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THE HIGHLAND LIGHT.

This light-house, known to mariners as the Cape Cod or Highland Light, is one of our "primary sea-coast lights," and is usually the first seen by those approaching the entrance of Massachusetts Bay from Europe. It is forty-three miles from Cape Ann Light, and forty-one from Boston Light. It stands about twenty rods from the edge of the bank, which is here formed of clay. I borrowed the plane and square, level and dividers, of a carpenter who was shingling a barn near by, and, using one of those shingles made of a mast, contrived a rude sort of quadrant, with pins for sights and pivots, and got the angle of elevation of the bank opposite the light-house, and with a couple of cod-lines the length of its slope, and so measured its height on the shingle. It rises one hundred and ten feet above its immediate base, or about one hundred and twenty-three feet above mean low water. Graham, who has carefully surveyed the extremity of the Cape, makes it one hundred and thirty feet. The mixed sand and clay lay at an angle of forty degrees with the horizon, where I measured it, but the clay is generally much steeper. No cow nor hen ever gets down it. Half a mile farther south the bank is fifteen or twenty-five feet higher, and that appeared to be the highest land in North Truro. Even this vast clay-bank is fast wearing away. Small streams of water trickling down it at intervals of two or three rods have left the intermediate clay in the form of steep Gothic roofs fifty feet high or more, the ridges as sharp and rugged-looking as rocks; and in one place the bank is curiously eaten out in the form of a large semicircular crater.

According to the light-house keeper, the Cape is wasting here on both sides, though most on the eastern. In some places it had lost many rods within the last year, and erelong the light-house must be moved. We calculated, *from his data*, how soon the Cape would be quite worn away at this point, — "for," said he, "I can remember sixty years back." We were even more surprised at this last announcement — that is, at the slow waste of life and energy in our informant, for we had taken him to be not more than forty — than at the rapid wasting of the

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Cape, and we thought that he stood a fair chance to outlive the former.

Between this October and June of the next year I found that the bank had lost about forty feet in one place opposite the light-house, and it was cracked more than forty feet farther from the edge at the last date, the shore being strewn with the recent rubbish. But I judged that generally it was not wearing away here at the rate of more than six feet annually. Any conclusions drawn from the observations of a few years or one generation only are likely to prove false, and the Cape may balk expectation by its durability. In some places even a wrecker's foot-path down the bank lasts several years. One old inhabitant told us that when the light-house was built, in 1798, it was calculated that it would stand forty-five years, allowing the bank to waste one length of fence each year, "but," said he, "there it is" (or rather another near the same site, about twenty rods from the edge of the bank).

The sea is not gaining on the Cape everywhere: for one man told me of a vessel wrecked long ago on the north of Provincetown whose "*bones*" (this was his word) are still visible many rods within the present line of the beach, half buried in sand. Perchance they lie along-side the *timbers* of a whale. The general statement of the inhabitants is, that the Cape is wasting on both sides, but extending itself on particular points on the south and west, as at Chatham and Monomoy Beaches, and at Billingsgate, Long, and Race Points. James Freeman stated in his day that above three miles had been added to Monomoy Beach during the previous fifty years, and it is said to be still extending as fast as ever. A writer in the "Massachusetts Magazine," in the last century, tells us, that, "when the English first settled upon the Cape, there was an island off Chatham, at three leagues' distance, called Webb's Island, containing twenty acres, covered with red-cedar or savin. The inhabitants of Nantucket used to carry wood from it"; but he adds that in his day a large rock alone marked the spot, and the water was six fathoms deep there. The entrance to Nauset Harbor, which was once in Eastham, has now travelled south into Orleans. The islands in Wellfleet Harbor once formed a continuous beach, though now small vessels pass between them. And so of many other parts of this coast.

