

SIGNS AND SEASONS

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A RIVER VIEW

A SMALL river or stream flowing by one's door has many attractions over a large body of water like the Hudson. One can make a companion of it; he can walk with it and sit with it, or lounge on its banks, and feel that it is all his own. It becomes something private and special to him. You cannot have the same kind of attachment and sympathy with a great river; it does not flow through your affections like a lesser stream. The Hudson is a long arm of the sea, and it has something of the sea's austerity and grandeur. I think one might spend a lifetime upon its banks without feeling any sense of ownership in it, or becoming at all intimate with it: it keeps one at arm's length. It is a great highway of travel and of commerce; ships from all parts of our seaboard plow its waters.

But there is one thing a large river does for one that is beyond the scope of the companionable streams, — it idealizes the landscape, it multiplies and heightens the beauty of the day and of the season. A fair day it makes more fair, and a wild and tempestuous day it makes more wild and tempestuous. It takes on so quickly and completely

the mood and temper of the sky above. The storm is mirrored in it, and the wind chafes it into foam. The face of winter it makes doubly rigid and corpse-like. How stark and still and white it lies there! But of a bright day in spring, what life and light possess it! How it enhances or emphasizes the beauty of those calm, motionless days of summer or fall, — the broad, glassy surface perfectly duplicating the opposite shore, sometimes so smooth that the finer floating matter here and there looks like dust upon a mirror; the becalmed sails standing this way and that, drifting with the tide. Indeed, nothing points a calm day like a great motionless sail; it is such a conspicuous bid for the breeze which comes not.

I have observed that when the river is roily, the fact is not noticeable on a calm day; a glassy surface is a kind of mask. But when the breeze comes and agitates it a little, its real color comes out.

"Immortal water," says Thoreau, "alive to the superficies." How sensitive and tremulous and palpitating this great river is! It is only in certain lights, on certain days, that we can see how it quivers and throbs. Sometimes you can see the subtle tremor or impulse that travels in advance of the coming steamer and prophesies of its coming. Sometimes the coming of the flood-tide is heralded in the same way. Always, when the surface is calm enough and the light is favorable, the river seems shot through and through with tremblings and premonitions.

The river never seems so much a thing of life as in the spring when it first slips off its icy fetters. The dead comes to life before one's very eyes. The rigid, pallid river is resurrected in a twinkling. You look out of your window one moment, and there is that great, white, motionless expanse; you look again, and there in its place is the tender, dimpling, sparkling water. But if your eyes are sharp, you may have noticed the signs all the forenoon; the time was ripe, the river stirred a little in its icy shroud, put forth a little streak or filament of blue water near shore, made breathing-holes. Then, after a while, the ice was rent in places, and the edges crushed together or shoved one slightly upon the other; there was apparently something growing more and more alive and restless underneath. Then suddenly the whole mass of the ice from shore to shore begins to move downstream, — very gently, almost imperceptibly at first, then with a steady, deliberate pace that soon lays bare a large expanse of bright, dancing water. The island above keeps back the northern ice, and the ebb tide makes a clean sweep from that point south for a few miles, until the return of the flood, when the ice comes back.

After the ice is once in motion, a few hours suffice to break it up pretty thoroughly. Then what a wild, chaotic scene the river presents: in one part of the day the great masses hurrying downstream, crowding and jostling each other, and struggling for the right of way; in the other, all running up-

stream again, as if sure of escape in that direction. Thus they race up and down, the sport of the ebb and flow; but the ebb wins each time by some distance. Large fields from above, where the men were at work but a day or two since, come down; there is their pond yet clearly defined and full of marked ice; yonder is a section of their canal partly filled with the square blocks on their way to the elevators; a piece of a race-course, or a part of a road where teams crossed, comes drifting by. The people up above have written their winter pleasure and occupations upon this page, and we read the signs as the tide bears it slowly past. Some calm, bright days the scattered and diminished masses glide by like white clouds across an April sky.

