored legs; bill, dark above, light beneath. Hear no note. Saw it well.

At Moore's Swamp on Bedford road, myriads of pollywogs half an inch long darken or blacken the shore, chiefly head as yet. Bank swallows are very lively about the low sand-bank just beyond, in which are fifty holes.

I now see distinctly the chestnut-sided warbler (of the 18th and 17th), by Beck Stow's. It is very lively on the maples, birches, etc., over the edge [of] the swamp. Sings *eech eech eech* | *wichy wichy* | *tchea* or *itch itch itch* | *witty witty* | *tchea*. Yet this note I represented on the 18th by *tche tche tche* | *tchut tchutter we*.

The andromeda has apparently been out several days, but no buck-bean there yet, nor will for a day or two.¹

See and hear a stake-driver in the swamp. It took one short pull at its pump and stopped. Two marsh hawks, male and female, flew about me a long time, screaming, the female largest, with ragged wings, as I stood on the neck of the peninsula. This induced me to climb four pines, but I tore my clothes, got pitched all over, and found only squirrel; yet they have, no doubt, a nest thereabouts.

Haynes the carpenter calls that large glaucous puff that grows on the *Andromeda paniculata*, swamp-apple; says he has eaten as much as three bushels (!) of them when he was a boy, and likes them. That is what he was raised on.

After I got him home, I observed a large leech on the upper shell of my great turtle. He stoutly resisted being

¹ *Vide* 21st.

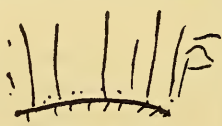
turned over, by sinking his claws into the ground; was aware that that was his weak side, and, when turned, would instantly run out his head and turn himself back. No wonder the Orientals rested the world on such a broad back. Such broad health and strength underlies Nature.

May 21. *Wednesday*. P. M. — To Saw Mill Brook.

Chelidonium. *Rubus triflorus* abundantly out at the Saw Mill Brook; how long? A robin's nest without mud, on a young white oak in woods, with three eggs. Saw two splendid rose-breasted grosbeaks with females in the young wood in Emerson's lot. What strong-colored fellows, black, white, and fiery rose-red breasts! Strong-natured, too, with their stout bills. A clear, sweet singer, like a tanager but hoarse somewhat, and not shy. The redstarts are inquisitive and hop near. The *Polygonatum pubescens* there, in shade, almost out; perhaps elsewhere already.

At the trough near Turnpike, near Hosmer's Spring, the (perhaps) *Stellaria borealis* of the 15th. I am still in doubt whether it is a stellaria or cerastium. This is quite smooth, four to five inches high, spreading and forking, with a single flower each fork, on a long peduncle; square-stemmed, oblong-lanceolate leaves, slightly ciliate and connate: ten stamens, five long, five short. Aspect of a smooth cerastium, but this has four to seven styles, oftenest perhaps five, all apetalous, except one petal shorter than the calyx; leaves one-nerved, sepals three-nerved! The bare and small plants are reddish-stemmed. Can it be *Stellaria longipes*?

The buck-bean in Everett's Pool abundantly out, say four or five days. It is earlier than at B. Stow's. *Myosotis laxa* by Turnpike, near Hosmer Spring, may have been out several days; two or three at least.

May 22. P. M. — To *Viola Muhlenbergii*, which is abundantly out; how long? A small pale-blue flower growing in dense bunches, but in spots a little drier than the *V. cucullata* and *blanda*. *Veronica peregrina*, apparently several days. A yellow butterfly over the middle of the flooded meadow. *Polygonatum pubescens* at rock. *Aralia nudicaulis*, apparently a day or two where heat is reflected from the rock on Island. Choke-cherry and *cratægus* there in a day or two. The *Cornus florida* does not bloom this year. Hemlock and creeping juniper, not quite yet. The red and cream-colored cone-shaped staminate buds of the black spruce will apparently shed pollen in one to three days? They are nearly half an inch long. I see beds of anemones amid or under clumps of hazels, of this form:  a mass of their pretty leaves and flowers, five or six feet in diameter. I see a common *Vaccinium vacillans* (?), with a leaf much like that of the *V. Pennsylvanicum*, also the common *V. vacillans* with more rounded glaucous leaves.

I noticed a cobweb the other day, between the tholepins of my boat, which was perfectly black with those little fuzzy gnats which fly at that height and take shelter from wind in boats and the like.

A little clammy hairy cerastium (?) (like a *Cerastium*

viscosum, slender and erect), about three inches high, will open in a day or two on the rock near the bass.¹

May 23. P. M. — To Heywood Spring.

Sorrel well open on west side of railroad causeway against H. Wheeler's land. Noticed the earliest willow catkins turned to masses of cotton yesterday; also a little of the mouse-ear down begins to be loose. Hear often and distinctly, apparently from H. Wheeler's black spruce wood-lot, the *phe phee-ar* of the new muscicapa. Red-eye and wood thrush. Houstonias whiten the fields, and looked yesterday like snow, a sugaring of snow, on the side of Lee's Hill. Heard partridges drum yesterday and to-day. Observed the pads yesterday just begun to spread out on the surface with wrinkled edges and here and there a bullet-like bud; the red white lily pads still more rare as yet.

The stellaria at Heywood Spring must be the same with that near the E. Hosmer Spring, though the former has commonly fewer styles and rather slenderer leaves. It appears to be the *S. borealis*, though the leaves are *narrowly* lanceolate; has three to seven styles; a few petals (cleft almost to the bottom) or none; pods, some larger than the calyx ² and apparently ten-ribbed; petals, now about the length of the sepals.³

After sunset on river.

A warm summer-like night. A bullfrog trumps once. A large devil's-needle goes by after sundown. The ring of toads is loud and incessant. It seems more prolonged

¹ *Vide* June 5th.

² At last twice as long.

³ Keeps, and grows and blossoms, in a tumbler.

than it is. I think it not more than two seconds in each case. At the same time I hear a low, stertorous, dry, but hard-cored note from some frog in the meadows and along the riverside; often heard in past years but not accounted for. Is it a *Rana palustris*?

Dor-bugs hum in the yard, — and were heard against the windows some nights ago. The cat is springing into the air for them.

May 24. Pratt gave me the wing of a sparrow (?) hawk which he shot some months ago. He was coming from his house to his shop early in the morning when he saw this small hawk, which looked like a pigeon, fly past him over the Common with a sparrow in his clutches, and alight about six feet up the south button-wood in front of Tolman's. Having a small Maynard's revolver in his pocket, loaded with a ball size of a pea, he followed, and, standing twenty-two paces from the tree in the road, aimed and brought down both hawk and sparrow at a distance of about six rods, cutting off the wing of the former with the ball. This he confessed he could not do again if he should try a hundred times. It must be a sparrow hawk, according to Wilson and Nuttall, for the inner vanes of the primaries and secondaries are thickly spotted with brownish white.

Humphrey Buttrick says that he hears the note of the woodcock from the village in April and early in May (too late now); that there were some this year breeding or singing by the riverside in front of Abel Heywood's. He says that when you see one spring right up straight into the air, you may go to the spot, and he will surely

come down again after some minutes to within a few feet of the same spot and of you. Has known a partridge to fly at once from one to two miles after being wounded (tracked them by the blood) without alighting. Says he has caught as many as a dozen partridges in his hands. He lies right down on them, or where he knows them to be, then passes his hands back and forth under his body till he feels them. You must not lift your body at all or they will surely squeeze out, and when you feel one must be sure you get hold of their legs or head, and not feathers merely.

To-day is suddenly overpoweringly warm. Thermometer at 1 P. M., 94° in the shade! but in the afternoon it suddenly fell to 56, and it continued cold the next two days.

May 25. 10 A. M. — To Fair Haven Pond with Blake and Brown.

I found five arrowheads at Clamshell Hill. Saw, just before, on the flat meadow on the right, feeding on the edge of the meadow just left bare, along with the peetweets, a bird a size larger with an apparently light-brown back, a ring or crescent of black on its breast and side of neck, and a black patch including the eye. Can it be the *Charadrius semipalmatus*? or else *Wilsonius*? It looks like the latter in Wilson's larger plates. It reminded me of the piping plover, but was not so white; and of the killdeer, but was not so large.

Pyrus on side of Fair Haven Hill, yesterday at least. Huckleberry there, yesterday also at least. On the Cliffs, orobanche; *Veronica arvensis*, the little one on

the rocks there, well out. Also low blackberry on the rocks a day or two. Blackburnian warbler and rose-breasted grosbeak.

Lupines, apparently yesterday. Young phœbes in the Baker house. The bird flitted out as we entered. I reached to an old shelf and felt the warm but callow young. *Azalea nudiflora* in garden. Polygala, fringed, by path beyond Hubbard Grove; how long?

May 27. To Kalmia Swamp with Sanborn.

Fringilla melodia's nest in midst of swamp, with four eggs, made partly of usnea; two stories, *i. e.* upon an old nest, elevated one foot above the water; eggs with very dark blotches. Kalmia in prime, and rhodora. Apparently the oldest-blossomed kalmia the palest. Saw probably a deer mouse jumping off by the side of the swamp; short leaps of apparently ten inches. The pyrus (smooth-leaved) out apparently a day or two. See men fishing, one or two, and often perceived the meadow fragrance.

My three kinds of birch sap have now become more acid, especially the white and canoe birch. The black birch is milder and more agreeable. With sugar it is an agreeable drink. I prefer it to cream-o'-tartar water. This is the real birch wine.

May 28. Rainy.

To Painted-Cup Meadow.

Potentilla argentea, maybe several days. *Trifolium pratense*.

A seringo or yellow-browed (??) sparrow's nest about

ten or twelve rods southwest of house-leek rock, between two rocks which are several rods apart northwest and southeast; four eggs. The nest of coarse grass stubble, lined with fine grass, and is two thirds at least covered by a jutting sod. Egg, bluish-white ground, thickly blotched with brown, yet most like a small ground-bird's egg, rather broad at one end, pretty fresh.¹

A cricket creaks. *Hypoxis erecta*, maybe a day or two. *Thalictrum dioicum* abundantly out, apparently in prime, male and female, some effete, perhaps a week, near wall in Painted-Cup Meadow, fifteen to eighteen inches high.

I think it was a mass of young *Thalictrum Cornuti* leaves which had that rank, dog-like scent.² Painted-cup pollen a good while ago. Saw, under an apple tree, nearly half a pint of some white grub with a light-reddish head, like a small potato-worm, one inch long, and part of a snake-skin, making the greater part of the fæces of some animal, — chiefly the grubs, — a formless soft mass. Skunk?

May 29. P. M. — Ride to Painted-Cup Meadow.

Two *Arethusa bulbosa* at Hubbard's Close apparently a day or two. Golden senecio there, a day or two, at least. White clover. *Ranunculus repens* (sepals not recurved and leaves a spotted look), apparently a day.

¹ July 2d, at Natural History Rooms, Boston, saw the egg of yellow-shouldered sparrow, light-colored with a ring of brown spots at large end; that of Savannah sparrow all mottled over with brown!!
Vide June 26.

² Yes; and this thalictrum is generally but a foot high now and expanding.

Geum rivale, well out. Common *cratægus*, apparently some days. *Juniperus communis*, a day or two at least, probably more.

To return to Painted-Cup Meadow, I do not perceive the rank odor of *Thalictrum Cornuti* expanding leaves to-day. How more than fugacious it is! Evidently this odor is emitted only at particular times. A cuckoo's note, loud and hollow, from a wood-side. Found a painted-cup with more yellow than usual in it, and at length Edith found one perfectly yellow. What a flowery place, a vale of Enna, is that meadow! Painted-cup, *Erigeron bellidifolius*, *Thalictrum dioicum*, *Viola Muhlenbergii*, fringed polygala, buck-bean, pedicularis, orobanche, etc., etc. Where you find a rare flower, expect to find more rare ones. Saw sanicle well flower-budded. Cherry-birds on the apple trees. Blue-eyed grass, probably to-morrow.

May 30. P. M. — To Linnæa Wood-lot.

Apparently this flower does not bloom there this year.¹

The lady's-slipper in pitch pine wood-side near J. Hosmer's Desert, probably about the 27th. That desert, small as it now is (for it is partly reclaimed by using pine boughs as a -salve), is scored with circles (like that of Provincetown) made by the dry *Polygonum articulatum* blown about. It is but a lesser Sahara, and I cannot see it without being reminded that, in some parts of the globe, sand prevails like an ocean. What are those black masses of fibrous roots mixed with smaller dark-gray, cone-like tubers, on the sand?

¹ Yes, it did later.

Return *via* Clamshell. Yellow clover abundantly out, though the heads are small yet. Are they quite open? *Comandra umbellata*, apparently a day or two.

Frank Harding caught five good-sized chivin this cold and windy day from the new stone bridge. The biggest one was quite red or coppery; the others but slightly, except the head. Is it a peculiarity of age?

May 31. P. M. — To Clintonia Swamp (Hubbard's) Grove.

A ground-bird's nest (*melodia* or *graminea*?), with six of those oblong narrow gray [eggs] speckled with much brown at end. When I looked again half an hour after, one egg was hatched. The bird would steal out through the grass when I came within a rod, and then, after running a rod or two, take to wing. Tied a string about a low pyrus, a rod or so to right of entrance to Hubbard's Pyrus Swamp and two feet west of a pitch pine stump, and pressed a twig of it. Clintonia. *Nuphar advena* first noticed; may have been out some time in *some* places, but just out in river. Pink, common wild, maybe two or three days.¹

Sundown. — To Hill and Island.

Have noticed within a week, from time to time, the water-line on the bushes along the shore — the water going down — unusually distinct, for while the exposed parts have leaved out, the lower are quite bare and black.

Hemlock and creeping juniper, where had not

¹ For they are very abundant at Heywood Peak on June 1st; some white.

bloomed the 22d, are now entirely out of bloom on the hill. How short their flower lasts!

Ranunculus Purshii, probably earlier in some places, but water high. That little cerastium on the rock at the Island, noticed the 22d, which probably opened about that time, is now out of bloom. It is about three inches high and has long pods, more than twice the length of the calyx, which turn upward. I have seen no petals. It *seems* to be the *C. nutans* (?), from size, erectness, and form of pods and leaves. It has viscid hairs or with glands at end. The red oak is so forward, compared with the rest, that it is more difficult to get a sprig in flower small enough (its leaves) to press.

As I return in the dusk, *many* nighthawks, with their great spotted wings, are circling low over the river, as the swallows were when I went out. They skim within a rod of me. After dusk these greater swallows come forth, and circle and play about over the water like those lesser ones, or perhaps making a larger circuit, also uttering a louder note. It would not be safe for such great birds to fly so near and familiarly by day. It has been *very* cold for two or three days, and to-night a frost is feared. The telegraph says it snowed in Bangor to-day. The hickory leaves are blackened by blowing in the cold wind.

VIII

JUNE, 1856

(ÆT. 38)

June 1. Horse-radish in yard, to-morrow.

Picked up an entire sternothærus shell yesterday, without scales. In the upper shell there appear to be six small segments of shell wholly dorsal, seventeen wholly lateral (nine in front), and twenty-two marginal, forty-five in all. The ribs, in this case spreading out and uniting to form a sharp and tight roof, suggest that ribs were the first rafters. So we turn our backs to the storm and shelter ourselves under this roof. The scales upon the shell answer to the shingles on the roof, breaking joints.

Saw the shell of another turtle, apparently a young painted turtle, one inch long, curiously wrinkled and turned up, like that found in Middleborough. This had been washed up on to meadow some weeks ago, apparently.

P. M. — To Walden.

Somewhat warmer at last, after several very cold, as well as windy and rainy, days. Was soothed and cheered by I knew not what at first, but soon detected the now more general creak of crickets. A striped yellow bug in fields. Most of the leaves of the *Polygonatum pubescens* which I gathered yesterday at Island had been eaten up by some creature.

A chewink's nest a rod and a half south of Walden

road, opposite Goose Pond path, under a young oak, covered by overarching dry sedge; four eggs, *pretty* fresh. I am pretty sure the bird uttered the unusual hoarse and distressed note while I was looking at them.

Linaria Canadensis on Emerson Cliff. Rock-rose, a day or two there. Whiteweed by railroad at pond to-morrow. Cotton-grass, several days before the 29th May. Heard a quail whistle May 30th. The late *cratægus* on hill, about May 31st.

June 2. *Carum, i. e.* caraway, in garden. Saw most hummingbirds when cherries were in bloom, — on them.

P. M. — With R. W. E. to Perez Blood's auction.

Telescope sold for fifty-five dollars; cost ninety-five plus ten. See Camilla on rye, undulating light and shade; not 19th of April.¹ Returned by bridle-road. *Myrica cerifera*, possibly yesterday. Very few buds shed pollen yet; more, probably, to-day. Leaves nearly an inch long, and shoot and all no more. English hawthorn will open apparently in two days.

Agassiz tells his class that the intestinal worms in the mouse are not developed except in the stomach of the cat.

5 P. M. — To *Azalea nudiflora*, which is in prime. *Ranunculus recurvatus* the same; how long? White maple keys conspicuous.

In the first volume of Brewster's "Life of Newton" I

¹ [Alluding to the tradition that on the day of the "Concord Fight" (April 19, 1775) grass and grain were already waving in the wind, the season being exceptionally early.]

read that with one of the early telescopes they could read the "Philosophical Transactions" at five hundred feet distance.

June 3. Tuesday. Surveying for John Hosmer beyond pail-factory.

Hosmer says that seedling white birches do not grow larger than your arm, but cut them down and they spring up again and grow larger.

While clearing a line through shrub oak, which put his eyes out, he asked, "What is shrub oak made for?" R. Hoar, I believe, bought that (formerly) pine lot of Loring's which is now coming up shrub oak. Hosmer says that he will not see any decent wood there as long as he lives. H. says he had a lot of pine in Sudbury, which being cut, shrub oak came up. He cut and burned and raised rye, and the next year (it being surrounded by pine woods on three sides) a dense growth of pine sprang up.

As I have said before, it seems to me that the squirrels, etc., disperse the acorns, etc., amid the pines, they being a covert for them to lurk in, and when the pines are cut the fuzzy shrub oaks, etc., have the start. If you cut the shrub oak soon, probably pines or birches, maples, or other trees which have light seeds will spring next, because squirrels, etc., will not be likely to carry acorns into open land. If the pine wood had been surrounded by white oak, probably that would have come up after the pine.¹

While running a line in the woods, close to the water,

¹ [*Excursions*, p. 190; *Riv.* 233.]

on the southwest side of Loring's Pond, I observed a chickadee sitting quietly within a few feet. Suspecting a nest, I looked and found it in a small hollow maple stump which was about five inches in diameter and two feet high. I looked down about a foot and could just discern the eggs. Breaking off a little, I managed to get my hand in and took out some eggs. There were seven, making by their number an unusual figure as they lay in the nest, a sort of egg rosette, a circle around with one (or more) in the middle. In the meanwhile the bird sat silent, though rather restless, within three feet. The nest was very thick and warm, of average depth, and made of the bluish-slate rabbit's (?) fur. The eggs were a perfect oval, five eighths inch long, white with small reddish-brown or rusty spots, especially about larger end, partly developed. The bird sat on the remaining eggs next day. I called off the boy in another direction that he might not find it.

Plucked a white lily pad with rounded sinus and lobes in Loring's Pond, a variety.