Perhaps what the ocean takes from one part of the Cape it gives to another, — robs Peter to pay Paul. On the eastern side the sea appears to be everywhere encroaching on the land. Not only the land is undermined, and its ruins carried off by currents, but the sand is blown from the beach directly up the steep bank, where it is one hundred and fifty feet high, and covers the original surface there many feet deep. If you sit on the edge, you will have ocular demonstration of this by soon getting your eyes full. Thus the bank preserves its height as fast as it is worn away. This sand is steadily travelling westward at a rapid rate, "more than a hundred yards," says one writer, within the memory of inhabitants now living; so that in some places peat-meadows are buried deep under the sand, and the peat is cut through it; and in one place a large peat-meadow has made its appearance on the shore in the bank covered many feet deep, and peat has been cut there. This accounts for that great pebble of peat which we saw in the surf. The old oysterman had told us that many years ago he lost a "crittur" by her being mired in a swamp near the Atlantic side, east of his house, and twenty years ago he lost the swamp itself entirely, but has since seen signs of it appearing on the beach. He also said that he had seen cedar-stumps "as big as cart-wheels" (!) on the bottom of the Bay, three miles off Billingsgate Point, when leaning over the side of his boat in pleasant weather, and that that was dry land not long ago. Another told us that a log canoe known to have been buried many years before on the Bay side at East Harbor in Truro, where the Cape is extremely narrow, appeared at length on the Atlantic side, the

Cape having rolled over it; and an old woman said, — "Now, you see, it is true what I told you, that the Cape is moving."

The bars along the coast shift with every storm, and in many places there is occasionally none at all. We ourselves observed the effect of a single storm with a high tide in the night, in July, 1855. It moved the sand on the beach opposite the light-house to the depth of six feet, and three rods in width as far as we could see north and south, and carried it bodily off no one knows exactly where, laying bare in one place a large rock five feet high which was invisible before, and narrowing the beach to that extent. There is usually, as I have said, no bathing on the back side of the Cape, on account of the undertow; but when we were there last, the sea had, three months before, cast up a bar near this light-house, two miles long and ten rods wide, over which the tide did not flow, leaving a narrow cove, then a quarter of a mile long, between it and the shore, which afforded excellent bathing. This cove had from time to time been closed up as the bar travelled northward, in one instance imprisoning four or five hundred whiting and cod, which died there, and the water as often turned fresh and finally gave place to sand. This bar, the inhabitants assured us, might be wholly removed, and the water be six feet deep there in two or three days.

The light-house keeper said, that, when the wind blowed strong on to the shore, the waves ate fast into the bank, but when it blowed off, they took no sand away; for in the former case the wind heaped up the surface of the water next to the beach, and to preserve its equilibrium a strong undertow immediately set back again into the sea, which carried with it the sand and whatever else was in the way, and left the beach hard to walk on; but in the latter case the undertow set on, and carried the sand with it, so that it was particularly difficult for shipwrecked men to get to land when the wind blowed on to the shore, but easier when it blowed off. This undertow, meeting the next surface-wave on the bar which itself has made, forms part of the dam over which the latter breaks, as over an upright wall. The sea thus plays with the land, holding a sand-bar in its mouth awhile before it swallows it, as a cat plays with a mouse; but the fatal gripe is sure to come at last. The sea sends its rapacious east-wind to rob the land, but before the former has got far with its prey, the land sends its honest west-wind to recover some of its own. But, according to Lieutenant Davis, the forms, extent, and distribution of sand-bars and banks are principally determined, not by winds and waves, but by tides.

Our host said that you would be surprised, if you were on the beach when the wind blew a hurricane directly on to it, to see that none of the drift-wood came ashore, but all was carried directly northward and parallel with the shore as fast as a man can walk, by the in-shore current, which sets strongly in that direction at flood-tide. The strongest swimmers also are carried along with it, and never gain an inch toward the beach. Even a large rock has been moved half a mile northward along the beach. He assured us that the sea was never still on the back side of the Cape, but ran commonly as high as your head, so that a great part of the time you could not launch a boat there, and even in the calmest weather the waves run six or eight feet up the beach, though then you could get off on a plank. Champlain and Poitrincourt could not land here in 1606, on account of the swell, (*la houlle*,) yet the savages came off to them in a canoe. In the Sieur de la Borde's "Relation des Caraibes," my edition of which was published at Amsterdam in 1711, at page 530 he says: —

"Couroumon a Caraibe, also a star [*i. e.* a god], makes the great *lames à la mer*, and overturns canoes. *Lames à la mer* are the long *vagues* which are not broken (*entrecoupées*), and such as one sees come to land all in one piece, from one end of a beach to another, so that, however little wind there may be, a shallop or a canoe could hardly land (*aborder terre*) with-

out turning over, or being filled with water."