At other times, when the water is black and still, the river looks like a strip of the firmament at night, dotted with stars and moons in the shape of little and big fragments of ice. One day, I remember, there came gliding into my vision a great irregular hemisphere of ice, that vividly suggested the half moon under the telescope; its white uneven surface, pitted and cracked, the jagged inner line, the outward curve, but little broken, and the blue-black surface upon which it lay, all recalled the scenery of the midnight skies. It is only in exceptionally calm weather that the ice collects in these vast masses, leaving broad expanses of water perfectly clear. Sometimes, during such weather, it drifts by in forms that suggest the great continents,

as they appear upon the map, surrounded by the oceans, all their capes and peninsulas, and isthmuses and gulfs, and inland lakes and seas, vividly reproduced.

If the opening of the river is gentle, the closing of it is sometimes attended by scenes exactly the reverse.

A cold wave one December was accompanied by a violent wind, which blew for two days and two nights. The ice formed rapidly in the river, but the wind and waves kept it from uniting and massing. On the second day the scene was indescribably wild and forbidding; the frost and fury of December were never more vividly pictured: vast crumpled, spumy ice-fields interspersed with stretches of wildly agitated water, the heaving waves thick with forming crystals, the shores piled with frozen foam and pulverized floes. After the cold wave had spent itself and the masses had become united and stationary, the scene was scarcely less wild. I fancied the plain looked more like a field of lava and scoria than like a field of ice, an eruption from some huge frost volcano of the north. Or did it suggest that a battle had been fought there, and that this wild confusion was the ruin wrought by the contending forces?

No sooner has the river pulled his icy coverlid over him than he begins to snore in his winter sleep. It is a singular sound. Thoreau calls it a "whoop," Emerson a "cannonade," and in "Merlin" speaks of

"the gasp and moan
Of the ice-imprisoned flood."

Sometimes it is a well-defined grunt, — *e-h-h, e-h-h*, as if some ice-god turned uneasily in his bed.

One fancies the sound is like this, when he hears it in the still winter nights seated by his fireside, or else when snugly wrapped in his own bed.

One winter the river shut up in a single night, beneath a cold wave of great severity and extent. Zero weather continued nearly a week, with a clear sky and calm, motionless air; and the effect of the brilliant sun by day and of the naked skies by night upon this vast area of new black ice, one expanding it, the other contracting, was very marked.

A cannonade indeed! As the morning advanced, out of the sunshine came peal upon peal of soft mimic thunder; occasionally becoming a regular crash, as if all the ice batteries were discharged at once. As noon approached, the sound grew to one continuous mellow roar, which lessened and became more intermittent as the day waned, until about sundown it was nearly hushed. Then, as the chill of night came on, the conditions were reversed, and the ice began to thunder under the effects of contraction; cracks opened from shore to shore, and grew to be two or three inches broad under the shrinkage of the ice. On the morrow the expansion of the ice often found vent in one of these cracks; the two edges would first crush together, and then gradually overlap each other for two feet or more.

This expansive force of the sun upon the ice is

sometimes enormous. I have seen the ice explode with a loud noise and a great commotion in the water, and a huge crack shoot like a thunderbolt from shore to shore, with its edges overlapping and shivered into fragments.

When unprotected by a covering of snow, the ice, under the expansive force of the sun, breaks regularly, every two or three miles, from shore to shore. The break appears as a slight ridge, formed by the edges of the overlapping ice.

This icy uproar is like thunder, because it seems to proceed from something in swift motion; you cannot locate it; it is everywhere and yet nowhere. There is something strange and phantom-like about it. To the eye all is still and rigid, but to the ear all is in swift motion.

This crystal cloud does not open and let the bolt leap forth, but walk upon it and you see the ice shot through and through in every direction with shining, iridescent lines where the force passed. These lines are not cracks which come to the surface, but spiral paths through the ice, as if the force that made them went with a twist like a rifle bullet. In places several of them run together, when they make a track as broad as one's hand.

Sometimes, when I am walking upon the ice and this sound flashes by me, I fancy it is like the stroke of a gigantic skater, one who covers a mile at a stride and makes the crystal floor ring beneath him. I hear his long tapering stroke ring out just beside me, and then in a twinkling it is half a mile away.

A fall of snow, and this icy uproar is instantly hushed, the river sleeps in peace. The snow is like a coverlid, which protects the ice from the changes of temperature of the air, and brings repose to its uneasy spirit.