Picked up a young wood tortoise, about an inch and a half long, but very orbicular. Its scales very distinct, and as usual very finely and distinctly sculptured, but there was no orange on it, only buff or leather-color on the sides beneath. So the one of similar rounded form and size and with distinct scales but faint yellow spots on back must have been a young spotted turtle, I think, after all.

June 4. Surveying for J. Hosmer.

Very warm.

While running a line on the west edge of Loring's Pond, south of the brook, found, on a hummock in the open swamp, in the midst of bushes, at the foot of a pitch pine, a nest about ten inches over, made of dry sedge and moss. I think it must have been a duck's nest. This pond and its islets, half flooded and inaccessible, afford excellent places.

Anthony Wright says that he used to get slippery elm bark from a place southwest of Wetherbee's Mill, about ten rods south of the brook. He says there was once a house at head of hollow next beyond Clamshell. Pointed out the site of “Perch” Hosmer's house in the small field south of road this side of Cozzens's; all smooth now. Dr. Heywood worked over him a fortnight, while the perch was dissolving in his throat. He got little compassion generally, and the nickname “Perch” into the bargain. Think of going to sleep for fourteen nights with a perch, his fins set and his scales (!), dissolving in your throat!! What dreams! What waking thoughts! Also showed where one Shaw, whom he could just remember, used to live, in the low field north of Dennis's barn, and also another family in another house by him.

English hawthorn from Poplar Hill blossoms in house.

June 5. Thursday. P. M. — To Indian Ditch.

Achillea Millefolium. Black cherry, apparently yesterday. The *Muscicapa Cooperi* sings *pe pe pe'*, sitting on the top of a pine, and shows white rump (?), etc., unlike kingbird.

Return by J. Hosmer Desert.

Everywhere now in dry pitch pine woods stand the

red lady's-slippers over the red pine leaves on the forest floor, rejoicing in June, with their two broad curving green leaves, — some even in swamps. Uphold their rich, striped red, drooping sack. This while rye begins to wave richly in the fields.

A brown thrasher's nest with four eggs considerably developed, under a small white pine on the old north edge of the desert, lined with root-fibres. The bird utters its peculiar *tchuck* near by.

Pitch pine out, the first noticed on low land, *maybe* a day or two. Froth on pitch pine.

A blue jay's nest on a white pine, eight feet from ground, next to the stem, of twigs lined with root-fibres; three fresh eggs, dark dull greenish, with dusky spots equally distributed all over, in Hosmer (?) pines twenty-seven paces east of wall and fifty-seven from factory road by wall. Jay screams as usual. Sat till I got within ten feet at first.

A cuckoo's nest¹ with three light bluish-green eggs partly developed, short with rounded ends, nearly of a size; in the thicket up railroad this side high wood, in a black cherry that had been lopped three feet from ground, amid the thick sprouts; a nest of nearly average depth (?), of twigs lined with *green* leaves, pine-needles, etc., and edged with some dry, branchy weeds. The bird stole off silently at first. Five rods south of railroad.

I must call that cerastium of May 22d *C. nutans* (??), at least for the present, though I do not see grooves in stem. Oakes, in his catalogue in Thompson's "History

¹ *Vide* 10th.

Lady's-Slippers



of Vermont," says it is not found in northeast out of that State. The pods of the common one also turn upward. It is about four flowered; no petals; pods, which have formed in tumbler, more than twice but not thrice as long as calyx, bent down nearly at right angles with peduncles and then *curving upward*. The common cerastium is in tufts, spreading, a darker green and much larger, hairy but not glutinous, pods but little longer than calyx (as yet) and upright.¹

June 6. P. M. — To Andromeda Ponds.

Cold mizzling weather.

In the large circular hole or cellar at the turntable on the railroad, which they are repairing, I see a star-nosed mole endeavoring in vain to bury himself in the sandy and gravelly bottom. Some inhuman fellow has cut off his tail. It is blue-black with much fur, a very thick, plump animal, apparently some four inches long, but he occasionally shortens himself a third or more. Looks as fat as a fat hog. His fore feet are large and set sidewise or on their edges, and with these he shovels the earth aside, while his large, long, starred snout is feeling the way and breaking ground. I see deep indentations in his fur where his eyes are situated, and once I saw distinctly his eye open, a dull blue (?)—black bead, not so very small, and he very plainly noticed my movements two feet off. He was using his eye as plainly as any creature that I ever saw. Yet Emmons says it is a question whether their eyes are not merely rudimentary. I suppose this was the *Condylura*

¹ I afterward see these curving upward like the former!

macroura, since that is most common, but only an inch of its tail was left, and that was quite stout. I carried him along to plowed ground, where he buried himself in a minute or two.

Still see cherry-birds in flocks of five or six. A catbird-nest on shore of Andromeda and in shrub oak, three feet high, twigs and bark shreds lined with root-fibres; three eggs. Those nests in the andromeda are blackbird's. Many sound the alarm while I am wading through the swamp. Noticed one with three eggs.

That willow, male and female, opposite to Trillium Woods on the railroad, I find to be the *Salix rostrata*, or long-beaked willow, one of the *ochre-flowered* (I had remarked the peculiar yellow of its flowers) willows (*fulvæ*) of Barratt. It is now just beginning to open its long beaks. The *S. cordata* is another of the ochre-flowered ones.

How well suited the lining of a bird's nest, not only for the comfort of the young, but to keep the eggs from breaking! Fine elastic grass stems or root-fibres, pine-needles, or hair, or the like. These tender and brittle things which you can hardly carry in cotton lie there without harm.

J. Hosmer, who is prosecuting Warner for flowing his land, says that the trees are not only broken off when young by weight of ice, but, being rubbed and barked by it, become warty or bulge out there.

June 8. We have had six days either rain-threatening or rainy, the last two somewhat rainy or mizzling.

P. M. — To Cedar Swamp.

Pulled up a yellow lily root, four feet long and branching, two and a half inches [in] diameter and about same size at each end where it had broken off, tree-like. Broken off, it floats. Great white rootlets put out all along it.

I find no *Andromeda racemosa* in flower. It is dead at top and slightly leafed below. Was it the severe winter, or cutting off the protecting evergreens? It grows four or five rods from knoll near a sawed stump between two large red maple clumps. The three-leaved Solomon's-seal has almost entirely done, while the two-leaved is quite abundant. *Stellaria longifolia* opposite Barbarea Shore not yet out. It is obviously different from what I call *S. borealis*, much more tall (one foot high) and upright, with branches ascending (not spreading) (the other grows in a dense mass at Corner Spring); leaves longer and more linear, and not at all ciliate like the other; stem much sharper-angled, almost winged; flower-buds more long and slender; and grows in high grass and is later.

I observe in a mass of damp shavings and leaves and sand there, in the shade, a little prostrate willow just coming into flower, perhaps a black willow. Pulling it up, I find it to be a twig about sixteen inches long, two thirds buried in the damp mass. This was probably broken off by the ice, brought down, washed up, and buried like a layer there; and now, for two thirds its length, it has put out rootlets an inch or two long abundantly, and leaves and catkins from the part above ground. So vivacious is the willow, availing itself of every accident to spread along the river's bank. The ice that

strips it only disperses it the more widely. It never says die. May I be as vivacious as a willow. Some species are so brittle at the base of the twigs that they break on the least touch, but they are as tough above as tender at base, and these twigs are only thus shed like seeds which float away and plant themselves in the first bank on which they lodge. I commonly litter my boat with a shower of these black willow twigs whenever I run into them.

A kingbird's nest on a black cherry, above Barbarea Shore, loosely constructed, with some long white rags dangling; one egg. At Cedar Swamp, saw the pe-pe catching flies like a wood pewee, darting from its perch on a dead cedar twig from time to time and returning to it. It appeared to have a black crown with some crest, yellowish (?) bill, gray-brown back, black tail, two faint whitish bars on wings, a dirty cream-white throat, and a gray or ash white breast and beneath, whitest in middle.

I had noticed when coming up the river two or three dead suckers, one with a remarkable redness about the anal fins; and this reminded me of the ephemeræ. It was the 2d of June, 1854, that I observed them in such numbers. When I returned to my boat, about five, the weather being mizzling enough to require an umbrella, with an easterly wind and dark for the hour, my boat being by chance at the same place where it was in '54, I noticed a great flight of ephemeræ over the water, though not so great as that. The greater part were flying down-stream against the wind, but if you watched one long enough you would see him suddenly turn at

length and fly swiftly back up the stream. They advanced against the wind faster than I floated along. They were not coupled nor coupling, — I only noticed two coupled, — but flew, most of them, with their bodies curved, thus: or more, and from time to time each one descended to the water and touched it, or rested on it a



second or two, sometimes several minutes. They were generally able to rise, but very often before it arose, or not being able to rise, it was seized by a fish. While some are flying down they are met by others coming up. The water was dimpled with the leaping fish. They reach about ten or fifteen feet high over the water, and I also saw a stream of them about as thick over a narrow meadow a dozen rods from the water in the woods. The weather was evidently unfavorable, what with the wind and the rain, and they were more or less confined to the shore, hovering high over the bushes and trees, where the wind was strong over the river. I had not noticed any on leaves. At one place, against Dodge's Brook, where they were driven back by a strong head wind at a bend, more than usual were wrecked on the water and the fishes were leaping more numerously than elsewhere. The river was quite alive with them, and I had not thought there were so many in it, — great black heads and tails continually thrust up on all sides of my boat. You had only to keep your eye on a floating fly a minute to see some fishy monster rise and swallow it with more or less skill and plashing. Some skillfully seized their prey without

much splashing, rising in a low curve and just showing their backs; others rose up perpendicularly, half their length out of water, showing their black backs or white bellies or gleaming sides; others made a noisy rush at their prey and leaped entirely out of water, falling with a loud splash. You saw twenty black points at once. They seemed to be suckers; large fish, at any rate, and probably various kinds. What a sudden surfeit the fishes must have!

They are of various sizes, but generally their solid bodies about three quarters of an inch long or less, yellowish tinge, transparent, with rows of brown spots; wings gauze-like, with a few opaque brown spots.¹

June 9. P. M. — To Corner Spring.

Without an umbrella, thinking the weather settled at last. There are some large cumuli with glowing downy cheeks floating about. Now I notice where an elm is in the shadow of a cloud, — the black elm-tops and shadows of June. It is a dark eyelash which suggests a flashing eye beneath. It suggests houses that lie under the shade, the repose and siesta of summer noons, the thunder-cloud, bathing, and all that belongs to summer. These veils are now spread here and there over the village. It suggests also the creak of crickets, a June sound now fairly begun, inducing contemplation and philosophic thoughts, — the sultry hum of insects.

A yellowbird's nest in a poplar on Hubbard's Bridge

¹ Three which I brought home were dead the next morning. A shad-fly on our window is rather smaller than the average of the former; has but two streamers and no dark spots on wings.

causeway; four fresh eggs; ten feet high, three rods beyond fence. *Veronica scutellata* (how long?) at Corner Spring. Compelled to squat under a bank and stand under a wood-pile through a shower.

6.30 P. M. — Up Assabet.

Again, about seven, the ephemerae came out, in numbers as many as last night, now many of them coupled, even tripled; and the fishes leap as before.

A young robin abroad.

June 10. 8 A. M. — Getting lily pads opposite Badger's.

Already the pads are much eaten before they are grown, and underneath, on the under side of almost every one, are the eggs of various species of insect, some so minute as to escape detection at first, in close, flat, straight-sided nests.

The yellow lily and kalmiana are abundantly out. The under sides of the pads, their stems, and the *Ranunculus Purshii* and other water-plants are thickly covered and defiled with the sloughs, perhaps of those little fuzzy gnats (in their first state) which have so swarmed over the river. It is quite difficult to clean your specimens of them.

P. M. — To Dugan Desert.

Cornus alternifolia a day or two, up railroad; maybe longer elsewhere. *Spergularia rubra* by railroad, it having been dug up last year, and so delayed.

The cuckoo of June 5th has deserted her nest, and I

find the fragments of egg-shells in it; probably because I found it.

Oxalis freshly out; how long? Apparently but two or three days. I find *some* linnæa well out, after all, within a rod of the top of the hill, apparently two or three days. If it flowered more abundantly, probably it would be earlier. Chewink's nest with four young in the dry sprout-land of Loring's thick wood that was, under a completely overarching tuft of dry sedge grass. I hear the huckleberry-bird now add to its usual strain *a-tea tea tea tea tea*.

A painted tortoise laying her eggs ten feet from the wheel-track on the Marlborough road. She paused at first, but I sat down within two feet, and she soon resumed her work. Had excavated a hollow about five inches wide and six long in the moistened sand, and cautiously, with long intervals, she continued her work, resting always on the same spot her fore feet, and never looking round, her eye shut all but a narrow slit. Whenever I moved, perhaps to brush off a mosquito, she paused. A wagon approached, rumbling afar off, and then there was a pause, till it had passed and long, long after, a tedious, *naturlangsam* pause of the slow-blooded creature, a sacrifice of time such as those animals are up to which slumber half a year and live for centuries. It was twenty minutes before I discovered that she was not making the hole but filling it up slowly, having laid her eggs. She drew the moistened sand under herself, scraping it along from behind with both feet brought together, the claws turned inward. In the long pauses the ants troubled her (as mosquitoes me) by running

over her eyes, which made her snap or dart out her head suddenly, striking the shell. She did not dance on the sand, nor finish covering the hollow quite so carefully as the one observed last year. She went off suddenly (and quickly at first), with a slow but sure instinct through the wood toward the swamp.

The clustered blackberry of Dugan Desert not yet out, nor apparently for two or three days. Sweet viburnum apparently two or three days at most, by Warren Miles's, Nut Meadow Pond.

In a hollow apple tree, hole eighteen inches deep, young pigeon woodpeckers, large and well feathered. They utter their squeaking hiss whenever I cover the hole with my hand, apparently taking it for the approach of the mother. A strong, rank fetid smell issues from the hole.

Ripe strawberries, even in a meadow on sand thrown out of a ditch, hard at first to detect amid the red radical leaves.

The flower-buds of late there have now that rank smell. Lambkill out, at Clamshell. The *Cratægus Crus-Galli* is out of bloom. *Arenaria serpyllifolia* is out of bloom at Clamshell.¹

Side-flowering sandwort abundantly out this side of Dugan Spring. Solanum well out, by Wood's Bridge.

June 11. P. M. — To Flint's Pond.

The locust in graveyard shows but few blossoms yet. It is very hot this afternoon, and that peculiar stillness of summer noons now reigns in the woods. I observe

¹ Abundant there June 20.

and appreciate the shade, as it were the shadow of each particular leaf on the ground. I think that this peculiar darkness of the shade, or of the foliage as seen between you and the sky, is not accounted for merely by saying that we have not yet got accustomed to clothed trees, but the leaves are rapidly acquiring a darker green, are more and more opaque, and, besides, the sky is lit with the intensest light. It reminds me of the thunder-cloud and the darkeyelash of summer. Great cumuli are slowly drifting in the intensely blue sky, with glowing white borders. The red-eye sings incessant, and the more indolent yellow-throat vireo, and the creeper, and perhaps the redstart? or else it is the parti-colored warbler.

I perceive that scent from the young sweet-fern shoots and withered blossoms which made the first settlers of Concord to faint on their journey.

Saw yesterday a *great* yellow butterfly with black marks.

See under an apple tree, at entrance of Goose Pond Path from Walden road, a great fungus with hollow white stem, eight or nine inches high, whose black funereal top has melted this morning, leaving a black centre with thin white scales on it. All the cistuses are shut now that I see, and also the veiny-leaved hieracium with one leaf on its stem, not long open. I notice no white lily pads near the bathing-rock in Flint's Pond. See a bream's nest two and a quarter feet [in] diameter, laboriously scooped out, and the surrounding bottom for a diameter of eight feet (!!) comparatively white and clean, while all beyond is mud and leaves, etc., and a very large green and cupreous bream with a

red spot on the operculum is poised over the centre, while half a dozen shiners are hovering about, apparently watching a chance to steal the spawn.

A partridge with young in the Saw Mill Brook path. Could hardly tell what kind of creature it was at first, it made such a noise and fluttering amid the weeds and bushes. Finally ran off with its body flat and wings somewhat spread.

Utricularia vulgaris very abundant in Everett's Pool. A beautiful grass-green snake about fifteen inches long, light beneath, with a yellow space under the eyes along the edge of the upper jaw.

The *Rubus triflorus* apparently out of bloom at Saw Mill, before the high blackberry has begun.

Rice tells me he found a turtle dove's nest on an apple tree near his farm in Sudbury two years ago, with white eggs; so thin a bottom you could see the eggs through.

June 12. P. M. — To Conantum on foot.

Sophia has sent me, in a letter from Worcester, part of an orchis in bloom, apparently *Platanthera Hookeri* (?), or smaller round-leafed orchis, from the Hermitage Wood, so called, northeast of the town; but the two leaves are elliptical. *Utricularia vulgaris* was abundantly out yesterday in Everett's Pool; how long? Sidesaddle-flower numerously out now. Apparently a small pewee nest on apple in Miles's meadow. Bird on, and not to be frightened off, though I throw sticks and climb the tree to near her.

June 13. Friday. To Worcester.

See the common iris in meadow in Acton. Brown shows me from his window the word "guano" written on the grass in a field near the hospital, say three quarters of a mile distant. It was one of the lions of Worcester last year, and I can now read some of the letters distinctly, so permanent are the effects of the guano. The letters may be two or more rods long, and the green is darker and more luxuriant. (On the side of a hill.)

June 14. Walk to Hermitage Woods with Sophia and aunts. *Uvularia perfoliata* very common there; now out of bloom. *Rhamnus cathartica*, common buckthorn, naturalized in those woods, now going out of bloom. It is dicecious, twelve feet high, north side. Maple-leaved viburnum out a day or more there apparently. Mallows abundantly out in street.

June 15. Mrs. Brown reads a letter from John Downs in Philadelphia to Mr. Brown, in which he remembers his early youth in Shrewsbury and the pout accompanied by her young. A Miss Martha Le Barron describes to me a phosphorescence on the beach at night in Narragansett Bay. They wrote their names with some minute creatures on the sand.

P. M. — To some woods southwest of Worcester.

The moist bass bark just stripped from a sapling swells very like a cucumber. All three of us were struck by it. A night-flowering cereus opens three or four times at a Mrs. Newton's while I am there. Once it opened at about 9 P. M., and closed and drooped and came to an end like a wet rag wrung out, at daylight. Transient

as my mushroom. Was about a foot in diameter, but an ordinary stem, like the turkey's feet. Diervilla well out.

June 16. Saw at the Natural History Rooms a shell labelled *Haliotis splendens*, apparently same with mine from Ricketson's son, with holes and green reflections.

To Purgatory in Sutton: by railroad to Wilkinsons-ville in the northeast corner of Sutton (thirty cents) and by buggy four or five miles to Purgatory in the south or southeast part of the town, some twelve miles from Worcester.

The stream rising from the bottom of it must empty into the Blackstone, perhaps through the Mumford River. Sutton is much wooded. The woman at the last house told [of] an animal seen in the neighborhood last year. Well, she "had no doubt that there had been a bad animal about." A Mr. Somebody, who could be relied on, between there and Sutton Centre, had been aroused by [a] noise early one morning, and, looking out, saw this animal near a wood-pile in his yard, as big as a good-sized dog. He soon made off, making nothing of the walls and fences, before he and his sons got their guns ready. They raised part of the town, a body of shoemakers, and surrounded a swamp into which it was supposed to have entered, but they did not dare to go into it. Also a strange large track was seen where it crossed the road.