But on the Bay side, the water, even at its edge, is often as smooth and still as in a pond. Commonly there are no boats used along this beach. There was a boat belonging to the Highland Light, which the next keeper, after he had been there a year, had not launched, though he said that there was good fishing just off the shore. Generally the life-boats cannot be used when needed. When the waves run very high, it is impossible to get a boat off, however skilfully you steer it, for it will often be completely covered by the curving edge of the approaching breaker as by an arch, and so filled with water, or it will be lifted up by its bows, turned directly over backwards, and all the contents spilled out. A spar thirty feet long is served in the same way.

I heard of a party who went off fishing back of Wellfleet some years ago, in two boats, in calm weather, who, when they had laden their boats with fish, and approached the land again, found such a swell breaking on it, though there was no wind, that they were afraid to enter it. At first they thought to pull for Provincetown; but night was coming on, and that was many miles distant. Their case seemed a desperate one. As often as they approached the shore and saw the terrible breakers that intervened, they were deterred. In short, they were thoroughly frightened. Finally, having thrown their fish overboard, those in one boat chose a favorable opportunity, and succeeded, by skill and good luck, in reaching the land; but they were unwilling to take the responsibility of telling the others when to come in, and as the other helmsman was inexperienced, their boat was swamped at once, yet all managed to save themselves.

Much smaller waves soon make a boat "nail-sick," as the phrase is. The keeper said that after a long and strong blow there would be three large waves, each successively larger than the last, and then no large ones for some time, and that, when they wished to land in a boat, they came in on the last and largest wave. Sir Thomas Browne, (as quoted in Brand's "Popular Antiquities," p. 372,) on the subject of the tenth wave being "greater or more dangerous than any other," after quoting Ovid, —

"Qui venit hic fluctus, fluctus supereminet omnes:
Posterior nono est, undecimoque prior," —

says, "Which, notwithstanding, is evidently false; nor can it be made out by observation either upon the shore or the ocean, as we have with diligence explored in both. And surely in vain we expect a regularity in the waves of the sea, or in the particular motions thereof, as we may in its general reciprocations, whose causes are constant, and effects therefore correspondent; whereas its fluctuations are but motions subservient, which winds, storms, shores, shelves, and every interjacency irregulates."

We read that the Clay Pounds were so called "because vessels have had the misfortune to be pounded against them in gales of wind," which we regard as a doubtful derivation. There are small ponds here, upheld by the clay, which were formerly called the Clay Pits. Perhaps this, or Clay Ponds, is the origin of the name. Water is found in the clay quite near the surface; but we heard of one man who had sunk a well in the sand close by, "till he could see stars at noonday," without finding any.

Over this bare highland the wind has full sweep. Even in July it blows the wings over the heads of the young turkeys, which do not know enough to head against it; and in gales the doors and windows are blown in, and you must hold on to the light-house to prevent being blown into the Atlantic. They who merely keep out on the beach in a storm in the winter are sometimes rewarded by the Humane Society. If you would feel the full force of a tempest, take up your residence on the top of Mount Washington, or at the Highland Light in Truro.

It was said in 1794 that more vessels were cast away on the east shore of Truro than anywhere in Barnstable County.

Notwithstanding this light-house has since been erected, after almost every storm we read of one or more vessels wrecked here, and sometimes more than a dozen wrecks are visible from this point at one time. The inhabitants hear the crash of vessels going to pieces as they sit round their hearths, and they commonly date from some memorable shipwreck. If the history of this beach could be written from beginning to end, it would be a thrilling page in the history of commerce.

Truro was settled in the year 1700 as *Dangerfield.* This was a very appropriate name, for I read on a monument in the graveyard near Pamet River the following inscription: —

Sacred
to the memory of
57 citizens of Truro,
who were lost in seven
vessels, which
foundered at sea in
the memorable gale
of Oct. 3d, 1841.

Their names and ages by families were recorded on different sides of the stone. They are said to have been lost on George's Bank, and I was told that only one vessel drifted ashore on the back side of the Cape, with the boys locked into the cabin and drowned. It is said that the homes of all were "within a circuit of two miles." Twenty-eight inhabitants of Dennis were lost in the same gale; and I read that "in one day, immediately after this storm, nearly or quite one hundred bodies were taken up and buried on Cape Cod." The Truro Insurance Company failed for want of skippers to take charge of its vessels. But the surviving inhabitants went a-fishing again the next year as usual. I found that it would not do to speak of shipwrecks there, for almost every family has lost some of its members at sea. "Who lives in that house?" I inquired. "Three widows," was the reply. The stranger and the inhabitant view the shore with very different eyes. The former may have come to see and admire the ocean in a storm; but the latter looks on it as the scene where his nearest relatives were wrecked. When I remarked to an old wrecker, partially blind, who was sitting on the edge of the bank smoking a pipe, which he had just lit with a match of dried beach-grass, that I supposed he liked to hear the sound of the surf, he answered, "No, I do not like to hear the sound of the surf." He had lost at least one son in "the memorable gale," and could tell many a tale of the shipwrecks which he had witnessed there.