A dweller upon its banks, I am an interested spectator of the spring and winter harvests which its waters yield. In the stern winter nights, it is a pleasant thought that a harvest is growing down there on those desolate plains which will bring work to many needy hands by and by, and health and comfort to the great cities some months later. When the nights are coldest, the ice grows as fast as corn in July. It is a crop that usually takes two or three weeks to grow, and, if the water is very roily or brackish, even longer. Men go out from time to time and examine it, as the farmer goes out and examines his grain or grass, to see when it will do to cut. If there comes a deep fall of snow before the ice has attained much thickness, it is "pricked," so as to let the water up through and form snow-ice. A band of fifteen or twenty men, about a yard apart, each armed with a chisel-bar and marching in line, puncture the ice at each step with a single sharp thrust. To and fro they go, leaving a belt behind them that presently becomes saturated with water. But ice, to be first quality, must grow from beneath, not from above. It is a crop quite as uncertain as any other. A good yield every two or three years, as they say of wheat out West, is about all that can be counted upon. When

there is an abundant harvest, after the ice-houses are filled, they stack great quantities of it, as the farmer stacks his surplus hay.

The cutting and gathering of the ice enlivens these broad, white, desolate fields amazingly. One looks down upon the busy scene as from a hill-top upon a river meadow in haying time, only here the figures stand out much more sharply than they do from a summer meadow. There is the broad, straight, blue-black canal emerging into view, and running nearly across the river; this is the highway that lays open the farm. On either side lie the fields or ice-meadows, each marked out by cedar or hemlock boughs. The farther one is cut first, and, when cleared, shows a large, long, black parallelogram in the midst of the plain of snow. Then the next one is cut, leaving a strip or tongue of ice between the two for the horses to move and turn upon. Sometimes nearly two hundred men and boys, with numerous horses, are at work at once, marking, plowing, planing, scraping, sawing, hauling, chiseling; some floating down the pond on great square islands towed by a horse, or their fellow-workmen; others distributed along the canal, bending to their ice-hooks; others upon the bridges, separating the blocks with their chisel-bars; others feeding the elevators; while knots and straggling lines of idlers here and there look on in cold discontent, unable to get a job.

The best crop of ice is an early crop. Late in the season, or after January, the ice is apt to get

"sunstruck," when it becomes "shaky," like a piece of poor timber. The sun, when he sets about destroying the ice, does not simply melt it from the surface, — that were a slow process; but he sends his shafts into it and separates it into spikes and needles, — in short, makes kindling-wood of it, so as to consume it the quicker.

One of the prettiest sights about the ice-harvesting is the elevator in operation. When all works well, there is an unbroken procession of the great crystal blocks slowly ascending this incline. They go up in couples, arm in arm, as it were, like friends up a stairway, glowing and changing in the sun, and recalling the precious stones that adorned the walls of the celestial city. When they reach the platform where they leave the elevator, they seem to step off like things of life and volition; they are still in pairs, and separate only as they enter upon the "runs." But here they have an ordeal to pass through, for they are subjected to a rapid inspection by a man with a sharp eye in his head and a sharp ice-hook in his hand, and the black sheep are separated from the flock; every square with a trace of sediment or earth-stain in it, whose texture is not the perfect and unclouded crystal, is rejected, and sent hurling down into the abyss. Those that pass the examination glide into the building along the gentle incline, and are switched off here and there upon branch runs, and distributed to all parts of the immense interior. When the momentum becomes too great, the blocks

run over a board full of nails or spikes, that scratch their bottoms and retard their progress, giving the looker-on an uncomfortable feeling.

A beautiful phenomenon may at times be witnessed on the river in the morning after a night of extreme cold. The new black ice is found to be covered with a sudden growth of frost ferns, — exquisite fern-like formations from a half inch to an inch in length, standing singly and in clusters, and under the morning sun presenting a most novel appearance. They impede the skate, and are presently broken down and blown about by the wind.