Found at the very bottom of this Purgatory, where it was dark and damp, on the steep moss and fern covered side of a rock which had fallen into it, a wood thrush's

nest. Scarcely a doubt of the bird, though I saw not its breast fairly. Heard the note around, and the eggs (one of which I have) correspond. Nest of fine moss from the rock (hypnum?), and lined with pine-needles; three eggs, fresh.

Found in the Purgatory the panicked elder (*Sambucus pubens*), partly gone to ribbed seed, but some in flower, new to me; *Polygonum cilinode* (?), not yet in flower; moose-wood or striped maple; and also, close by above, *Actæa alba*, out of bloom; and a chestnut oak common. Cow-wheat numerously out. Heard around, from within the Purgatory, not only Wilson's thrush, but evergreen-forest note and tanager; and saw chip-squirrels within it.

June 17. Go to Blake's.

Indigo-bird on his trees.

A. M. — Ride with him and Brown and Sophia round a part of Quinsigamond Pond into Shrewsbury.

The southerly end of the pond covered for a great distance with pads of yellow and white lily. Measured one of the last: nine and seven eighths inches long by nine and six eighths, with sharp lobes, etc., and a reddish petiole. Small primrose well out; how long? The cedar swamp, source of Assabet, must be partly in Grafton, as well as Westboro near railroad, according to a farmer in Shrewsbury.

P. M. — Went to Rev. Horace James's reptiles (Orthodox).

He had, set up, a barred owl, without horns and a little less than the cat owl. Also a large lobe-footed bird

which I think must have been a large grebe, killed in Fitchburg. He distinguished the *Rana halecina* in the alcohol by more squarish (?) spots. Showed me the horned frog (?), (or toad?); also alive in bottle, with moss and water, the violet-colored salamander (*S. venenosa*) with yellow spots (five or six inches long), probably same I found in stump at Walden; and, in spirits, smaller, the *S. erythronota*, with a conspicuous red back. What looked like mine, or the common one in springs here, was *Triton niger*. I think he said Holbrook made the water ones tritons and land ones salamanders. Another small one, all red, with spots; another with a line of red spots on each side; and others. He finds a variety of *Emys guttata* with striated scales (mentioned by Holbrook and Storer). Saw a common box turtle shell with initials in sternum. One thought that whatever was cut in the scale was renewed in the new scale. Saw, in spirits, the *Heterodon platyrhinus* from Smithfield, R. I., flat-snouted, somewhat like a striped snake; and a very small brown snake. James gave me some of the spawn of a shellfish from a string of them a foot long.

At Natural History Rooms, a great cone from a southern pine and a monstrous nutshell from the East Indies (?); seed of the *Lodoicea Sechellarum*, Seychelles Islands.

June 18. Hale says the tiarella grows here, and showed it me pressed; also *Kalmia glauca* formerly, hobble-bush still, and yellow lady's-slipper near the Quarry.

June 19. Looked at a collection of the rarer plants made by Higginson and placed at the Natural History Rooms. Among which noticed:—

Ranunculus Purshii varieties α and β , with no difference apparent, unless in upper leaves being more or less divided.

Ribes lacustre, or swamp gooseberry, with a loose raceme such as I have not seen, from White Mountains.

A *circæa*, or enchanter's-nightshade, with a very large raceme and with longer branchlets than I have seen, methinks.¹

Calla palustris, very different from the *Peltandra Virginica*.

Cerastium arvense, with linear leaves, quite new to me.

Smilacina stellata, from Dr. Harris, very different from the *racemosa*, being simple.

Ledum latifolium, from White Mountains, rather broader-leafed than mine from Maine.

Barbarea sativa, from Cambridge, apparently like my *B. vulgaris*.

Is the *Smilacina racemosa* with such long lower branchlets peculiar, there in Worcester? I saw several in woods.

On way to Concord see mountain laurel out in Lancaster. Had seen none out in Worcester.

June 20. Friday. A. M. — To Baker Farm with Ricketson.

¹ No, not longer.

A very hot day.

Two *Sternotherus odoratus* by heap in Sanborn's garden, one making a hole for its eggs, the rear of its shell partly covered. See a great many of these out to-day on ground and on willows.

Swamp-pink out apparently two or three days at Clamshell Ditch. Late thalictrum apparently a day or two there. Archangelica apparently two or three days.

A phœbe nest, second time, with four cream-white eggs. Got one. The second brood in the same nest. Saw a snap-turtle out in sun on tussock opposite Bittern Cliff. Probably the water was too warm for him. They had at Middlesex House, yesterday, snuff flavored with ground or pulverized black birch bark.

Walking under an apple tree in the little Baker Farm peach orchard, heard an incessant shrill musical twitter or peeping, as from young birds, over my head, and, looking up, saw a hole in an upright dead bough, some fifteen feet from ground. Climbed up and, finding that the shrill twitter came from it, guessed it to be the nest of a downy woodpecker, which proved to be the case, — for it reminded me of the hissing squeak or squeaking hiss of young pigeon woodpeckers, but this was more musical or bird-like.¹ The bough was about four and a half inches in diameter, and the hole perfectly circular, about an inch and a quarter in diameter. Apparently nests had been in holes above, now broken out, higher up. When I put my fingers in it, the young breathed their shrill twitter louder than ever. Anon the old ap-

¹ *Vide* July 19th.

peared, and came quite near, while I stood in the tree, keeping up an incessant loud and shrill scolding note, and also after I descended; not to be relieved.

Potentilla Norvegica; apparently petals blown away. Five young phœbes in a nest, apparently upon a swallow-nest, in Conant's old house, just ready to fly. *Rudbeckia hirta* budded.

June 21. P. M. — To Walden.

Much pine pollen is washed up on the northwest side of the pond. Must it not have come from pines at a distance? Very hot day, as was yesterday, — 98° at 2 P. M., 99° at 3, and 128° in sun. Nighthawks numerously squeak at 5 P. M. and boom. Saw them fly low and touch the water like swallows over Walden. Find a dozen of the *hydropeltis* out, apparently several days. My canoe birch wine smells and tastes like mead considerably. All my birch wines are now more acid and very good indeed with sugar. Am surprised to see it effervesce, all white with white sugar only, like a soda-water.

June 22. Sunday. P. M. — To Walden.

Ricketson says that they say at New Bedford that the song sparrow says, *Maids, maids, maids*, — *hang on your tea-kettle-ettle-ettle-ettle-ettle*.

R. W. E. imitates the wood thrush by *he willy willy — ha willy willy — O willy O*. The woods still resound with the note of my tweezer-bird, or *Sylvia Americana*.

June 23. To New Bedford with Ricketson.

In R.'s mowing, apparently lucerne, out some days. His son Walton showed me one of four perfectly white eggs taken from a hole in an apple tree eight feet from ground. I examined the hole. He had seen a bluebird there, and I saw a blue feather in it and apparently a bluebird's nest. Were not these the eggs of a downy woodpecker laid in a bluebird's nest? They were all gone now.

Bay-wings sang morning and evening about R.'s house, often sitting on a bean-pole and dropping down and running and singing on the bare ground amid the potatoes. Its note somewhat like *Come, here here, there there*, — *quick quick quick* (fast), — or *I'm gone*.

Prinos lævigatus common and just begun to bloom behind R.'s house.

June 24. To Sassacowen Pond and to Long Pond.

Common yellow thistle abundant about R.'s; open a good while. Maryland yellow-throats very common in bushes behind his house; nest with young. American holly now in prime. The light-colored masses of mountain laurel were visible across Sassacowen. A kingbird's nest just completed in an apple tree.

Lunched by the spring on the Brady farm in Free-town, and there it occurred to me how to get clear water from a spring when the surface is covered with dust or insects. Thrust your dipper down deep in the middle of the spring and lift it up quickly straight and square. This will heap up the water in the middle so that the scum will run off.

We were surrounded by whiteweed. The week before

I had seen it equally abundant in Worcester (in many fields the flowers placed in one plane would more than cover the surface), and here as there each flower had a dark ring of small black insects on its disk. Think of the many dense white fields between here and there, aye and for a thousand miles around, and then calculate the amount of insect life of one obscure species!

Went off to Nelson's Island (now Briggs's) in Long Pond by a long, very narrow bar (fifty rods as I paced it), in some places the water over shoes and the sand commonly only three or four feet wide. This is a noble island, maybe of eight or ten acres, some thirty feet high and just enough wooded, with grass ground and grassy hollows. There was a beech wood at the west end, where R.'s son Walton found an arrowhead when they were here before, and the hemlocks resounded with the note of the tweezer-bird (*Sylvia Americana*). There were many ephemeræ half dead on the bushes. R. dreams of residing here.

June 25. An abundance of the handsome corncockle (*Lychnis*), apparently in prime, in midst of a rye-field, together with morning-glories by the Acushnet shore. Black-grass in bloom, partly done. A kind of rush (?) with terete leaves and a long spike of flowers, one to two feet high, *somewhat* like a loose plantain spike. It inclines to grow in circles a foot or more in diameter. Seaside plantain and rosemary, not long out. *Veronica arvensis* one foot high (!) on the shore there. *Spergularia rubra* var. *marina*.

P. M. — Called at Thomas A. Greene's in New

Bedford, said to be best acquainted with the botany of this vicinity (also acquainted with shells, and somewhat with geology). In answer to my question what were the rare or peculiar plants thereabouts, he looked over his botany deliberately and named the *Aletris farinosa*, or star-grass; the *Hydrocotyle vulgaris* (probably *interrupta* of Gray), which he thought was now gone; *Proserpinaca pectinacea*, at the shallow pond in Westport where I went last fall with Ricketson; *Panax trifolium*. That chenopodium-like plant on the salt-marsh shore, with hastate leaves, mealy under sides, is *Atriplex patula*, not yet out.

Brewer, in a communication to Audubon (as I read in his hundred(?) -dollar edition), makes two kinds of song sparrows, and says that Audubon has represented one, the most common about houses, with a spot in the centre of the breast, and Wilson the other, more universally spotted on the breast. The latter's nest will be two feet high in a bush and sometimes covered over and with an arched entrance and with six eggs (while the other has not more than five), larger and less pointed than the former's and apparently almost wholly rusty-brown. This builds further from houses.¹

June 26. Thursday. In Loudon's "Encyclopædia of Agriculture" *far* (of the Romans) is translated Indian corn or *zea*!

According to Audubon's and Wilson's plates, the *Fringilla passerina* has a for the most part clear yellowish-white breast (*vide* May 28th), but the Savannah

¹ *Vide* June 23, 1860.

sparrow no conspicuous yellow on shoulder, a yellow brow, and white crown line. Rode to Sconticut Neck or Point in Fair Haven, five or six miles, and saw, apparently, the *F. savanna* near their nests (my seringo note), restlessly flitting about me from rock to rock within a rod. Distinctly yellow-browed and spotted breast, not like plate of *passerina*. Audubon says that the eggs of the Savannah sparrow "are of a pale bluish color, softly mottled with purplish brown," and those of the yellow-winged sparrow are "of a dingy white, sprinkled with brown spots." The former is apparently my seringo's egg of May 28th. Is not Nuttall mistaken when he describes the notes of the Savannah sparrow in March in Georgia as "very long, piping, and elevated" and says that they sometimes have a note like a cricket? Audubon refers to the last note only.

Saw a farmer on the Neck with one of Palmer's patent wooden legs. He went but little lame and said that he did his own mowing and most of his ordinary farm work, though plowing in the present state of his limb, which had not yet healed, wrenched him some. He had lost a leg just below the knee, and was supported mainly on his thigh above the stump.

The older houses about New Bedford, as on this neck (and one a hundred years old is an old one), have commonly stone chimneys, which are agreeable to my eye and built with more taste than brick ordinarily, *i. e.* more elaborately. Yet they are now pulled down and brick substituted, or else concealed with a coat of mortar!

This neck, like the New Bedford country generally, is

very flat to my eye, even as far inland as Middleborough. When R. decided to take another road home from the latter place, because it was less hilly, I said I had not observed a hill in all our ride. I found on the rocky and rather desolate extremity of this point the common *Oxalis stricta* on the seashore, abundant, going to seed; apparently carrots (?) naturalized; atriplex not yet out; beach pea, still out and going to seed. An abundance of the small iris in the field near by. It was thick weather, after a drizzling forenoon, and we could just see across Buzzard's Bay from the point to Falmouth. Mattapoissett was the point next above on this side. I had been expecting to find the aletris about New Bedford, and when taking our luncheon on this neck what should I see rising above the luncheon-box, between me and R., but what I knew must be the *Aletris farinosa*; not yet out, but one near by would open apparently in two or three days.

I was struck by the number of quails thereabouts, and elsewhere in this vicinity. They keep up an incessant whistling these days, as also about R.'s house, within a stone's throw of it; and I several times saw them in the middle of the road in front of his house, in coveys, and on the road fence there. Also saw cow-birds in flocks on the road there. Around R.'s shanty was heard an incessant whistling of quails, and, morning and evening, the strain of the bay-wing, and some rather feeble purple finches, young males without the purple, dark-colored.

Talked with a farmer by name of Slocum, hoeing on the Neck, a rather dull and countrified fellow for

our neighborhood, I should have said. Asked him, by chance, about getting to Cuttyhunk, if it was safe to cross the bay in a whale-boat. Yes, or "Ye-e-s," his boat was only some twelve feet long and went over two or three times a year. His relations lived there. Perhaps he understood navigating here. Well, he 'd been round the world considerably. "Have you been master of a whaler?" Yes; he 'd been to most all parts of the world.

Heard of, and sought out, the hut of Martha Simons, the only pure-blooded Indian left about New Bedford. She lives alone on the narrowest point of the Neck, near the shore, in sight of New Bedford. Her hut stands some twenty-five rods from the road on a small tract of Indian land, now wholly hers. It was formerly exchanged by a white man for some better land, then occupied by Indians, at Westport, which he wanted. So said a Quaker minister, her neighbor. The squaw was not at home when we first called. It was a little hut not so big as mine. *Vide* sketch by R., with the bay not far behind it. No garden; only some lettuce amid the thin grass in front, and a great white pile of clam and quahog shells one side. She ere long came in from the seaside, and we called again. We knocked and walked in, and she asked us to sit down. She had half an acre of the real tawny Indian face, broad with high cheek-bones, black eyes, and straight hair, originally black but now a little gray, parted in the middle. Her hands were several shades darker than her face. She had a peculiarly vacant expression, perhaps characteristic of the Indian, and answered our questions listlessly, without being interested or implicated, mostly in monosyllables, as if

hardly present there. To judge from her physiognomy, she might have been King Philip's own daughter. Yet she could not speak a word of Indian, and knew nothing of her race. Said she had lived with the whites, gone out to service to them when seven years old. Had lived part of her life at Squaw Betty's Neck, Assawampsett Pond. Did she know Sampson's? She 'd ought to; she 'd done work enough there. She said she was sixty years old, but was probably nearer seventy. She sat with her elbows on her knees and her face in her hands and that peculiar vacant stare, perhaps looking out the window between us, not repelling us in the least, but perfectly indifferent to our presence.

She was born on that spot. Her grandfather also lived on the same spot, though not in the same house. He was the last of her race who could speak Indian. She had heard him pray in Indian, but could only understand "Jesus Christ." Her only companion was a miserable tortoise-shell kitten which took no notice of us. She had a stone chimney, a small cooking-stove without fore legs, set up on bricks within it, and a bed covered with dirty bed-clothes. Said she hired out her field as pasture; better for her than to cultivate it. There were two young heifers in it. The question she answered with most interest was, "What do you call that plant?" and I reached her the aletris from my hat. She took it, looked at it a moment, and said, "That's husk-root. It's good to put into bitters for a weak stomach." The last year's light-colored and withered leaves surround the present green star like a husk. This must be the origin of the name. Its root

is described as intensely bitter. I ought to have had my hat full of plants.

A conceited old Quaker minister, her neighbor, told me with a sanctified air, "I think that the Indians were human beings; dost thee not think so?" He only convinced me of his doubt and narrowness.

June 27. P. M. — Went with R. and his boys in the Steamer Eagle's Wing, with a crowd and band of music, to the northeast end of Naushon, "Woods Hole," some fifteen miles from New Bedford; about two hours going. Talked with a Mr. Congdon, cashier of a bank and a vegetarian. Saw all the Elizabeth Isles, going and coming. They are mostly bare, except the east end of Naushon. This island is some seven miles long, by one to two wide. I had some two and a half hours there. I was surprised to find such a noble primitive wood, chiefly beech, such as the English poets celebrate, and oak (black oak, I think), large and spreading like pasture oaks with us, though in a wood. The ground under the beeches was covered with the withered leaves and peculiarly free from vegetation. On the edge of a swamp I saw great tupelos running up particularly tall, without lower branches, two or three feet in diameter, with a rough light-colored bark. Noticed a thorn, perhaps cockspur, with an undivided leaf, gooseberries, stag-horn sumach, not in bloom. Most of the passengers expected to find strawberries. Saw a common wild grape-vine running over a beech, which was apparently flattened out by it, which vine measured, at six feet from ground, twenty-three inches in circumference. It was

large below, where it had already forked. At five feet from ground it divided into three great branches. It did not rise directly, but with a great half-spiral sweep or *anguish*. No sight could be more primeval. It was partly or chiefly dead. This was in the midst of the woods, by a path-side. Just beyond we started up two deer.


I suppose the white gull I saw and heard (somewhat like the sound of the small mackerel gull of the Cape) at Naushon was the *Sterna hirundo*, or great tern, with long forked tail. A Mr. Wall, artist, at New Bedford, told me of a high pine wood or swamp some miles down Naushon with "storks' nests" (!) in the pines. Were they blue herons?

Naushon is said to be part of the township of Chilmark, Martha's Vineyard, and to belong to Mr. Swain of New Bedford and Forbes of Boston; some say to Swain alone.

Walton Ricketson went down in a schooner the next day again, and found the pond near Swain's well stocked with pickerel, of which he caught many in a few hours.

Returning, I caught sight of Gay Head and its lighthouse with my glass, between Pasque and Nashawena. This lighthouse, according to Congdon, who says he measured it trigonometrically, is not more than one hundred and fifty feet above the sea. The passages between the islands are called "holes." Quick's is one. Cuttyhunk was very plain. Congdon said that he was there about thirty years ago, but could see no traces of Gosnold there, and does not believe there are any. Captain Slocum (of the day before), who has relations there, never saw any. Mr. Wall said that there was one

old gentleman still alive, a Mr. Howland, who went on there with Belknap, who could tell all about it. The island is cultivated.

June 28. Lamium amplexicaule still out behind R.'s shanty. I picked up two arrowheads amid oyster and clam shells by a rock at the head of the creek opposite R.'s. One was of peculiar form, quite blunt and small, thus:  of quartz, apparently to knock over small game without breaking the skin.

P. M. — I paddled up the Acushnet, about a mile above the paper-mill, as far as the ruined mill, in Walton's skiff with Arthur R. (Walton was named from I. Walton, the angler, and Arthur from Dana's hero in "Sun not set yet," etc.) I never saw such an abundance of peltandra as borders that sluggish and narrow stream, in bunches alternating with pickerel-weed; leaves of very various forms and sizes.