The scenes and doings of summer are counterfeited in other particulars upon these crystal plains. Some bright, breezy day you casually glance down the river and behold a sail, — a sail like that of a pleasure yacht of summer. Is the river open again below there? is your first half-defined inquiry. But with what unwonted speed the sail is moving across the view! Before you have fairly drawn another breath it has turned, unperceived, and is shooting with equal swiftness in the opposite direction. Who ever saw such a lively sail! It does not bend before the breeze, but darts to and fro as if it moved in a vacuum, or like a shadow over a screen. Then you remember the ice-boats, and you open your eyes to the fact. Another and another come into view around the elbow, turning and flashing in the sun, and hurtling across each other's path like white-winged gulls. They turn so quickly, and dash off again at such speed, that they produce the

illusion of something singularly light and intangible. In fact, an ice-boat is a sort of disembodied yacht; it is a sail on skates. The only semblance to a boat is the sail and the rudder. The platform under which the skates or runners — three in number — are rigged is broad and low; upon this the pleasure-seekers, wrapped in their furs or blankets, lie at full length, and, looking under the sail, skim the frozen surface with their eyes. The speed attained is sometimes very great, — more than a mile per minute, and sufficient to carry them ahead of the fastest express train. When going at this rate the boat will leap like a greyhound, and thrilling stories are told of the fearful crevasses, or open places in the ice, that are cleared at a bound. And yet withal she can be brought up to the wind so suddenly as to shoot the unwary occupants off, and send them skating on their noses some yards.

Navigation on the Hudson stops about the last of November. There is usually more or less floating ice by that time, and the river may close very abruptly. Beside that, new ice an inch or two thick is the most dangerous of all; it will cut through a vessel's hull like a knife. In 1875 there was a sudden fall of the mercury the 28th of November. The hard and merciless cold came down upon the naked earth with great intensity. On the 29th the ground was a rock, and, after the sun went down, the sky all around the horizon looked like a wall of chilled iron. The river was quickly covered with great floating fields of smooth, thin ice.

About three o'clock the next morning—the mercury two degrees below zero—the silence of our part of the river was suddenly broken by the alarm bell of a passing steamer; she was in the jaws of the icy legions, and was crying for help; many sleepers alongshore remembered next day that the sound of a bell had floated across their dreams, without arousing them. One man was awakened before long by a loud pounding at his door. On opening it, a tall form, wet and icy, fell in upon him with the cry, "The Sunnyside is sunk!" The man proved to be one of her officers, and was in quest of help. He had made his way up a long hill through the darkness, his wet clothes freezing upon him, and his strength gave way the moment succor was found. Other dwellers in the vicinity were aroused, and with their boats rendered all the assistance possible. The steamer sank but a few yards from shore, only a part of her upper deck remaining above water, yet a panic among the passengers—the men behaving very badly—swamped the boats as they were being filled with the women, and a dozen or more persons were drowned.

When the river is at its wildest, usually in March, the eagles appear. They prowl about amid the ice-floes, alighting upon them or flying heavily above them in quest of fish, or a wounded duck or other game.

I have counted ten of these noble birds at one time, some seated grim and motionless upon cakes of ice, — usually surrounded by crows, — others flap-

ping along, sharply scrutinizing the surface beneath. Where the eagles are, there the crows do congregate. The crow follows the eagle, as the jackal follows the lion, in hope of getting the leavings of the royal table. Then I suspect the crow is a real hero-worshiper. I have seen a dozen or more of them sitting in a circle about an eagle upon the ice, all with their faces turned toward him, and apparently in silent admiration of the dusky king.

The eagle seldom or never turns his back upon a storm. I think he loves to face the wildest elemental commotion. I shall long carry the picture of one I saw floating northward on a large raft of ice one day, in the face of a furious gale of snow. He stood with his talons buried in the ice, his head straight out before him, his closed wings showing their strong elbows, — a type of stern defiance and power.

This great metropolitan river, as it were, with its floating palaces, and shores lined with villas, is thus an inlet and a highway of the wild and the savage. The wild ducks and geese still follow it north in spring, and south in the fall. The loon pauses in his migrations and disports himself in its waters. Seals and otters are occasionally seen in it.

Of the Hudson it may be said that it is a very large river for its size, — that is, for the quantity of water it discharges into the sea. Its water-shed is comparatively small, — less, I think, than that of the Connecticut.