June 29. Sunday. P. M. — Bathed in the creek, which swarms with terrapins, as the boys called them. I find no account of them in Storer!! They put their heads out and floated about just like the *Emys picta*, and often approached and played (?) with each other. Some were apparently seven or eight inches long and of a yellowish color. A man by the riverside told us that he had two young ducks which he let out to seek their food along the riverside at low tide that morning. At length he noticed that one remained stationary amid the grass or salt weeds and something prevented its follow-

ing the other. He went to its rescue and found its foot shut tightly in a quahog's shell amid the grass which the tide had left. He took up all together, carried to his house, and his wife opened the shell with a knife, released the duck, and cooked the quahog. Bathed again near Dogfish Bar. It was warm and dirty water, muddy bottom. I probably found an Indian's bone at Throgg's Point,¹ where their bodies have been dug up.

June 30. Monday. A. M. — To Middleborough ponds in the new town of Lakeville (some three years old). What a miserable name! It should have been Assawampsett or, perchance, Sanacus, if that was the name of the Christian Indian killed on the pond. By the roadside, Long Plain, North Fairhaven, observed a tupelo seven feet high with a rounded top, shaped like an umbrella, eight feet [in] diameter, spreading over the wall, and the main stem divided suddenly at two feet only below the top, where it was six inches in diameter!

On the right hand in the old orchard near the Quiticus Ponds, heard and at last saw my tweezer-bird, which is extremely restless, flitting from bough to bough and apple tree to apple tree. Its note like *ah, zre zre zre, zritter zritter zrit'*. *Sylvia Americana*, parti-colored warbler, with golden-green reflections on the back, two white bars on wings, all beneath white, large orange mark on breast, bordered broadly with lemon yellow, and yellow throat. These were making the woods ring

¹ [Coggeshall's Point (W. Ricketson).]

in Concord when I left and are very common hereabouts.

Saw a haymaker with his suspenders crossed before as well as behind. A valuable hint, which I think I shall improve upon, since I am much troubled by mine slipping off my shoulders.

Borrowed Roberts's boat, shaped like a pumpkin-seed, for we wished to paddle on Great Quitticus. We landed and lunched on Haskell's Island, which contains some twenty-five or thirty acres. Just beyond this was Reed's Island, which was formerly cultivated, the cattle being swum across, or taken over in a scow. A man praised the soil to me and said that rye enough had been raised on it to cover it six inches deep. At one end of Haskell's Island was apparently a piece of primitive wood, — beech, hemlock, etc. Under the first I found some low, dry brown plants, perhaps beech-drops and the like, two species, but saw none of this year. One who formerly owned Reed's Island said that a man once lived on Haskell's Island and had a hennery there. The tweezer-birds were lively in the hemlocks.

Rode on to the old Pond Meeting-house, whence there is a fine view of Assawampsett. It is probably the broadest lake in the State. Uriah (?) Sampson told me it was about eight or ten feet deep in the middle, but somewhat deeper about the sides. The main outlet of these ponds is northeast, by Taunton River, though there is some connection with the Mattapoissett River, and Assonet River drains the neighborhood of Long Pond on the west.

Two men spoke of loon's eggs on a rocky isle in

Little Quitticus. I saw the *Lobelia Dortmanna* in bloom in the last.

A southwest breeze springs up every afternoon at this season, comparatively cool and refreshing from the sea.

As we were returning, a Mr. Sampson was catching perch at the outlet from Long Pond, where it emptied into Assawampsett with a swift current. The surface of the rippling water there was all alive with yellow perch and white ones, whole schools showing their snouts or tails as they rose for the young alewives which *appeared* to be passing out of the brook. These, some of which I have in spirits, were about an inch and a half long. Sampson fished with these for bait, trailing or jerking it along the surface exactly as for pickerel, and the perch bit very fast. He showed me one white perch. It was a broader fish than the yellow, but much softer-scaled and generally preferred. He said they would not take the hook after a certain season. He swept out some young alewives (herring) with a stick on to the shore, and among them were young yellow perch also an inch and a half long, with the transverse bands perfectly distinct. I have some in spirit. The large ones were devouring these, no doubt, together with the alewives. Is not June the month when most of our freshwater fish are spawned?


IX

JULY, 1856

(ÆT. 38-39)

July 1. P. M. — Paddled on the Acushnet.

Passed through some schools of fishes which were rippling the surface about us in midstream.

 The back fins, very long and sharp, projected two or three inches above water. Walton said afterward that they were menhaden.

July 2. Return to Concord.

Looked at the birds in the Natural History Rooms in Boston. Observed no white spots on the sparrow hawk's wing, or on the pigeon or sharp-shinned hawk's. Indeed they were so closed that I could not have seen them. Am uncertain to which my wing belongs. May I not have seen the white-crowned sparrow in company with the white-throated? They are much alike. Yet Wilson says they rarely associate. The hemlock and pine warbler are much alike. Is it possible I have confounded them?

July 3. P. M. — To Assabet River.

In the main stream, at the Rock, I am surprised to see flags and pads, laying the foundation of an islet in the middle, where I had thought it deep before. Apparently a hummock lifted by ice sunk there in the

spring, and this may be the way in which many an island has been formed in the river.

I scare up one or two woodcocks in different places by the shore, where they are feeding, and in a meadow. They go off with a whistling flight. Can see where their bills have probed the mud.

See a sternothærus on a small stump two feet over water. I approach and take hold of it, but cannot easily remove it. It appears to be shrunk on, withering away and dying there. It barely moves its head and eyes slightly, and its flippers look very much shrunk, yet it tumbles off after I leave. Apparently a male. I notice afterward, on succeeding days, many of them resting thus sluggishly, and find that I can approach and handle them and leave them as I found them. They appear much more sluggish than the other kinds now, though they were active enough in the spring. The tortoises improve every rock, and willow slanting over the water, and every floating board and rail. You will see one on the summit of a black willow stump several feet high, and two or more part way up. Some tumble from a height of five or six feet into the water before you. Even the great snap-turtle puts his head out and climbs up a rock on the bank with the rest.

July 5. A. M. — To Loring's Pond.

Pink-colored yarrow. *Epilobium coloratum*, a day or more. Young partridges (with the old bird), as big as robins, make haste into the woods from off the railroad. Plucked some large luscious purple pyrus berries. Lactuca some days out.

Borrowed Witherell's boat and paddled over Loring's Pond. A kingbird's nest in fork of a button-bush five feet high on shore (not saddled on); three young just hatched and one egg.

Much of this pond is now very shallow and muddy and crowded with pads, etc. I can hardly push through them. Yet I can see no more white lily pads shaped as that appears to have been which I found here a few weeks since. Many pickerel dart away from amidst the pads, and in one place I see one or two great snap-turtles.

I notice two varieties (?), perhaps, of *Asclepias Cornuti* now out, one on the railroad meadow this side the Brooks Crossing, the other beyond the first mile-post above. The last has broader leaves and blunter and more decidedly mucronate, and pedicels and peduncles quite downy, the former little more than twice the length of the petals. The other has narrower and more pointed leaves, peduncles and pedicels but little downy comparatively, the latter more than three times the length of the petals and not so numerous as in the other. *Vide* their pods, if spiny, by and by.

The *Spergularia rubra* was not open in the morning when I passed up, at 8 or 9 A. M., but was opened when I returned at noon, but closed again at 5 P. M.

The notes of barn swallows, perhaps with their young, are particularly loud now and almost metallic, like that of a mackerel gull.

The large evening-primrose below the foot of our garden does not open till some time between 6.30 and 8 P. M. or sundown. It was not open when I went to

bathe, but freshly out in the cool of the evening at sundown, as if enjoying the serenity of the hour.

July 6. P. M. — To Assabet Bath.

Campanula aparinoides, roadside opposite centaurea, several days. Early low blueberries ripe.

Crossed the river at bath place. On the sandy bank opposite, saw a wood tortoise voraciously eating sorrel leaves, under my face. In A. Hosmer's ice-bared meadow south of Turnpike, hear the distressed or anxious *peet* of a peetweet, and see it hovering over its young, half grown, which runs beneath and suddenly hides securely in the grass when but few feet from me. White avens, evidently Bigelow's *Geum album* (which Gray makes only a variety of *G. Virginianum*), a good while, very rough and so much earlier than the *G. Virginianum* that only one flower remains. The heads have attained their full size, with twisted tails to the awns, while the other will not open for some days. I think Bigelow must be right. *Lysimachia lanceolata*, a day or two. *Rhus typhina* in our yard; how long? Did not see it out in New Bedford ten days ago. There is a young red mulberry in the lower hedge beneath the celtis.

G. Emerson says the sweet-briar was doubtless introduced, yet, according to Bancroft, Gosnold found it on the Elizabeth Isles.

July 7. I see a difference now between the alder leaves near Island and edge of meadow westward, on Hill; the former slightly downy beneath, the latter

(apparently *Alnus serrulata*) green and smooth but yet *not pointed at base*. Do I not see a taller kind of wool-grass in that birch meadow east of Hill?

P. M. — To Gowing's Swamp.

The purple finch still sings over the street. The sagittaria, large form, is out, roadside, Moore's Swamp. The *Vaccinium Oxycoccus* is almost entirely out of bloom, and the berries are as big as small huckleberries ¹ (while the *V. macrocarpon* is in full bloom, and no berries appear on it). It must therefore have begun about the 1st of June. Saw the *Kalmia glauca* by the small cranberry, betrayed by its two-edged twig. The snake-head arethusa is now abundant amid the cranberries there.

July 8. 3 P. M. — To Baker Farm by boat.

River down to lower side of long rock.

When I landed on Hosmer flat shore, started a large water adder, apparently running on the bank. It ran at once into the river and was lost under the pads. *Ranunculus reptans* is abundantly out at mouth of brook, Baker shore. Is that small sparganium there, now abundantly out, about eighteen inches high, with leaves narrow and convex below, concave above, the same species with the larger? Some in press.

Got the downy woodpecker's nest, some days empty.²

Find several large and coarse *Potentilla arguta*, two and a half feet high and more, at Bittern Cliff, nearly out of bloom. Flowers in crowded corymbs. They are *white*, not yellow, as Gray calls them. In the side-

¹ Or as the common cranberry on the 20th. ² *Vide* 19th.



Baker Farm and Fair Haven Pond



hill wood-lot (or spring wood-lot) behind, where the wood was cut last winter, poke-leaved milkweed (*Asclepias phytolaccoides*), apparently a day or two, and *Circæa alpina*, some days, a foot high with opaque leaves and *bracts* (in press). This I find to be the same with the small, also bracted, one at Corner Spring (whose leaves were perhaps more transparent when in shade, but which now grows larger in sun).¹

Sophia saw this afternoon two great snap-turtles fighting near the new stone bridge, making a great commotion in the river and not regarding the spectators, she and another, and a teamster who stopped his team to observe them.

Sam Wheeler, who did not know there were snap-turtles here, says he saw opposite to his boarding-house, on the sidewalk, in New York, the other day, a green turtle which weighed seven hundred and twenty pounds, which in a short time dropped eggs enough to fill a vessel some feet in diameter. He partook of some of the soup made of it, and there were several eggs in it, which were luscious.

After Jules Gérard, the lion-killer, had hunted lions for some time, and run great risk of losing his life, though he struck the lions in the right place with several balls, the lions steadily advancing upon him even though they had got a death-wound, he discovered that it was not enough to be brave and take good aim, — that his balls, which were of lead, lacked penetration and were flattened against the lions' bones; and accordingly he sent to France and obtained balls which were pointed with

¹ *Vide* [p. 406] and also July 24.

steel and went through and through both shoulder-blades. So I should say that the weapons or balls which the Republican Party uses lacked penetration, and their foe steadily advances nevertheless, to tear them in pieces, with their well-aimed balls flattened on his forehead.

In Gérard's book I find, according to a Moham-medan tradition, "when the lion roars, he says, 'Ya rabbi, ma teçallot mi â la ed-dâbèome,' which signifies 'Seignior, deliver to my power the wicked only, and let the good go free.'"

July 10. Yesterday a heavy rain.

A. M. — To Laurel Glen.

Chenopodium album, by railroad. Succory a week or more, by railroad causeway. *Stachys aspera* well out two or three days, low ground. *Chimaphila umbellata*, some days. *Pyrola elliptica*, how long? *P. chlorantha* done, near part of Cut woods. *P. rotundifolia* (how long?), Cut woods hollow. *Galium triflorum* of Bigelow (?), prostrate, from one centre, Laurel Glen hillside; how long? But the branches are not three-flowered, but have three pedicels and one, two, or all of them (commonly but one) are subdivided into two. Also *G. circæans* gone to seed. I have pressed apparently *Galium lanceolatum*. *Sericocarpus conyzoides*, Deep Cut path.

Asclepias obtusifolia, which was out well on the 5th, has a bloom, and the curved horns are *elevated* above the flower.

See and hear young barn swallows about.

5 P. M. — Up Assabet.

As I was bathing under the swamp white oaks at 6 P. M., heard a suppressed sound often repeated, like, perhaps, the working of beer through a bung-hole, which I already suspected to [be] produced by owls. I was uncertain whether it was far or near. Proceeding a dozen rods up-stream on the south side, toward where a catbird was incessantly mewing, I found myself suddenly within a rod of a gray screech owl sitting on an alder bough with horns erect, turning its head from side to side and up and down, and peering at me in that same ludicrously solemn and complacent way that I had noticed in one in captivity. Another, more red, also horned, repeated the same warning sound, or apparently call to its young, about the same distance off, in another direction, on an alder. When they took to flight they made some noise with their wings. With their short tails and squat figures they looked very clumsy, all head and shoulders. Hearing a fluttering under the alders, I drew near and found a young owl, a third smaller than the old, all gray, without obvious horns, only four or five feet distant. It flitted along two rods, and I followed it. I saw at least two or more young. All this was close by that thick hemlock grove, and they perched on alders and an apple tree in the thicket there. These birds kept opening their eyes when I moved, as if to get clearer sight of me. The young were very quick to notice any motion of the old, and so betrayed their return by looking in that direction when they returned, though I had not heard it. Though they permitted me to come so near with so much noise,

as if bereft of half their senses, they at [once] noticed the coming and going of the old birds, even when I did not. There were four or five owls in all. I have heard a somewhat similar note, further off and louder, in the night.

I find (July 14th) (and it has been out some days), at Muhlenbergii Brook, circæas which are distinctly branched and with *large* leaf-like bracts, some nearly two feet high. Yet they are evidently the same species that I have found before, and I think that there is but one hereabouts, say *C. alpina*, which, however, is poorly described by Gray and inadequately by Bigelow. It is from four or five (in shade) to, as here, about two feet high (in sun); is never pubescent, but quite smooth, round-stemmed, swelling at the joints, more or less branched, in large specimens sometimes very much so (*vide* pressed one), with bracts quite small and slender in small ones, and very large and leaf-like (two on a common axillary branch) in large plants; leaves opaque in open places, heart-shaped, *rather* slightly and distantly toothed, of the large specimens, at least, *not* shining.¹

July 11. A. M. — To Tarbell Swamp Hill all day with W. E. C.

Landed at path end, Great Meadows. No haying there yet. In the now isolated ditches, etc., there [are] thousands of little pouts about one inch long, more or less. The water is muddy, and I see no old ones. They are rather difficult to catch (like minnows generally, but

¹ *Vide* 24th.

less so), but I got two and have them in spirit. I scare up several apparent snipes (?), which go off with a *crack*. They are rather heavy-looking, like woodcocks, but have gray breasts. Are probing the meadow. Quite numerous there. The *Ludwigia sphærocarpa*, which had been out apparently a week on the 6th of August, 1855, shows hardly a sign of a flower yet. So it will hardly open before August 1st. The grass on the islets in those pools is much flattened in many places by the turtles, which lie out sunning on it. They tumble in before me, and by the sound and marks of one I suspect it a snap-turtle. They are commonly *E. picta*.

Bathed and lunched under the oak at Tarbell's first shore. It is about as cool a place as you can find, where you get the southwest breeze from over the broad meadow, for it draws through the valley behind. While sitting there, saw, some twenty-five rods up-stream, amid the pads on the south side, where we had passed, several apparently young ducks, which soon disappeared again in the meadow-grass. Saw them hereabouts August 6th last year. They regularly breed hereabouts, and the broad meadow affords lurking-places. The meadow is so broad and level that you see shadows of clouds on it as on the sea. A great snap-turtle floated by us with his head out, in midstream, reconnoitring us. Rambled over the hill at angle. Allium out some time on the shore. I have only seen it here, methinks, and on the Assabet shores.

Hear now the *link* of bobolinks, and see quite a flock of red-wing blackbirds and young (?). The water milk-weed, or *Asclepias pulchra*.

July 12. P. M. — Down Turnpike to Red Lily Meadow.

Hear the plaintive note of young bluebirds, a reviving and gleaming of their blue ray. In Moore's meadow by Turnpike, see the vetch in purple patches weighing down the grass, as if a purple tinge were reflected there. White vervain. Smooth sumach, apparently yesterday. Rue is beginning now to whiten the meadows on all hands. The *Ranunculus aquatilis* appears to be about done, though it may have been submerged by the rain of yesterday. I see hardly one freshly open, and it [is] quite moist and lowering yet. By the myosotis ditch there, is an abundance of *Galium trifidum* (apparently *obtusum* or *latifolium*, in press). It is densely massed and quite prickly, with three corolla-lobes. As yet I think I have observed only two varieties of *G. trifidum*, smooth and rough. *Lactuca sanguinea*, some time, with dark-purple stem, widely branched. *Pycnanthemum muticum* and the narrow-leaved, not long.¹

In the still wet road on the hill, just beyond Lincoln bound, a short-tailed shrew (*Sorex brevicaudus* of Say), dead after the rain. I have found them thus three or four times before. It is $4\frac{1}{2}$ inches long; tail 1 + ; head and snout, 1 + . Roundish body. Lead-color above, somewhat lighter beneath, with a long snout, $\frac{3}{8}$ inch beyond lower jaw, incisors black, delicate light-colored (almost silvery) mustachial bristles, and also from lower lip; nose emarginate; nails long and slender, a purple bar across each; ears white and concealed in the fur; the nostrils plainly perforated, though Emmons says that in

¹ Several days at least.

the specimens of *Sorex* he had seen he could detect no perforations with a microscope. It has a peculiar but not *very* strong muskiness. There was an insect-wing in its mouth. Its numerous teeth distinct. Have I not commonly noticed them dead after rain? I am surprised to read in Emmons that it was first observed in Missouri, and that he has "not been able to meet with it" and doubts its existence in the State; retains it on the authority of former catalogues; says it nests on the surface and is familiar with water. In spirits.¹

Red lilies in prime, single upright fiery flowers, their throats how splendidly and *variously* spotted, hardly two of quite the same hue and not two spotted alike, —leopard-spotted, —averaging a foot or more in height, amid the huckleberry and lambkill, etc., in the moist, meadowy pasture.

Apparently a bluebird's egg in a woodpecker's hole in an apple tree, second brood, just laid. In collection. Parsnip at Bent's orchard; how long? Also on July 5th, almost out. Agrimony well out. Chestnut in prime. See *Lysimachia quadrifolia* with from three to five (or six?) leaves in a whorl. *Iberis umbellata*, candytuft, roadside, Tuttle's, naturalized; how long? New plant.

July 13. P. M. — To Corner Spring.

Orchis lacera, apparently several days, lower part of spike, willow-row, Hubbard side, opposite Wheildon's land. See quite a large flock of chattering red-wings, the flight of first broods. Thimble-berries are now fairly ripe and abundant along walls, to be strung on herd's-

¹ Given to Agassiz for Baird. *Vide* Oct. 25, 1856.

grass, but not much flavor to them; honest and wholesome. See where the mowers have plucked them. Gather the large black and blackening ones. No drought has shrivelled them this year.

Heard yesterday a sharp and loud *ker-pheet*, I think from a surprised woodchuck, amid bushes, — the *sif-fleur*. Reminds me somewhat of a peetweet, and also of the squeak of a rabbit, but much louder and sharper. And all is still.

Hubbard's meadow — or I will call it early meadow — aster, some days, now rather slender and small-bushed. *Drosera longifolia* and also *rotundifolia*, some time. *Polygala sanguinea*, some time, Hubbard's Meadow Path; say meadow-paths and banks. Saw and heard two or three redstarts at Redstart Woods, where they probably have nests. Have noticed bright-red geranium and pyrus leaves a week or more.

In Hubbard's euphorbia pasture, cow blackbirds about cows. At first the cows were resting and ruminating in the shade, and no birds were seen. Then one after another got up and went to feeding, straggling into the midst of the field. With a chattering appeared a cowbird, and, with a long slanting flight, lit close to a cow's nose, within the shadow of it, and watched for insects, the cow still eating along and almost hitting it, taking no notice of it. Soon it is joined by two or three more birds.

An abundance of spurry in the half-grown oats adjoining, apparently some time out. Yellow lily, how long? Am surprised to see an *Aster lævis*, out a day or two, in road on sandy bank. Goldfinches twitter over. Hydrocotyle, some time.

July 14. P. M. — To Muhlenbergii Brook.

Anthony Wright found a lark's nest with fresh eggs on the 12th in E. Hubbard's meadow by ash tree, — two nests, probably one a second brood. *Nasturtium hispidum* (?), apparently three or four days. See and hear martins twittering *on the elms* by riverside. Bass out about two days at Island. There is a pyrus twenty feet high with small fruit at Assabet Spring.

Noli-me-tangere already *springs* at Muhlenbergii Brook, some days. Saw apparently my little ruby (?) - crested wren (?) on the weeds there. Senecio long gone to seed and dispersed. Canada thistle some time on Huckleberry Pasture-side beyond. Ceratophyllum with a dense whorl of twelve little oval red-dotted apparent flower-buds (?) in an axil.

While drinking at Assabet Spring in woods, noticed a cherry-stone on the bottom. A bird that came to drink must have brought it half a mile. So the tree gets planted!

July 15. P. M. — To Hubbard's Close and Walden.

Carrots by railroad, how long? I notice the froth concealing a grub, not only on trees and bushes, but on *Potentilla Norvegica*, *Lechea* (great-fruited), etc., etc., *Pycnanthemum muticum*, even *Lobelia inflata*, red clover, *Aster puniceus*.¹ This spots my clothes when going through bushes. Both small hypericums, *Canadense* and *mutilum*, apparently some days at least by Stow's ditch. Bobolinks are heard — their *link, link* — above and amid the tall rue which now whitens the

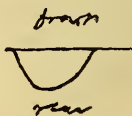
¹ Also Aug. 1st on sweet-gale and Roman wormwood.

meadows. Checkerberry, a day or two. *Spiranthes gracilis* well out, in dry, slender grass by roadside. I do not notice the krigia out in my afternoon walks, and so it is not known by many, but in the morning its disk is very commonly seen.

When I crossed the entrance to the pond meadow on a stick, a pout ran ashore and was lodged so that I caught it in the grass, apparently frightened. While I held it, I noticed another, very large one approach the shore very boldly within a few feet of me. Going in to bathe, I caught a pout on the bottom within a couple of rods of the shore. It seemed sick. Then, wading into the shallow entrance of the meadow, I saw a school of a thousand little pouts about three quarters of an inch long without any attending pout, and now have no doubt that the pout I had caught (but let go again) was tending them, and the large one was the father, apparently further off. The mother had perhaps gone into deep water to recruit after her air-bath. The young were pretty shy; kept in shallow water, and were taking pretty good care of themselves. If the water should suddenly fall, they might be caught in the meadow.

Ludwigia alternifolia not quite; in a day or two.

Amid the high grass or rushes by that meadow-side started a water adder. It was about three feet long, but large round in proportion, with about one hundred and forty abdominal plates and a long, slender tail. It was black above, with indistinct transverse brown bands. Under its head white; first half of belly white, with triangular or conical dark brown-red marks



on sides; the white gradually becomes more narrow and yellowish for the latter half of the abdomen, bordered by more numerous and still darker reddish marks, becoming confluent and alternating with silvery ones, giving a handsome regularly mottled or spotted look. The silvery thus across the belly: The
barred part dark-reddish. Un- der
the tail no reddish.



Corylus rostrata differs from com- and
mon in the twig being smooth a and
not glandular-hairy. *Scutellaria galericulata*, some
time. *Polygonum sagittatum*, almost.

That green *sponge* plant gathered yesterday is remarkably slow to dry; though it has been many hours exposed to the sun and wiped with many papers and has been a whole day exposed to the air, it is far from dry yet. It is more pungent and strong-scented than ever and sickens me to stay in the room with a little of it.

July 16. Sium out not long. I see many young shiners (?) ¹ (they have the longitudinal bar), one to two and a half inches long, and young breams two or three inches long and quite broad. *Geum Virginianum*, apparently two or three days.

See several bullfrogs lying fully out on pads at 5 P. M. They trump well these nights.

It is remarkable how a copious rain, raising the river a little, flattens down the heart-leaf and other weeds at bathing-places.

¹ Probably minnows.

July 17. Found a great many insects in white lilies which opened in pan this forenoon, which had never opened before. What regular and handsome petals! regularly concave toward the inside, and calyx hooked at tip.

P. M. — To Water Dock Meadow and Linnæa Hill-side.

Hear a new note from bank swallows when going over the Hosmer pastures, a sort of *screep screep*, shrill and like what I have referred to the barn swallow. They are probably out with young.

Ludwigia palustris and *ilysanthes* have been out apparently some time on the flat Hosmer shore or meadow, where the surface has been laid bare by the ice. There, too, the *Hypericum Sarrothra* has pushed up abundantly. I see many young toads hopping about on that bared ground amid the thin weeds, not more than five eighths to three quarters of an inch long; also young frogs a little larger. Horse-mint out at Clamshell, apparently two or three days.

Bathed at Clamshell. See great schools of minnows, apparently shiners, hovering in the clear shallow next the shore. They seem to choose such places for security. They take pretty good care of themselves and are harder to catch with the hands than you expect, darting out of the way at last quite swiftly. Caught three, however, between my hands. They have brighter golden irides, all the abdomen conspicuously pale-golden, the back and half down the sides pale-brown, a broad, distinct black band along sides (which methinks marks the shiner), and comparatively transparent beneath behind vent. When the water is gone I am surprised to see how they

can skip or spring from side to side in my cup-shaped two hands for a long time. This to enable them to get off floating planks or pads on the shore when in fright they may have leaped on to them. But they are very tender, and the sun and air soon kill them. If there is any water in your hand they will pass out through the smallest crack between your fingers. They are about three quarters of an inch long generally, though of various sizes.

Half a dozen big bream come quite up to me, as I stand in the water. They are not easily scared in such a case.

The large skunk-cabbage fruit looks quite black now where the haymakers have passed. Stooping to drink at the Hosmer Spring, I saw a hundred caddis-cases, of light-colored pebbles, at the bottom, and a dozen or twenty crawled half-way up the side of the tub, apparently on their way out to become perfect insects.

Cows in their pasture, going to water or elsewhere, make a track four or five inches deep and frequently not more than ten inches wide.

The great water dock has been out some days at least. Its valves are quite small at first, but lower leaves *pointed*. I hear in the meadow there a faint incessant z-ing sound, as of small locusts in the meadow-grass. Under the oak in Brown's moraine pasture, by Water Dock Meadow, a great arum more than three feet high, like a tropical plant, in open land, with leaflets more than a foot long. There is rich-weed there, apparently not quite out.

Going up the hillside, between J. P. Brown's and rough-cast house, am surprised to see great plump ripe low blackberries. How important their acid (as

well as currants) this warm weather! It is 5 P. M. The wood thrush begins to sing.

A very warm afternoon. Thermometer at 97° at the Hosmer Desert. I hear the early locust. I have come to collect birds' nests. The thrasher's is apparently made partly beneath the surface, some dirt making its sides. I find the nests by withered twigs and leaves broken off in the spring, but commonly nearly concealed by the recent growth. The jay's nest had been filled with white oak leaves. Not one could have been blown into it. On Linnæa Hill many thimble-berries and some raspberries.

Evening by river to Ed. Hosmer's. Hear at distance the hum of bees from the bass with its drooping flowers at the Island, a few minutes only before sunset. It sounds like the rumbling of a distant train of cars. Returning after ten, by moonlight, see the bullfrogs lying at full length on the pads where they trump.

July 18. P. M. — To Wheeler meadow to look at willows.

Again scare up a woodcock, apparently *seated* or sheltered in shadow of ferns in the meadow on the cool mud in the hot afternoon. *Rosa Carolina*, some time, at edge of Wheeler meadow near Island Neck.

You see almost everywhere on the muddy river bottom, rising toward the surface, first, the coarse multifid leaves of the *Ranunculus Purshii*, now much the worse for the wear; second, perhaps, in coarseness, the ceratophyllum, standing upright; third, perhaps, the *Bidens Beckii*, with its leaflets at top; then the *Utricu-*

laria vulgaris, with its black or green bladders, and the two lesser utricularias in many places.

July 19. P. M. — Marlborough Road *via* railroad and Dugan wood-lot.

A box tortoise, killed a good while, on the railroad, at Dogwood Swamp; quite dry now. This the fourth I have ever found: first one, alive, in Truro; second one, dead, on shore of Long Pond, Lakeville; third one, alive, under Fair Haven Hill; and fourth, this. This appeared to have been run over, but both upper and under shells were broken into several pieces each, *in no case* on the line of the serrations or of the edges of the scales (proving that they are as strong one way as the other), but at various angles across them, which, I think, proves it to have been broken while the animal was alive or fresh and the shell not dry. I picked up only the after half or two thirds and one foot. The upper shell was at the widest place four and three eighths inches. It was broken irregularly across the back, from about the middle of the second lateral scale from the front on the left to the middle of the third lateral on the right, and was, at the angle of the marginal scales, about sixteen fortieths to seventeen fortieths of an inch thick, measured horizontally. The sides under the lateral scales and half the dorsal were from four to five fortieths of an inch thick. The thinnest part was about three eighths of an inch from middle of back on each side, directly between the spring of the sides [?], where it was but little more than two fortieths thick. So nature makes an arch. I have about half the sternum, the rear of it at one

point reaching to the hinge. It is thickest vertically just at the side hinges, where it is one fourth thick; thinnest three eighths from this each side, where it is one eighth thick; and thence thickens to the middle of the sternum, where it [is] seven and a half fortieths thick. The upper shell in this case (*vide* May 17, 1856) is neither pointed nor notched behind, but quite straight. The sternum and the *lower* parts of the marginal scales are chiefly dark-brown. The marking above is sufficiently like that of the Cape Cod specimen, with a still greater proportion of yellow, now faded to a yellowish brown.

On Linnæa Hills, sarsaparilla berries. *Lobelia inflata*, perhaps several days; little white glands (?) on the edges of the leaves. On the under side of a *Lobelia spicata* leaf, a sort of *loose-spun* cocoon, about five eighths of an inch long, of golden-brown silk, beneath which silky mist a hundred young spiders swarm.

Examined painted tortoise eggs of June 10th. One of those great spider(?) -holes made there since then, close to the eggs. The eggs are large and rather pointed, methinks at the larger end. The young are half developed. Fleets of yellow butterflies on road. Small white rough-coated puffballs (?) in pastures. Appear not to have two coats like that of Potter's Path, *q. v.*

As I come by the apple tree on J. P. B.'s land, where I heard the young woodpeckers hiss a month or so ago, I now see that they have flown, for there is a cobweb over the hole.

Plucked a handful of gooseberries at J. P. B.'s bush, probably ripe some time. It is of fair size, red-purple

and greenish, and apparently like the first in garden, except it is not slightly bristly like that, nor has so much flavor and agreeable tartness. Also the stalk is not so prickly, but for the most part has one small prickle where ours has three stout ones. Our second gooseberry is more purple (or dark-purple with bloom) and the twig less prickly than the wild. Its flavor is insipid and in taste like the wild.

It is the *Hypericum ellipticum* and *Canadense* (linear-leaved) whose *red* pods are noticed now.

On the sand thrown out by the money-diggers, I found the first ripe blackberries thereabouts. The heat reflected from the sand had ripened them earlier than elsewhere. It did not at first occur to me what sand it was, nor that I was indebted to the money-diggers, or their Moll Pitcher who sent them hither, for these blackberries. I am probably the only one who has got any fruit out of that hole. It's an ill wind that blows nobody any good. Looking up, I observed that they had dug another hole a rod higher up the hill last spring (for the blackberries had not yet spread over it), and had partly filled it up again. So the result of some idler's folly and some spiritualist's nonsense is that I get my blackberries a few days the earlier.

The downy woodpecker's nest which I got July 8th was in a dead and partly rotten upright apple bough four and three quarters inches [in] diameter. Hole *perfectly* elliptical (or oval) one and two sixteenths by one and five sixteenths inches; whole depth below it eight inches. It is excavated directly inward about three and a half inches, with a conical roof, also arching at back, with a

recess in one side on level with the hole, where the bird turns. Judging from an old hole in the same bough, directly above, it enlarges directly to a diameter of two and one fourth to two and one half inches, not in this case descending exactly in the middle of the bough, but leaving one side not a quarter of an inch thick. At the hole it is left one inch thick. At the nest it is about two and three eighths inches [in] diameter. I find nothing in the first but bits of rotten wood, remains of insects, etc., when I tip it up, — for I cannot see the bottom, — yet in the old one there is also quite a nest of fine stubble (?), bark shred (?), etc., mixed with the bits of rotten wood.

July 20. P. M. — Up Assabet.

Button-bush, apparently two or three days.

I suspect that those very variously formed leaves in and about woods which come to naught — like the sium in deep water — are of the nabalus.

Caught a middle-sized copper-colored devil's-needle (with darker spots on wings), sluggish, on a grass stem, with many dark-colored elliptical eggs packed closely to outside, under its breast.

July 21. P. M. — To A. Wheeler's grape meadow.

Mimulus, not long. *Hypericum corymbosum*, a day or two. Rusty cotton-grass, how long?

The small hypericums are open only in the forenoon. Pursley, also, in our garden opens *now* not till 8 A. M., and shuts up before 12 M.

The flat euphorbia is now in prime on the sandy path beyond Potter's Desert, five-finger fungus path.

Plucked a handful of huckleberries from one bush! The *Vaccinium vacillans* thick enough to go picking, and probably for a day or two in some places. Low blackberries thick enough to pick in some places, three or four days. Thimble-berries about the 12th, and *V. Pennsylvanicum* much longer.

These hot afternoons I go panting through the close sprout-lands and copses, as now from Cliff Brook to Wheeler meadow, and occasionally come to sandy places a few feet in diameter where the partridges have dusted themselves. Gérard, the lion-killer of Algiers, speaks of seeing similar spots when tracking or patiently waiting the lion there, and his truth in this particular is a confirmation of the rest of his story. But his pursuit dwarfs this fact and makes it seem trivial. Shall not my pursuit also contrast with the trivialness of the partridges' dusting? It is interesting to find that the same phenomena, however simple, occur in different parts of the globe. I have found an arrowhead or two in such places even. Far in warm, sandy woods in hot weather, when not a breath of air is stirring, I come upon these still sandier and warmer spots where the partridges have dusted themselves, now all still and deserted, and am not relieved, yet pleased to find that I have been preceded, by any creature.

Grapes ready to stew.

Mr. Russell writes me to-day that he visited the locality of the *Magnolia glauca* the 18th, on Cape Ann, and saw lingering still a few flowers and flower-buds. It is quite open and rising above the bushes.

The brook cress might be called river cress, for it is

very abundant rising above the surface in all the shallower parts of the river.

Verbena hastata, apparently several days.

Sonchus, some time.

This has been a peculiarly fine afternoon. When I looked about casually, was surprised at the fairness of the landscape. Though warm, it is clear and fresh, and the air imparts to all surfaces a peculiar fine glaucous color, full of light, without mistiness, like the under side of the *Salix lucida* (?) leaves at present. Not only the under sides of the leaves, but the very afternoon landscape, has become glaucous. Now, when the fashionable world goes to Saratoga, Nahant, and Newport, we frequent our oldest haunts with new love and reverence and sail into new ports with each fresh varnish of the air.

July 23. 9 A. M. — Up river for *Nuphar Kalmiana* with Russell.

Pasture thistle, not long. *Hypericum Sarrothra*, not long, or perhaps some days. *Antennaria margaritacea*. *Scutellaria lateriflora*, apparently some days.

R. says that my five-finger fungus is the *Lycoperdon stellatum* and can be found now. I find it in some places. (It is different from the white rough-coated puffball now found.) It was exhibited lately in Boston as the "resurrection plant" (!!) to compete with the one imported from Palestine. That what I have called fresh-water sponge is such, *Spongea fluviatilis*, and, like the marine, is uncertain whether vegetable or animal. When burned it leaves a mass of white spicula which have been mistaken for infusoria! Thinks the dry brown last-year's

plant I brought from Haskell's Island, Lakeville, the *Epiphegus*. That the *Rubus Canadensis*, low blackberry, is not found far west of us. That there is described — he thinks in Hooker's English Flora — a certain massing up of a conferva similar to that of my eriocaulon balls. Has seen a Mexican species, allied to the potato, cultivated hereabouts, which became a weed, — would not become larger than a walnut. Speaks of the young pouts *with their bladders attached*, accompanied by the old. That the berries of the celtis are pleasant to taste, those of the sassafras abominable. Showed me the *Dulichium spathaceum*, leaves in three ranks, so common along river, now in bloom; also the *Carex lupulina* (?) or *retrorsa* (?), hop sedge, with the inflated perigynia. Said that those reddish clusters of buds on a rush or carex were enlarged by disease. That the two white cotton-grasses (*Eriophorum*) were probably but one species, taller and shorter; also the two wool-grasses *Scirpus* — *Trichophorum* [*sic*] were probably but one species, the tall and short. That there was an account of the lecheas by Tuckerman in *Silliman's Journal*.

P. M. — To Walden for hydropeltis.

A young sternothærus which R. picked up recently dead, on the shore of the pond, was one and one sixteenth inches long, — the upper shell, — probably therefore a last year's one, or not yet one year old. Very high and sharp back, but broader than old. No hook to upper bill.

That fern leaf on my coal (?) is probably the *Neuropteris* as figured in Richardson's Botany.

Saw at Hydropeltis Meadow a small bullfrog in the act of swallowing a young but pretty sizable apparently *Rana palustris*, such as now hop about, an inch and a half long. He took it down head foremost, and as the legs were slowly taken in, — stuffing himself, — for the legs were often straightened out, — I wondered what satisfaction it could be to the larger to have that cold slimy fellow, entire, lying head to tail within him! I sprang to make him disgorge, but it was too late to save him. Though I tossed the bullfrog out of the water, the *palustris* was entombed. So little while had he been in the light when he fell into that recess! Bathing in Walden, I find the water considerably colder at the bottom while I stand up to my chin, but the sandy bottom much warmer to my feet than the water. The heat passes *through* the water with[out] being absorbed by it much. The hydropeltis leaves so crowded they cannot lie flat, but their edges show (a good part [of] the under side) as if blown up by wind.