It is a huge trough with a very slight incline,

through which the current moves very slowly, and which would fill from the sea were its supplies from the mountains cut off. Its fall from Albany to the bay is only about five feet. Any object upon it, drifting with the current, progresses southward no more than eight miles in twenty-four hours. The ebb tide will carry it about twelve miles, and the flood set it back from seven to nine. A drop of water at Albany, therefore, will be nearly three weeks in reaching New York, though it will get pretty well pickled some days earlier.

Some rivers by their volume and impetuosity penetrate the sea, but here the sea is the aggressor, and sometimes meets the mountain water nearly half way.

This fact was illustrated a few years ago, when the basin of the Hudson was visited by one of the most severe droughts ever known in this part of the State. In the early winter, after the river was frozen over above Poughkeepsie, it was discovered that immense numbers of fish were retreating upstream before the slow encroachment of the salt water. There was a general exodus of the finny tribes from the whole lower part of the river; it was like the spring and fall migration of the birds, or the fleeing of the population of a district before some approaching danger: vast swarms of catfish, white and yellow perch, and striped bass were *en route* for the fresh water farther north. When the people alongshore made the discovery, they turned out as they do in the rural districts when the

pigeons appear, and, with small gillnets let down through holes in the ice, captured them in fabulous numbers. On the heels of the retreating perch and catfish came the denizens of salt water, and codfish were taken ninety miles above New York. When the February thaw came, and brought up the volume of fresh water again, the sea brine was beaten back, and the fish, what were left of them, resumed their old feeding-grounds.

It is this character of the Hudson, this encroachment of the sea upon it, that has led Professor Newberry to speak of it as a drowned river. We have heard of drowned lands, but here is a river overflowed and submerged in the same manner. It is quite certain, however, that this has not always been the character of the Hudson. Its great trough bears evidence of having been worn to its present dimensions by much swifter and stronger currents than those that course through it now. Hence Professor Newberry has advanced the bold and striking theory that in pre-glacial times this part of the continent was several hundred feet higher than at present, and that the Hudson was then a very large and rapid stream, that drew its main supplies from the basin of the Great Lakes through an ancient river-bed that followed pretty nearly the line of the present Mohawk; in other words, that the waters of the St. Lawrence once found an outlet through this channel, debouching into the ocean from a broad, littoral plain, at a point eighty miles southeast of New York, where the sea now rolls

five hundred feet deep. According to the soundings of the coast survey, this ancient bed of the Hudson is distinctly marked upon the ocean floor to the point indicated.

To the gradual subsidence of this part of the continent, in connection with the great changes wrought by the huge glacier that crept down from the north during what is called the ice period, is owing the character and aspects of the Hudson as we see and know them. The Mohawk valley was filled up by the drift, and the pent-up waters of the Great Lakes found an opening through what is now the St. Lawrence. The trough of the Hudson was also partially filled, and has remained so to the present day. There is, perhaps, no point in the river where the mud and clay are not from two to three times as deep as the water.

That ancient and grander Hudson lies back of us several hundred thousand years, — perhaps more, for a million years are but as one tick of the time-piece of the Lord; yet even *it* was a juvenile compared with some of the rocks and mountains the Hudson of to-day mirrors. The Highlands date from the earliest geological age, — the primary; the river — the old river — from the latest, the tertiary; and what that difference means in terrestrial years hath not entered into the mind of man to conceive. Yet how the venerable mountains open their ranks for the stripling to pass through. Of course the river did not force its way through this barrier, but has doubtless found an opening there

of which it has availed itself, and which it has enlarged.

In thinking of these things, one only has to allow time enough, and the most stupendous changes in the topography of the country are as easy and natural as the going out or the coming in of spring or summer. According to the authority above referred to, that part of our coast that flanks the mouth of the Hudson is still sinking at the rate of a few inches per century, so that in the twinkling of a hundred thousand years or so the sea will completely submerge the city of New York, the top of Trinity Church steeple alone standing above the flood. We who live so far inland, and sigh for the salt water, need only to have a little patience, and we shall wake up some fine morning and find the surf beating upon our doorsteps.