The water adder killed on the 15th and left hanging on a twig has decayed wonderfully. I perceive no odor, and it is already falling to pieces. I can see most of its ribs and through and through in many directions!! It is already mere skin and skeleton, as empty as [a] flute. I can count the bare ribs, and it [is] inoffensive to the smell.

See apparently young goldfinches about, very *freshly* bright golden and black.

The small potamogeton, *heterophyllus* (?) or *hybridus* (?), out some time. *Ludwigia alternifolia*, five or six days.

July 24. P. M. — To Flint's Pond.

Solidago stricta,¹ Ingraham Path, well out, some days. *Chimaphila maculata*, three flowers, apparently but few days, while the *umbellata* is quite done there. Leaves just shooting up. See those light-bordered dark spots on tall and other goldenrod leaves (fungi (?) says Russell). In the low Flint's Pond Path, beyond Britton's, the tall rough goldenrod makes a thicket higher than my head. Many hazelnut burs now look rough and reddish about the base. Tobacco-pipe much blackened, out a long time.

I find, at the shallow stone wharf shore, three balls in good condition, walking about half the length of that shore. Methinks it was about a week earlier than this that they were found last year. There is on the surface of the water, washed up and floating about, a good deal of the eriocaulon, loosened up, perhaps, by pouts or other creatures, and also some other *fine* weeds with it. Yet the eriocaulon has but just begun to bloom! So also the vallisneria has washed up some time in river. There is also a very fine rush (?) on the bottom there like hair. Is that a little submerged kind of utricularia or ranunculus on the sandy bottom in shallow water there, looking thin and dissolving from above, like a conferva? — like little regular green masses of conferva?

The red lilies are completely out of bloom now at Smith's meadow pasture, but the yellow ones are still very abundant in the meadows. The *Ranunculus Purshii* is now very hard to meet with. Saw one double

¹ *Arguta* var. *juncea*.

flower with sixteen petals (at least) in two rows. Time to get seeds of it. Hardhack well out, how long? The small purple fringed orchis, apparently three or four days at least. The fall has already come to skunk-cabbage and hellebore. Their yellow and black decaying leaves and stems now cover the floor of the swamps which they recently clothed in early green. The *Lobelia Dortmanna* still, but no full spikes. It is apparently the worse for the wear. The oldest stems of it are covered here and there with apparently the red ova of some insect. Some *Gnaphalium uliginosum* going to seed; how long?

July 25. Friday. A. M. — Up river to see hypericums out.

Lycopus Virginicus, with its runners, perhaps some days, in Hosmer Flat Meadow. Whorled utricularia very abundantly out, apparently in its prime. *Lysimachia ciliata* some days. The *Hieracium Canadense* grows by the road fence in Potter's hydrocotyle field, some seven or eight inches high, in dense tufts!

The haymakers getting in the hay from Hubbard's meadow tell me the cock says we are going to have a long spell of dry weather or else very wet. "Well, there's some difference between them," I answer; "how do you know it?" "I just heard a cock crow at noon, and that's a sure sign it will either be very dry or very wet."

The *Hypericum perforatum*, *corymbosum*, and *ellipticum* are not open this forenoon, but the *angulosum*, *Canadense*, *mutilum*, and *Sarothra* are partly curled up

(their petals) even by 9 A. M.; perhaps because it is very warm, for day before yesterday, methinks, I saw the *mutilum* and *Sarothra* open later.

The street is now strewn with bark under the button-wood at the brick house. Has not the hot weather taken the bark off?

The air begins to be thick and almost smoky.

July 26. Saturday. 5 A. M. — Up Assabet.

The sun's disk is seen round and red for a long distance above the horizon, through the thick but cloudless atmosphere, threatening heat, — hot, dry weather.

At five the lilies had not opened, but began about 5.15 and were abundantly out at six.

Arranged the hypericums in bottles this morning and watched their opening.

The *H. angulosum* (?) has a pod one-celled (with three parietal placentæ), conical, oblong, acute, at length longer than the sepals, purple. (The *Canadense* has from three to five (!) placentæ and the *mutilum* three to four (!), as I find, notwithstanding Gray.) Styles three, short, distinct, and spreading; stamens twenty, more or less, obscurely clustered. Petals oblong. (Do not see the single lateral tooth mentioned by Eaton.) Corolla twelve to fourteen fortieths of an inch in diameter. It is strict, slender, ten to twenty inches high; stem sharply four-angled, like *Canadense*, and cyme as naked or more so. The large ones make a singularly compact (flat-topped) corymb, of many narrow pods at last. Leaves oblong-lanceolate or linear-lanceolate, commonly blunt, but often gradually tapering and acute,

broadest near the base and clasping, one to one and a half inches long by one eighth to three eighths wide, black-dotted beneath. Ground neither very dry nor very moist. It differs from *Canadense*, which it resembles, in being a larger plant every way, narrower in proportion to height, having more stamens, and in the form of its leaves.

Corolla of *mutilum* nine to eleven fortieths of an inch in diameter; *Canadense*, twelve to thirteen fortieths; *corymbosum* eighteen fortieths.

The *corymbosum* in chamber shut up at night. All but *Sarothra*, which may not be advanced enough, (I have no *elodea*), opened by 5 A. M., *corymbosum* and *angulosum* very fairly; but *mutilum*, *Canadense*, and *angulosum* curled and shut up by 9 A. M.!! The *corymbosum* shut up in afternoon. The *perforatum* and *ellipticum* alone were open all day. The four lesser ones are very shy to open and remain open very little while, this weather at least. I suspect that in the fields, also, they are open only very early or on cloudy days. *H. Canadense* and *mutilum* are often fifteen inches high.

The largest and most conspicuous purple pods are those of the *ellipticum*. Those of the *angulosum* and *Canadense* are smaller and more pointed; are also purple, and the *mutilum* perhaps duller purple and less conspicuous.

The pod of the *ellipticum*, when cut, smells like a bee. The united styles arm it like a beak or spine. This appears to be the most nearly out of bloom of all. I am surprised that Gray says it is somewhat four-angled. It is distinctly two-angled and round between.

The Hubbard aster may be the *A. Tradescanti*.¹

The large potamogeton off Dodd's seems to be the *natans*, from size of nutlets, etc. Then there is the second, off Clamshell, a long time out.² And the third, *heterophyllus* (?), or what I have called *hybridus*, also long out.

Drank up the last of my birch wine. It is an exceedingly grateful drink now, especially the aromatic, mead-like, apparently checkerberry-flavored one, which on the whole I think must be the black birch. It is a surprisingly high-flavored drink, thus easily obtained, and considering that it had so little taste at first. Perhaps it would have continued to improve.

P. M. — To Poorhouse Pasture.

Nettle, some time. *Ambrosia botrys*, apparently a few days. *A. Radula*, ditch by pasture, several days apparently. *Lycopus sinuatus*, some time.

I see *young* larks fly pretty well before me.

Smaller bur-reed (*Sparganium Americanum*), judging from form of stigma (ovate and oblique), yet the leaves are almost entirely concave (!), Stow's ditch. Is this the same with that in river? How long?

It is very still and sultry this afternoon, at 6 P. M. even. I cannot even sit down in the pasture for want of air, but must keep up and moving, else I should suffocate. Thermometer ninety-seven and ninety-eight to-day. The pig pants and melts in his pen, and water must be cast on him.

¹ *Vide* Aug. 21, 1854.

² Observed yesterday. *Vide* Aug. 3d.

Agassiz says he has discovered that the haddock, a deep-sea fish, is viviparous.

July 27. *Lobelia cardinalis*, three or four days, with similar white glands (?) on edges of leaves as in *L. spicata*. Why is not this noticed? *Cornus sericea* about done.

As I was paddling by Dodge's Brook, a great devil's-needle lit on my paddle, between my hands. It was about three inches long and three and a half in spread of wings, without spots, black and yellow, with green eyes (?). It kept its place within a few inches of my eyes, while I was paddling some twenty-five rods against a strong wind, clinging closely. Perhaps it chose that place for coolness this hot day.

To-day, as yesterday, it is more comfortable to be walking or paddling at 2 and 3 P. M., when there is wind, but at five the wind goes down and it is very still and suffocating.

I afterward saw other great devil's-needles, the forward part of their bodies light-blue and very stout.

The *Stellaria longifolia* is out of bloom and drying up. *Vide* some of this date pressed.

At Bath Place, above, many yellow lily pads are left high and dry for a long time, in the zizania hollow, a foot or more above the dry sand, yet with very firm and healthy green leaves, almost the only ones not eaten by insects now.

This river is quite low. The yellow lilies stand up seven or eight inches above the water, and, opposite

to Merriam's, the rocks show their brown backs very thick (though some are concealed), like sheep and oxen lying down and chewing the cud in a meadow. I frequently run on to one — glad when it's the smooth side — and am tilted up this way or that, or spin round as on a central pivot. They bear the red or blue paint from many a boat, and here their moss has been rubbed off.

Ceratophyllum is now apparently in bloom commonly, with its crimson-dotted involucre.

I am surprised to find *kalmiana* lilies scattered thinly all along the Assabet, a few *small*, commonly reddish pads in middle of river, but I see no flowers. It is their great bluish waved (some green) radical leaves which I had mistaken for those of the heart-leaf, the floating leaves being so small. These and *vallisneria* washed-up some time. The radical leaves of the heart-leaf are very small and rather triangular.

I see, on a rock in midstream, a peewee within a foot of a turtle, both eying me anxiously within two rods, but not minding each other.

Zizania scarce out some days at least.

July 28. At 1.30 a thunder-shower, which was much needed, the corn having rolled and trees suffered.

3.30 P. M. — To Climbing Fern.

Virgin's-bower, apparently two or three days. *Nabalus albus*, a day or two.

Sand cherry ripe. The fruit droops in umbel-like clusters, two to four peduncles together, on each side the

axil of a branchlet or a leaf. Emerson and Gray call it dark-red. It is black when ripe. Emerson, Gray, and Bigelow speak of it as rare in this State! It is common enough here. I have seen it as abundant as anywhere on Weir (or Ware) Hill in Sudbury, Bigelow's own town.¹ Cherry three eighths of an inch [in] diameter, peduncle seven sixteenths long. Emerson calls it eatable! On Linnaea Hill. By factory road clearing, the small rough sunflower, two or three days. *Gerardia flava*, apparently several days. *Cicuta bulbosa*, several days. Richweed at Brown's oak, several days (since 16th; say 22d).

July 29. Rhexia. Probably would be earlier if not mowed down. What I have called *Hieracium Gronovii*, with three cauline leaves and without veins, has achenia like *H. venosum*; so I will give it up. Its radical leaves are very hairy beneath, especially along midrib. Another smart rain, with lightning.

Pratt gave me a chimney swallow's nest, which he says fell down Wesson's chimney with young in it two or three days ago. As it comes to me, it is in the form of the segment of the circumference of a sphere whose diameter is three and a half inches, the segment being two plus wide, one side, of course, longer than the other. It bears a little soot on the inner side. It may have been placed against a slanting part of the chimney, or perhaps some of the outer edge is broken off. It is composed wholly of stout twigs, one to two inches long, one sixteenth to one eighth inch [in] diameter, held quasi cob-

¹ Was it not choke-berry?

fashion, so as to form a sort of basketwork one third to one half inch thick, without any lining, at least in this, but very open to the air. These twigs, which are quite knobby, seem to be of the apple, elm, and the like, and are firmly fastened together by a very conspicuous whitish semi-transparent glue, which is laid on pretty copiously, sometimes extending continuously one inch. It reminds me of the edible nests of the Chinese swallow. Who knows but their edibility is due to a similar glue secreted by the bird and used still more profusely in building its nests? The chimney swallow is said to break off the twigs as it flies.



Pratt says he one day walked out with Wesson, with their rifles, as far as Hunt's Bridge. Looking downstream, he saw a swallow sitting on a bush very far off, at which he took aim and fired with ball. He was surprised to see that he had touched the swallow, for it flew directly across the river toward Simon Brown's barn, always descending toward the earth or water, not being able to maintain itself; but what surprised him most was to see a second swallow come flying behind and repeatedly strike the other with all his force beneath, so as to toss him up as often as he approached the ground and enable him to continue his flight, and thus he continued to do till they were out of sight. Pratt said he resolved that he would never fire at a swallow again.

Looked at a Sharp's rifle, a Colt's revolver, a Maynard's, and a Thurber's revolver. The last fires fastest

(by a steady pull), but not so smartly, and is not much esteemed.

July 30. P. M. — To *Rudbeckia laciniata* via Assabet. *Amaranthus hybridus* and *albus*, both some days at least; first apparently longest.

This is a perfect dog-day. The atmosphere thick, mildewy, cloudy. It is difficult to dry anything. The sun is obscured, yet we expect no rain. Bad hay weather. The streams are raised by the showers of yesterday and day before, and I see the farmers turning their black-looking hay in the flooded meadows with a fork. The water is suddenly clear, as if clarified by the white of an egg or lime. I think it must be because the light is reflected downward from the overarching dog-day sky. It assists me very much as I go looking for the ceratophyllum, potamogetons, etc. All the secrets of the river bottom are revealed. I look down into sunny depths which before were dark. The wonderful clearness of the water, enabling you to explore the river bottom and many of its secrets now, exactly as if the water had been clarified. This is our compensation for a heaven concealed. The air is close and still. Some days ago, before this weather, I saw haymakers at work dressed simply in a straw hat, boots, shirt, and pantaloons, the shirt worn like a frock over their pants. The laborer cannot endure the contact with his clothes.

I am struck with the splendid crimson-red undersides of the white lily pads where my boat has turned them, at my bath place near the Hemlocks. For these pads, *i. e.* the white ones, are but little eaten yet.

Rudbeckia laciniata, perhaps a week. When I have just rowed about the Island a green bittern crosses in my rear with heavy flapping flight, its legs dangling, not observing me. It looks deep slate-blue above, yellow legs, whitish streak along throat and breast, and slowly plows the air with its prominent breast-bone, like the stake-driver.

July 31. Thursday. P. M. — To Decodon Pond.

Erigeron Canadensis, some time. *Alisma* mostly gone to seed. Thoroughwort, several days. *Penthorum*, a good while. *Trichostema* has now for some time been springing up in the fields, giving out its aromatic scent when bruised, and I see one ready to open.

For a morning or two I have noticed dense crowds of little tender whitish parasol toadstools, one inch or more in diameter, and two inches high or more, with simple plaited wheels, about the pump platform; first fruit of this dog-day weather.

Measured a *Rudbeckia hirta* flower; more than three inches and three eighths in diameter.

As I am going across to Bear Garden Hill, I see much *white Polygala sanguinea* with the red in A. Wheeler's meadow (next to Potter's). Also much of the *Bartonia tenella*, which has been out some days at least, five rods from ditch, and three from Potter's fence.

Went through Potter's *Aster Radula* swamp this dog-day afternoon. As I make my way amid rank weeds still wet with the dew, the air filled with a decaying musty scent and the z-ing of small locusts, I hear the distant

sound of a flail, and thoughts of autumn occupy my mind, and the memory of past years. Some late rue leaves on a broken twig have turned all a uniform clear purple.

How thick the berries — low blackberries, *Vaccinium vacillans*, and huckleberries — on the side of Fair Haven Hill! The berries are large, for no drought has shrunk them. They are very abundant this year to compensate for the want of them the last. The children should grow rich if they can get eight cents a quart for blackberries, as they do.

Again I am attracted by the hoary, as it were misty morning light on the base of the upper leaves of the velvety *Pycnanthemum incanum*. It is the most interesting of this genus here. The smooth sumach is pretty generally crimson-berried on the Knoll, and its lower leaves are scarlet-tipped (though there are some blossoms yet), but the *Rhus copallina* there is not yet out. See dense fields of the great epilobium now in its prime, like soldiers in the meadow, resounding with the hum of bees. The butterflies are seen on the pearly everlasting, etc., etc. *Hieracium paniculatum* by *Gerardia quercifolia* path in woods under Cliffs, two or three days. Elodea two and a half feet high, how long? The flowers at 3 P. M. nearly shut, cloudy as it is. Yet the next day, later, I saw some open, I think.

Another short-tailed shrew dead in the wood-path. Near Well Meadow, hear the distant scream of a hawk, apparently anxious about her young, and soon a large apparent hen-hawk (?) comes and alights on the very top of the highest pine there, within gunshot, and utters

its angry scream. This a sound of the season when they probably are taking their first (?) flights.

See yellow Bethlehem-star still.

As I look out through the woods westward there, I see, sleeping and gleaming through the stagnant, misty, glaucous dog-day air, *i. e.* blue mist, the smooth silvery surface of Fair Haven Pond. There is a singular charm about it in this setting. The surface has a dull, gleaming polish on it, though draped in this glaucous mist.

The *Solidago gigantea* (?), three-ribbed, out a long time at Walden shore by railroad, more perfectly out than any *solidago* I have seen. I will call this *S. gigantea*, yet it has a yellowish-green stem, slightly pubescent above, and leaves slightly rough to touch *above*, rays small, about fifteen.¹

Mine must be the *Aster Radula* (if any) of Gray, yet the scales of the involucre are not appressed, but *rather* sub-squamose, nor is it *rare*. Pursh describes it, or the *Radula*, as *white*-flowered, and mentions several closely allied species.

Waded through the northernmost Andromeda Pond. Decodon not nearly out *there*.

Did I not see some kind of sparrow about the shore, with yellow beneath?

Mountain cranberries apparently full grown, many at least.

¹ *Vide* Aug. 2d.

X

AUGUST, 1856

(ÆT. 39)

Aug. 1. To Ludwigia sphærocarpa.

Burdock, several days at least. Erechthites, apparently two or three days, by Peter's Path, end of Cemetery, the middle flowers first. Crotalaria in fine lechea field, how long? Still out, and some pods fully grown. Liatris will apparently open in a day or two. *Diplopappus umbellatus* at Peter's wall. *Desmodium Canadense*, some time; several great stems five feet high, a little spreading.

Since July 30th, inclusive, we have had perfect dog-days without interruption. The earth has suddenly [become] invested with a thick musty mist. The sky has become a mere fungus. A thick blue musty veil of mist is drawn before the sun. The sun has not been visible, except for a moment or two once or twice a day, all this time, nor the stars by night. Moisture reigns. You cannot dry a napkin at the window, nor press flowers without their mildewing. You imbibe so much moisture from the atmosphere that you are not so thirsty, nor is bathing so grateful as a week ago. The burning heat is tempered, but as you lose sight of the sky and imbibe the musty, misty air, you exist as a vegetable, a fungus. Unfortunate those who have not got their hay. I see them wading in overflowed meadows and pitching

the black and mouldy swaths about in vain that they may dry. In the meanwhile, vegetation is becoming rank, vines of all kinds are rampant. Squashes and melons *are said* to grow a foot in a night. But weeds grow as fast. The corn unrolls. Berries abound and attain their full size. Once or twice in the day there is an imperfect gleam of yellow sunlight for a moment through some thinner part of the veil, reminding us that we have not seen the sun so long, but no blue sky is revealed. The earth is completely invested with cloud-like wreaths of vapor (yet fear no rain and need no veil), beneath which flies buzz hollowly and torment, and mosquitoes hum and sting as if they were born of such an air. The drooping spirits of mosquitoes revive, and they whet their stings anew. Legions of buzzing flies blacken the furniture. (For a week *at least* have heard that snapping sound under pads.¹) We have a dense fog every night, which lifts itself but a short distance during the day. At sundown I see it curling up from the river and meadows. However, I love this moisture in its season. I believe it is good to breathe, wholesome as a vapor bath. Toadstools shoot up in the yards and paths.

The Great Meadows being a little wet, — hardly so much as usual, — I took off my shoes and went barefoot some two miles through the cut-grass, from Peter's to Sphærocarpa Pools and backward by river. Very little grass cut there yet. The cut-grass is bad for tender feet, and you must be careful not to let it draw through your hands, for it will cut like a fine saw.

¹ And of course a great while.

I was surprised to see dense beds of rhexia in full bloom there, apparently on hummocks a rod in diameter left by the ice, or in long ridges mixed with ferns and some *Lysimachia lanceolata*, arrowhead, etc. They make a splendid show, these brilliant rose-colored patches, especially in the neighborhood of Copan. It is about the richest color to be seen now. Yet few ever see them in this perfection, unless the haymaker who levels them, or the birds that fly over the meadow. Far in the broad wet meadows, on the hummocks and ridges, these bright beds of rhexia turn their faces to the heavens, seen only by the bitterns and other meadow birds that fly over. We, dwelling and walking on the dry upland, do not suspect their existence. How obvious and gay to those creatures that fly over the meadow! Seen only by birds and mowers. These gay standards otherwise unfurled in vain.

Snake-head arethusa still in the meadow there. *Ludwigia sphaerocarpa* apparently a week out, a foot and a half to two feet high.

Aug. 2. P. M. — To Hill.

A green bittern comes, noiselessly flapping, with stealthy and inquisitive looking to this side the stream and then that, thirty feet above the water. This antediluvian bird, creature of the night, is a fit emblem of a dead stream like this Musketcook. This especially is the bird of the river. There is a sympathy between its sluggish flight and the sluggish flow of the stream, — its slowly lapsing flight, even like the rills of Musketcook and my own pulse sometimes.

Very common now are the few green emerald leafets of the *Bidens Beckii*, which will ere long yellow the shallow parts.

Acalypha, apparently not long. Dodder, not long (not out 27th of July at railroad bridge), say four or five days. A three-ribbed goldenrod by small apple, by wall at foot east side of Hill (*S. gigantea* ? or one of the two preceding), not nearly out. It differs from *my gigantea* apparently only in the leaves being *perfectly smooth* above and the stem smooth and pink [?] glaucous (excepting a *little* pubescence near the top). Very tall. *Vide* it by and by.

The lower leaves of some catnep are now of that delicate lake or claret color. Some waxwork leaves have felt the heat and slight drought. Their green is spotted with yellow, distinct yellow and green; others a very delicate clear yellow; others faded quite white.

Aug. 3. Sunday. P. M. — To Lee's Cliff by river.

Landing at flat shore. The sium and sarothra apparently now in prime. The central umbel of the sium going or gone to seed. The whorled utricularia is open all day. The *Hypericum ellipticum* is apparently out of bloom, there at least.

At length from July 30th inclusive the cloud-like wreaths of mist of these dog-days lift somewhat, and the sun shines out more or less, a short time, at 3 P. M.

The sun coming out when I am off Clamshell, the abundant small dragon-flies of different colors, bright-blue and lighter, looped along the floating vallisneria, make a very lively and gay appearance. I fancy these

bright loops adorn or set forth the river like triumphal arches for my procession, stretching from side to side. The floating vallisneria is very thick at the shallow bends. I see many of its narrow, erect, spoon-shaped tops.¹

Cornus alternifolia berries ripe, as I go from Holden Swamp shore to Miles Swamp. They are in open cymes, dull-blue, somewhat depressed globular, tipped with the persistent styles, yet already, as usual, mostly fallen. But handsomer far are the pretty (bare) red peduncles and pedicels, like fairy fingers spread. They make a show at a distance of a dozen rods even. Something light and open about this tree, but a sort of witch's tree nevertheless.

The purple utricularia abundant, but I did not chance to notice it July 25th. At Bittern Cliff again lucky enough to find *Polygonum tenue*, apparently out but a short time, say one week at most. Have marked the spot by a stone from the wall; further north than formerly. *Selaginella rupestris* (?) shows yellow fruit now at Bittern Cliff. *Gerardia quercifolia*, three to four feet high, out there, apparently two or three days. Yet none of the leaves I have are twice pinnatifid. Pennyroyal there, apparently some days. *Diplopappus cornifolius*, some time. *Desmodium acuminatum* a long time out and also gone to seed. *Lespedeza hirta*, Blackberry Steep, how long? High blackberries beginning; a few ripe. Parietaria a foot high, some time, under the slippery elm.

What is that tall (four feet), long-bearded grass, now nearly ripe, under this end of Lee's Cliff?

¹ Probably pickerel-weed.

I see blackened haycocks on the meadows. Think what the farmer gets with his hay, — what his river-meadow hay consists of, — how much of fern and osier and sweet-gale and *Polygonum hydropiperoides* and rhexia (I trust the cattle love the scent of it as well as I) and lysimachia, etc., etc., and rue, and sium and cicuta. In a meadow now being mown I see that the ferns and small osiers are as thick as the grass. If modern farmers do not collect elm and other leaves for their cattle, they do thus mow and cure the willows, etc., etc., to a considerable extent, so that they come to large bushes or trees only on the edge of the meadow.

Two small ducks (probably wood ducks) flying south. Already grown, and at least looking south!! It reminds me of the swift revolution of the seasons.

Our river is so sluggish and smooth that sometimes I can trace a boat that has passed half an hour before, by the bubbles on its surface, which have not burst. I have known thus which stream another party had gone up long before. A swift stream soon blots out such traces.

Cirsium lanceolatum at Lee's Cliff, apparently some days. Its leaves are long-pointed and a much darker green than those of the pasture thistle. On the under sides of its leaves I noticed very large ants attending peculiar large dark-colored aphides, for their milch cows.

The prevailing willow off Holden Swamp is *sericea*-like, but the leaf is narrow, more shining above, and merely glaucous beneath, longer-petioled, the serratures not so much bent toward the point. The twigs

not nearly so brittle at the base, but bringing away strings of bark. Stipules probably fallen or inconspicuous. Can it be *S. petiolaris*? and is it the same with that above Hemlocks, north side? Or is it *S. lucida*?¹ *Vide* in press.

Edge of grain-field next Bittern Cliff Wood, common spurge; and, with it, apparently the same, half ascendant and covered or spotted with a minute fungus.

Aug. 4. P. M. — Carried party a-berrying to Conantum in boat.

Lespedeza violacea, perhaps the largest-leaved variety, leaflets one inch by one third inch, petioled, well out on side of Blackberry Steep.

Scare up a young apparently summer duck, floating amid the pads, and the same again, coming within gunshot. I think it young because it is not very shy.

Have heard the alder *cricket* some days. The turning-point is reached.

Conantum hillside is now literally black with berries. What a profusion of this kind of food Nature provides, as if to compensate for the scarcity last year! Fortunate that these cows in their pasture do not love them, but pass them by. The blackberries are already softening, and of all kinds there are many, many more than any or all creatures can gather. They are literally five or six species deep. First, away down in the shade under all you find, still fresh, the great very light blue (*i. e.* with a very thick blue bloom) *Vaccinium Pennsylvanicum* in heavy clusters, that early ambrosial fruit,

¹ No.

delicate-flavored, thin-skinned, and cool, — Olympian fruit; then, next above, the still denser bunches and clusters of *V. vacillans*, of various varieties, firm and sweet, solid food; and, rising above these, large blue and also shining black huckleberries (*Gaylussacia resinosa*) of various flavors and qualities; and over all runs rampant the low blackberry (*Rubus Canadensis*), weighing down the thicket with its wreaths of black fruit. Also here and there the high blackberry, just beginning, towers over all. You go daintily wading through this thicket, picking, perchance, only the biggest of the blackberries — as big as your thumb — and clutching here and there a handful of huckleberries or blueberries, but never, perchance, suspecting the delicious cool blue-bloomed ones under all. This favorable moist weather has expanded some of the huckleberries to the size of bullets. Each patch, each bush, seems fuller and blacker than the last. Such a profusion, yet you see neither birds nor beasts eating them, unless ants and the huckleberry-bug! I carried my hands full of bushes to the boat, and, returning, the two ladies picked fully three pints from these alone, casting the bare bushes into the stream.

Aug. 5. A. M. — On river.

Mikania a day or two. *Polygonum amphibium* in water, slightly hairy, well out. *Polygonum orientale*, how long?

P. M. — To house-leek *via* Assabet Bath.

Trichostema, maybe several days in some places. Nightshade berries, how long?

When I crossed the new stone bridge a great water adder lay on it, full five feet long and nearly as big round as my arm. It turned and ran along, with a coarse grating rustle, to the end of the railing, and then dropped deliberately head foremost from the last abutment, full nine feet, to the gravelly ground, amid the osiers, making a loud sound when he struck; at once took to the water, and showed his head amid the pads. I also saw another similar one at House-leek Rock.

Centaurea well out, how long? *Aster dumosus*, apparently a day or two, with its large conspicuous flower-buds at the end of the branchlets and linear-spatulate involucre scales.

A[t] haunted house site, as at Bittern Cliff grain-field, I see much apparent *Euphorbia maculata* semi-erect in the grass. *Eupatorium pubescens*, by Pear Path.

I now find an abundance of the clustered rubus ripe. It is not large and has a clammy, subacid taste, but some are very sweet. Clusters generally drooping.

Now, at 4 P. M. this dog-day, cloudy weather, the *Hypericum mutilum* is abundantly open in the *Solidago lanceolata* path, sometimes fifteen inches high, while the *Canadense* and *angulatum* are shut. *S. lanceolata*, some days. *S. nemoralis*, two or three days.

Choke-cherries near House-leek Rock begin to be ripe, though still red. They are scarcely edible, but their beauty atones for it. See those handsome racemes of ten or twelve cherries each, dark glossy red, semi-transparent. You love them not the less because they are not quite palatable. Along fences or hedgerows.

To my surprise one house-leek (apparently *Semper-*

vivum tectorum of Dewey) has shot up twenty-two inches high and is apparently nearly out,¹ though the petals are erect, not spread. The stem is clothed with the same thick leaves, only smaller and lessening upward and forming a column about one and a half inches in diameter (with the leaves). The top is a broad raceme (?), about eight inches wide and two thirds as long, of eleven long, spreading, and recurved branches, lined with flowers on the upper side only. These consist of twelve to thirteen lanceolate calyx-segments and as many still longer dull-purple petals and about twenty pistils within and short stamens around them. It is a strange but rather stately cactus-like plant. The children call the pretty clusters of radical leaves hen and chickens. In this case the radical leaves are withered, and a fusi-form root sustains the flower. This one is not on the bare rock, but lower amid the huckleberry bushes.

At the Assabet stone bridge, apparently freshly in flower, — though it may have been out nearly as long as the *androsæmifolium*, — apparently the *Apocynum cannabinum* var. *hypericifolium* (?). The tallest is four feet high. The flowers very small (hardly more than an eighth of an inch in diameter), the segments of the corolla not revolute but nearly erect. There are twenty to thirty flowers at end of a branch. The divisions of the calyx are longer than in the common, long ovate. Yet it differs from Gray's *hypericifolium* in having flowers rose-streaked within like the common, the cymes *not* shorter than the leaves, and the tube of the corolla rather longer than the divisions of the calyx. The leaves

¹ In house the 10th; say then Aug. 10.

are hardly more downy or heart-shaped below than the common. *Hypericifolium* is a separate species in Pursh and some others. And the branches are less ascending than the common, making an angle of about 62° with the stem (the four lower), while three of the lower of a common one make an angle of 44° .

Aug. 6. Copious and continuous rain in the night, deluging, soaking rain, with thunder and lightning, beating down the crops; and this morning it is cooler and clearer and windier.

P. M. — To Walden.

The wind, or motion of the air, makes it much cooler on the railroad causeway or hills, but in the woods it is as close and melting as before. *Solidago altissima*, a small specimen, a day or two. *Apios tuberosa*, some days. *Rubus hispidus* ripe. Middle umbels of the bristly aralia ripe. *Desmodium nudiflorum*, some time out at Peak. It is sometimes three feet high! Holly berries ripe. Clethra, how long? Some anychia shows green seed. *Desmodium rotundifolium*, some days at least. *Cynoglossum Morisoni* mostly gone to seed, roadside, at grape-vine just beyond my bean-field. Some is five feet high. *Aster macrophyllus*, apparently two or three days, at hillside, under beaked hazel. *Eupatorium purpureum* at Stow's Pool, apparently several days, but more common there the tall hollow one, *whorled to top*, also out. Hear a nuthatch. *Hieracium scabrum*.

Artificial, denaturalized persons cannot handle nature without being poisoned. If city-bred girls visit

their country cousins, — go a-berrying with them, — they are sure to return covered with blueberry bumps at least. They exhaust all the lotions of the country apothecary for a week after. Unnamable poisons infect the air, as if they were pursued by imps. I have known those who forbade their children going into the woods at all.

Aug. 7. Hemp, perhaps a week.

Heard this forenoon what I thought at first to be children playing on pumpkin stems in the next yard, but it turned out to be the new steam-whistle music, what they call the Calliope (!) in the next town. It sounded still more like the pumpkin stem near at hand, only a good deal louder. Again I mistook it for an instrument in the house or at the door, when it was a quarter of a mile off, from habit locating it by its loudness. At Acton, six miles off, it sounded like some new seraphim in the next house with the blinds closed. All the milkmen and their horses stood still to hear it. The horses stood it remarkably well. It was not so musical as the ordinary whistle.

P. M. — With a berry party, ride to Conantum.

At Blackberry Steep, apparently an early broad-leaved variety of *Desmodium paniculatum*, two or three days. This and similar plants are common there and may almost name the place. The *D. rotundifolium* is there abundant; also, beside, *Lespedeza hirta* and *capitata*, the elliptic-oblong *L. violacea* and the *angustata*, as also at Heywood Peak. All these plants seem to love a dry open hillside, a steep one. Are rarely

upright, but spreading, wand-like. *Aster patens*, a day or more. *Inula*, some time. *Mulgedium*, perhaps a fortnight. *Eupatorium sessilifolium*, apparently about August 5th. I suspect that I see but one species of smooth-stemmed grape as yet.

I must contrast the *Galium circæzans* and *pilosum* (?) more carefully. *Vide* if the first ever has purple flowers. The only difference, perhaps, that I yet notice is that the leaves of the latter are scarcely three-nerved and are more rounded or obovate, and it is a later plant.



I see that common gall on goldenrods now on an *S. cæsia*.

The river has been raised by the rain, and water stands still in low grass ground. The leaves in low land, as of the mulgedium, are white with mildew, owing [to] the continued dampness of dog-days. One mulgedium at Corner Spring is at least ten feet high and hollow all the way.

Those who have weak eyes complain of the darkness of the late dog-days.

Aug. 8. Rain, lightning, and thunder all day long in torrents. The ground was already saturated on the night of the 5th, and now it fills all gutters and low grounds. No sooner has one thunder-shower swept over and the sky begun to light up a little, than another darkens the west. We were told that lightning cleared the air and so cleared itself, but now we lose our faith in that theory, for we have thunder[-shower] after thunder-shower and lightning is become a drug. Na-

ture finds it just as easy to lighten the last time as at first, and we cannot believe that the air was so very impure.

3.30 P. M. — When I came forth, thinking to empty my boat and go a-meditating along the river,—for the full ditches and drenched grass forbade other routes, except the highway,—and this is one advantage of a boat,—I learned to my chagrin that Father's pig was gone. He had leaped out of the pen some time since his breakfast, but his dinner was untouched. Here was an ugly duty not to be shirked,—a wild shoat that weighed but ninety to be tracked, caught, and penned,—an afternoon's work, at least (if I were lucky enough to accomplish it so soon), prepared for me, quite different from what I had anticipated. I felt chagrined, it is true, but I could not ignore the fact nor shirk the duty that lay so near to me. Do the duty that lies nearest to thee. I proposed to Father to sell the pig as he was running (somewhere) to a neighbor who had talked of buying him, making a considerable reduction. But my suggestion was not acted on, and the responsibilities of the case all devolved on me, for I could run faster than Father. Father looked to me, and I ceased to look to the river. Well, let us see if we can track him. Yes, this is the corner where he got out, making a step of his trough. Thanks to the rain, his tracks are quite distinct. Here he went along the edge of the garden over the water and muskmelons, then through the beans and potatoes, and even along the front-yard walk I detect the print of his divided hoof, his two sharp toes (*ungulæ*). It's a wonder we

did not see him. And here he passed out under the gate, across the road, — how naked he must have felt! — into a grassy ditch, and whither next? Is it of any use to go hunting him up unless you have devised some mode of catching him when you have found? Of what avail to know where he has been, even where he is? He was so shy the little while we had him, of course he will never come back; he cannot be tempted by a swill-pail. Who knows how many miles off he is! Perhaps he has taken the back track and gone to Brighton, or Ohio! At most, probably we shall only have the satisfaction of glimpsing the nimble beast at a distance, from time to time, as he trots swiftly through the green meadows and corn-fields. But, now I speak, what is that I see pacing deliberately up the middle of the street forty rods off? It is *he*. As if to tantalize, to tempt us to waste our afternoon without further hesitation, he thus offers himself. He roots a foot or two and then lies down on his belly in the middle of the street. But think not to catch him a-napping. He has his eyes about, and his ears too. He has already been chased. He gives that wagon a wide berth, and now, seeing me, he turns and trots back down the street. He turns into a front yard. Now if I can only close that gate upon him ninety-nine hundredths of the work is done, but ah! he hears me coming afar off, he foresees the danger, and, with swinish cunning and speed, he scampers out. My neighbor in the street tries to head him; he jumps to this side the road, then to that, before him; but the third time the pig was there first and went by. "Whose is it?" he shouts. "It's ours." He bolts into that neighbor's

yard and so across his premises. He has been twice there before, it seems; he knows the road; see what work he has made in his flower-garden! He must be fond of bulbs. Our neighbor picks up one tall flower with its bulb attached, holds it out at arm's length. He is excited about the pig; it is a subject he is interested in. But where is [he] gone now? The last glimpse I had of him was as he went through the cow-yard; here are his tracks again in this corn-field, but they are lost in the grass. We lose him; we beat the bushes in vain; he may be far away. But hark! I heard a grunt. Nevertheless for half an hour I do not see him that grunted. At last I find fresh tracks along the river, and again lose them. Each neighbor whose garden I traverse tells me some anecdote of losing pigs, or the attempt to drive them, by which I am not encouraged. Once more he crosses our first neighbor's garden and is said to be in the road. But I am not there yet; it is a good way off. At length my eyes rest on him again, after three quarters of an hour's separation. There he trots with the whole road to himself, and now again drops on his belly in a puddle. Now he starts again, seeing me twenty rods [off], deliberates, considers which way I want him to go, and goes the other. There was some chance of driving him along the sidewalk, or letting him go rather, till he slipped under our gate again, but of what avail would that be? How corner and catch him who keeps twenty rods off? He never lets the open side of the triangle be less than half a dozen rods wide. There was one place where a narrower street turned off at right angles with the main one, just this side our yard, but I could

not drive him past that. Twice he ran up the narrow street, for he knew I did not wish it, but though the main street was broad and open and no traveller in sight, when I tried to drive him past this opening he invariably turned his piggish head toward me, dodged from side to side, and finally ran up the narrow street or down the main one, as if there were a high barrier erected before him. But really he is no more obstinate than I. I cannot but respect his tactics and his independence. He will be he, and I may be I. He is not unreasonable because he thwarts me, but only the more reasonable. He has a strong will. He stands upon his idea. There is a wall across the path not where a man bars the way, but where he is resolved not to travel. Is he not superior to man therein? Once more he glides down the narrow street, deliberates at a corner, chooses wisely for him, and disappears through an openwork fence eastward. He has gone to fresh gardens and pastures new. Other neighbors stand in the doorways but half sympathizing, only observing, "Ugly thing to catch." "You have a job on your hands." I lose sight of him, but hear that he is far ahead in a large field. And there we try to let him alone a while, giving him a wide berth.

At this stage an Irishman was engaged to assist. "I can catch him," says he, with Buonapartean confidence. He thinks him a family Irish pig. His wife is with him, bareheaded, and his little flibbertigibbet of a boy, seven years old. "Here, Johnny, do you run right off there" (at the broadest possible angle with his own course). "Oh, but he can't do anything." "Oh, but I only want him to tell me where he is, — to keep

sight of him." Michael soon discovers that he is not an Irish pig, and his wife and Johnny's occupation are soon gone. Ten minutes afterward I am patiently tracking him step by step through a corn-field, a near-sighted man helping me, and then into garden after garden far eastward, and finally into the highway, at the graveyard; but hear and see nothing. One suggests a dog to track him. Father is meanwhile selling him to the blacksmith, who also is trying to get sight of him. After fifteen minutes since he disappeared eastward, I hear that he has been to the river twice far on [?] the north, through the first neighbor's premises. I wend that way. He crosses the street far ahead, Michael behind; he dodges up an avenue. I stand in the gap there, Michael at the other end, and now he tries to corner him. But it is a vain hope to corner him in a yard. I see a carriage-manufactory door open. "Let him go in there, Flannery." For once the pig and I are of one mind; he bolts in, and the door is closed. Now for a rope. It is a large barn, crowded with carriages. The rope is at length obtained; the windows are barred with carriages lest he bolt through. He is resting quietly on his belly in the further corner, thinking unutterable things.

Now the course recommences within narrower limits. Bump, bump, bump he goes, against wheels and shafts. We get no hold yet. He is all ear and eye. Small boys are sent under the carriages to drive him out. He froths at the mouth and deters them. At length he is stuck for an instant between the spokes of a wheel, and I am securely attached to his hind leg. He squeals deafen-

ingly, and is silent. The rope is attached to a hind leg. The door is opened, and the *driving* commences. Roll an egg as well. You may drag him, but you cannot drive him. But he is in the road, and now another thunder-shower greets us. I leave Michael with the rope in one hand and a switch in the other and go home. He seems to be gaining a little westward. But, after long delay, I look out and find that he makes but doubtful progress. A boy is made to face him with a stick, and it is only when the pig springs at him savagely that progress is made homeward. He will be killed before he is driven home. I get a wheelbarrow and go to the rescue. Michael is alarmed. The pig is rabid, snaps at him. We drag him across the barrow, hold him down, and so, at last, get him home.

If a wild shoat like this gets loose, first track him if you can, or otherwise discover where he is. Do not scare him more than you can help. Think of some yard or building or other inclosure that will hold him and, by showing your forces — yet as if uninterested parties — fifteen or twenty rods off, let him of his own accord enter it. Then slightly shut the gate. Now corner and tie him and put him into a cart or barrow.

All progress in driving at last was made by facing and endeavoring to switch him from home. He rushed upon you and made a few feet in the desired direction. When I approached with the barrow he advanced to meet it with determination.

So I get home at dark, wet through and supperless, covered with mud and wheel-grease, without any rare flowers.

To the eyes of men there is something tragic in death. We hear of the death of any member of the human family with something more than regret, — not without a slight shudder and feeling of commiseration. The churchyard is a *grave* place.

Aug. 9. Saturday. Notwithstanding the very copious rain, with lightning, on the night of August 5th and the deluge which fell yesterday, raising the river still higher, it rained again and again with very vivid lightning, more copiously than ever, last night, and without long intervals all this day. Few, if any, can remember such a succession of thunder-storms merged into one long thunder-storm, lasting almost continuously (the storm does) two nights and two days. We are surprised to see that it can lighten just as vividly, thunder just as loud, rain just as copiously at last as at first.

P. M. — Up Assabet.

The river is raised about two feet! My boat is nearly even full, though under the willows. The water stands nearly a foot over the highest part of the large flat rock by Island. There is more current. The pads are drowned; hardly one to be seen afloat; the utmost length of their tethers does not permit them to come within a foot or ten inches of the surface. They lay smoothly on the top before, with considerable spare coil beneath; now they strain in vain toward the surface. All the *Bidens Beckii* is drowned too, and will be delayed, if not exterminated for this year. The water is cool to the bather after so much rain.

The notes of the wood pewee and warbling vireo are more prominent of late, and of the goldfinch twittering over. Does the last always utter his twitter when ascending? These are already feeding on the thistle seeds.

Again I am surprised to see the *Apocynum cannabinum* close to the rock at the Island, several plants, apparently not more than ten days out; say July 25th, including the ones I saw before. The flowers of this are white, with divisions of the corolla erect or nearly so, corolla not one eighth of an inch wide, calyx-segments lanceolate, pointed, *as long as* the tube of the corolla. I now notice that *all* the branches are about equally upright, and hence the upper ones are much more upright than the upper ones of the *A. androsæmifolium*. The plant is inclined to be taller and narrower than that, perhaps because it grows by water. The leaves are more oblong or lanceolate and pointed, the downiness and petioles about the same with that of the common; in this case, none heart-shaped. The one found the 5th was between this and the common, a rose-streaked one, in fact colored like the common; this, a *white* one with still longer calyx-segments and no heart-shaped leaves. This is rather smooth. Say, then, for that of the 5th and this, they are varieties of the *A. cannabinum*.¹

¹ At Astor Library, New York, Nov. 8th, 1856, in Richardson's *Flora Boreali*, etc., the leaves of *Apocynum cannabinum* in the plate are an inch or more beyond the flowers, and not hearted! Of the *A. hypericifolium*, the lower leaves are decidedly hearted, and the flowers are about terminal.

I scare up a couple of wood ducks separately, undoubtedly birds bred and dispersed about here. The rise of the river attracts them.

What I have called *Aster corymbosus* out a day, above Hemlocks. It has eight to twelve white rays, smaller than those of the *macrophyllus*, and a dull-red stem commonly. It differs from Gray's *corymbosus* in the achenia being apparently *not* slender, not opening in July, and there being no need of distinguishing it from *A. macrophyllus*; from his *cordifolius* in the rays *not* being numerous, nor the paniced heads very numerous (sometimes pretty numerous), and the rays not pale-blue. Perhaps I must call it *A. cordifolius*, yet the lower and principal petioles are naked (Gray makes them so commonly!), not at all winged, though the upper are. Found one individual at Miles Swamp whose lower petioles were winged. Its petioles (the lower) are only sometimes winged here. The flowers of *A. macrophyllus* are white with a very slight bluish tinge, in a coarse flat-topped corymb. Flowers nine to ten eighths of an inch in diameter. *A. cordifolius* flowers six eighths of an inch [in] diameter.

Aug. 10. *Sunday*. The weather is fair and clear at last. The dog-days over at present, which have lasted since July 30th.

P. M. — To Fair Haven Hill and Walden.

Fragrant everlasting, maybe some days.

Rhus copallina not yet for two or three days. The *Pycnanthemum incanum*, the handsomest of the pycnanthemums, grows also at the west end [of] the Knoll

with the *R. copallina*. All the upper leaves are equally hoary there in the light. The corymbs are an inch across, and the flowers large and very prettily purple-spotted. They are swarming with great wasps of different kinds, and bees.

Hear the wood thrush still.

I go across lots like a hunting dog. With what tireless energy and abandonment they dash through the brush and up the sides of hills! I meet two white foxhounds, led by an old red one. How full of it they are! How their tails work! They are not tied to paths; they burst forth from the thickest shrub oak lot, and immediately dive into another as the fox did.

There are more varieties of blackberries between the low and the high than I take notice of. *Vide* that kind in the Well Meadow Field.

The fine (early sedge?) grass in the frosty hollows about Walden (where no bushes have sprung up) looks like an unkempt head.

Vernonia, how long?

The river has been rising all day. It is between two and a half and three feet higher than ten days ago. Even the white umbels of the sium are drowned, except here and there where they stand over the water. It is within nine and a half inches of the top of Hoar's wall at 6 P. M. The meadows have quite a springlike look, yet the grass conceals the extent of the flood. It appears chiefly where it is mown. Yet a quarter part as much rain would have raised the river more in the spring, so much of it was soaked up by the thirsty earth.

Aug. 11. This morning the river is an inch and a half higher, or within eight inches of the top of Hoar's wall.

The other evening, returning down the river, I think I detected the convexity of the earth within a short distance. I saw the western landscape and horizon, reflected in the water fifty rods behind me, all lit up with the reflected sky, though it was a narrow [?] picture. A stroke of my oar and the dark intervening water was interposed like a dark, opaque wall. Moving my head a few inches up or down produced the same effect; *i. e.*, by raising my head three inches I could partially oversee the plane of the water at that point, which was otherwise concealed by the slightest convexity.

P. M. — Walk to Conantum with Mr. Bradford. He gives me a sprig of *Cassia Marilandica*, wild senna, found by Minot Pratt just below Leighton's by the roadside. How long? P. thought it in prime August 10th.¹ *Aster puniceus* a day or more. A new sunflower at Wheeler's Bank, this side Corner Spring, which I will call the *tall* rough sunflower; opened say August 1st (?). (I saw it out the 7th.) It does not correspond exactly to any described. Stem three to six feet high, branched at top, purple with a bloom, roughish, especially the peduncles. Leaves opposite, except a few small ones amid the branches, thick, ovate or ovate-lanceolate, taper-pointed, three-nerved, obscurely and remotely toothed, rough above, smooth and whitish below, abruptly contracted into margined petioles. Scales of the involucre lanceolate, taper-pointed, subequal, exceeding the disk,

¹ *Vide* 16th [*Journal*, vol. ix, p. 4].

ciliate; rays eight or nine, one and a half or more inches long, chaff black. Edge of meadow.

Measured a mulgedium, eight feet three inches long and hollow all the way. Some boy had fixed an archangelica stem so as to conduct the water at the spring close by. Elder-berries in a day or two. I see some *Hypericum angulosum* turned a delicate clear purple. *Polygonum dumetorum* at Bittern Cliff, one flower gone to seed (!); say day or two.

7 P. M. — The river has risen about two inches to-day, and is now within six inches of the top of Hoar's wall.

Aug. 12. 11 A. M. — To Hill.

The *Hypericum mutilum* is well out at this hour. The river is now at a standstill, some three feet above its usual level. The pickerel-weed is all covered, and lilies, and much of the button-bush and mikania. It is as great an accident as can befall these flowers.

It is novel to behold this great, full tide in which you perceive some current by the eddies, in which no snarl of weeds is seen. So different from that Potamogeton River, where you caught a crab at every stroke of the oar, and farmers drove their hay-carts across. Instead of watery gleaming fields of potamogetons in which the boatman was entangled, and drifting vallisneria on which the dragon-flies alighted, I see a deep full river on which vessels may float, and I feel at a distance from *terra firma* when on its bosom.

P. M. — To Moore's Swamp.

Gerardia purpurea, two or three days. The mulgedium in that swamp is very abundant and a very stately plant, so erect and soldier-like, in large companies, rising above all else, with its very regular long, sharp, elliptic head and bluish-white flowers.



Again I examine that very strict solidago, which perhaps I must call wand-stemmed. Perhaps it is only a swamp variety of *S. stricta*, yet the leaves are thicker and darker(?) -green, and the upper commonly broader, often elliptic, pointed, less recurved and not wavy. Stem and head is *now* commonly much more strict and branches more erect, and racemes less one-sided, but in larger and maturer ones they are at length recurving and forming a pyramid like *S. stricta*. Rays are fewer and broader, five or six; stem reddish, with apparently more branchlets or leaflets in axils.¹

Am surprised to see still a third species or variety of helianthus (which may have opened near August 1st, say only a week). Only the first flowers out. At edge of the last clearing south of spring. I cannot identify it. It has very short but not margined petioles; leaves narrower than yesterday's, and rough beneath as well as above. The outer scales of involucre a little the longest; but I think this of little importance, for the involucre of the *H. divaricatus* is very variable, hardly two alike; rays about ten. In some respects it is most like *H. strumosus*, but not downy beneath.²

¹ *Vide* Aug. 30th.

² It has decidedly thick leaves, unlike that of Aug. 29, and flowers two and a half or more inches in diameter.

The bruised leaves of these helianthus are rather fragrant.

It is thick, smoky, dog-day weather again. Bradford speaks of the dog's-tooth violet as a plant which disappears early.

The *Aster patens* is very handsome by the side of Moore's Swamp on the bank, — large flowers, more or less purplish or violet, each commonly (four or five) at the end of a long peduncle, three to six inches long, at right angles with the stem, giving it an open look. Snake-head, or chelone. On the edge of the ditch opposite the spring, *Epilobium coloratum*, and also what I must call *E. palustre* of Willdenow and Pursh and Eaton. It is smooth or smoothish, leaves somewhat toothed or subdenticulate, peduncle one inch long, flowers white.

The most interesting domes I behold are not those of Oriental temples and palaces, but of the toadstools. On this knoll in the swamp they are little pyramids of Cheops or Cholula, which also stand on the plain, very delicately shaded off. They have burst their brown tunics as they expanded, leaving only a clear-brown apex, and on every side these swelling roofs or domes are patched and shingled with the fragments, delicately shaded off thus into every tint of brown to the edge. As if this creation of a night would thus imitate the weather-stains of centuries. Toads' temples. So charming is gradation! ¹

Gerardia pedicularia, how long?

What a wilderness of weeds is Moore's Swamp now!

¹ [Channing, p. 290.]

Tall rough goldenrods, erechthites, poke, *Aster Radula*, dogwood, etc., etc. It looks as if the potatoes which grew there would be poisonous.

An arrowhead in Peter's Path. How many times I have found an arrowhead by that path, as if that had been an Indian trail! Perchance it was, for some of the paths we travel are much older than we think, especially some which the colored race in our midst still use, for they are nearest to the Indian trails. The Emerson children say that *Aralia nudicaulis* berries are good to eat.

The leaves of *Sericocarpus conyzoides* are fragrant when bruised. Black cherries ripe.

Labor Lost. — For one of this generation to talk with a man of the old school. You might have done a solid work the meanwhile with a contemporary. I thought of this when I saw Neighbor B., the worthy man! and thought of my interviews with him. If I could only get the parish clerk to read what I have to say to him!

Saw the primrose open at sundown. The corolla burst part way open and unfolded rapidly; the sepals flew back with a smart spring. In a minute or two the corolla was opened flat and seemed to rejoice in the cool, serene light and air.

Lespedeza capitata, not long.

The sarothra — as well as small hypericums generally — has a lemon scent.

The late rains have tried the roofs severely. Tenants have complained to their landlords, and now I see carpenters setting up their staging and preparing to shingle on various sides.

Aug. 13. P. M. — To Conantum.

Beck says of the small *circæa* (*C. alpina*), "Many botanists consider this a mere variety of the preceding." I am not sure but it is more deeply toothed than the large.¹ Its leaves are of the same color with those of the large at Bittern Cliff, but more decidedly toothed; *q. v.* Why does it not grow larger at Corner Spring?

The root of the *Polygala verticillata* also has the checkerberry odor.

In Bittern Cliff Woods that (apparently) very oblong elliptical leafed *Lespedeza violacea* (?), growing very loose and open on a few long petioles, one foot high by four or five inches wide. Is this because it grows in woods? It is not in bloom.

Is there not now a prevalence of aromatic herbs in prime? — The polygala roots, blue-curls, wormwood, pennyroyal, *Solidago odora*, rough sunflowers, horse-mint, etc., etc. Does not the season require this tonic?

I stripped off a shred of Indian hemp bark and could not break it. It is as strong as anything of the kind I know.

Aug. 14. P. M. — To Flint's Pond *via* Saw Mill Brook.

Aster Tradescanti, apparently a day or two. Hypopitys, just beyond the last large (two-stemmed) chestnut at Saw Mill Brook, about done. Apparently a fungus-like plant. It erects itself in seed. *Gymnadenia* nearer the brook, how long? Is that slender erect shrub near oak stump at Saw Mill *Cornus circinata*?²

¹ It is as far as I observe.

² *Viburnum nudum*.

Solidago odora abundantly out.

The low wood-paths are strewn with toadstools now, and I begin to perceive their musty scent, — great *tumbae*, or, as R. W. E. says, *tuguria*, — crowding one another by the path-side when there was not a fellow in sight; great towers that have fallen and made the plain shake; ponderous wheels that have lost their fellows, broken their axles, abandoned by the toady or swampy teamsters. Some whose eaves have been nibbled apparently by turtles. Ricketson says he saw a turtle eating a toadstool once. Some great dull-yellow towers, — towers of strength, to judge from their mighty columns, — like the South African honey-birds' (?) nests.

The recent heavy rains have caused many leaves to fall, especially chestnut. They already spot the ground, rapidly yellowing and very handsomely spotted. I never weary of their colors. I see those eye-spots on the low hickory leaves also. All the Flint's Pond wood-paths are strewn with these gay-spotted chestnut leaves, and the changing sarsaparilla leaves begin to yellow the forest floor.

Sedum Telephium, some time. Flowering blackberry ¹ still. A short elliptic-leaved *Lespedeza violacea*, loose and open in Veery Nest Path, at Flint's Pond. In press.

On roadside heap at Emerson's, a portulaca with leaves one inch wide and seven petals (!) instead of five.

Meet a little boy with six young blind mice in his

¹ Raspberry?

hat, which Horatio Watts has given [him]. He did not find them till he came to fork over and turn the hay. There were six of these little brown blind meadow mice (I suppose *Arvicola hirsutus?*), with short tails and blunt muzzles and great heads, looking like little bulldogs. The nest was open on the surface amid the roots of the grass; of dried grass, like a bird's, three and a half inches [in] diameter, with a gallery or two leading from it. Watts said these were the kind that clung to the mother! But why did they not? Sometimes find nine of them.

Aug. 15. Friday. P. M. — To Minot Pratt's.

Pratt is collecting his parsnip seed. This the second or third cutting. It takes three cuttings, the central umbellets ripening first. It takes a sharp knife not to shake out the seeds, and, as it is, enough to seed ten times the ground is lost. Almost every one is poisoned, says P., by this work. The skin comes off the back of the hand, making tanned hands look white-spotted. This from handling the parsnip in its second year only. Great rank poisonous-looking and really poisonous parsnips gone to seed. It is not quite time to cut the carrot seed.

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