In the year 1717, a noted pirate named Bellamy was led on to the bar off Wellfleet by the captain of a snow which he had taken, to whom he had offered his vessel again, if he would pilot him into Provincetown Harbor. Tradition says that the latter threw over a burning tar-barrel in the night, which drifted ashore, and the pirates followed it. A storm coming on, their whole fleet was wrecked, and more than a hundred dead bodies lay along the shore. Six who escaped shipwreck were executed. "At times to this day," (1793,) says the historian of Wellfleet, "there are King William and Queen Mary's coppers picked up, and pieces of silver called cob-money. The violence of the seas moves the sands on the outer bar, so that at times the iron caboose of the ship [that is, Bellamy's] at low ebbs has been seen." Another tells us, that, "for many years after this shipwreck, a man of a very singular and frightful aspect used every spring and autumn to be seen travelling on the Cape, who was supposed to have been one of Bellamy's crew. The presumption is that he went to some place where money had been secreted by the pirates, to get such a supply as his exigencies required. When he died, many pieces of gold were found in a girdle which he constantly wore."

As I was walking on the beach here in my last visit, looking for shells and pebbles, just after that storm which I have mentioned as moving the sand to a great depth, not knowing but I might find some cob-money, I did actually pick up a French crown-

piece, worth about a dollar and six cents, near high-water mark, on the still moist sand, just under the abrupt, caving base of the bank. It was of a dark slate-color, and looked like a flat pebble, but still bore a very distinct and handsome head of Louis XV., and the usual legend on the reverse, "*Sit Nomen Domini Benedictum*," (Blessed be the Name of the Lord,) — a pleasing sentiment to read in the sands of the sea-shore, whatever it might be stamped on,—and I also made out the date, 1741. Of course, I thought at first that it was that same old button which I have found so many times, but my knife soon showed the silver. Afterward, rambling on the bars at low tide, I cheated my companion by holding up round shells (*Scutellæ*) between my fingers, whereupon he quickly stripped and came off to me.

In the Revolution, a British ship-of-war, called the Somerset, was wrecked near the Clay Pounds, and all on board, some hundreds in number, were taken prisoners. My informant said that he had never seen any mention of this in the histories, but that at any rate he knew of a silver watch, which one of those prisoners by accident left there, which was still going to tell the story. But this event is noticed by some writers.

The next summer I saw a sloop from Chatham dragging for anchors and chains just off this shore. She had her boats out at the work while she shuffled about on various tacks, and, when anything was found, drew up to hoist it on board. It is a singular employment, at which men are regularly hired and paid for their industry, to hunt to-day in pleasant weather for anchors which have been lost, —the sunken faith and hope of mariners, to which they trusted in vain: now, perchance, it is the rusty one of some old pirate's ship or Norman fisherman, whose cable parted here two hundred years ago; and now the best bower-anchor of a Canton or a California ship, which has gone about her business. If the roadsteads of the spiritual ocean could be thus dragged, what rusty flukes of hope deceived and parted chain-cables of faith might again be windlassed aboard! enough to sink the finder's craft, or stock new navies to the end of time. The bottom of the sea is strown with anchors, some deeper and some shallower, and alternately covered and uncovered by the sand, perchance with a small length of iron cable still attached,—of which where is the other end? So many unconcluded tales to be continued another time. So, if we had diving-bells adapted to the spiritual deeps, we should see anchors with their cables attached, as thick as eels in vinegar, all wriggling vainly toward their holding-ground. But that is not treasure for us which another man has lost; rather it is for us to seek what no other man has found or can find,—not be Chatham men, dragging for anchors.

The annals of this voracious beach! who could write them, unless it were a shipwrecked sailor? How many who have seen it have seen it only in the midst of danger and distress, the last strip of earth which their mortal eyes beheld! Think of the amount of suffering which a single strand has witnessed! The ancients would have represented it as a sea-monster with open jaws, more terrible than Scylla and Charybdis. An inhabitant of Truro told me that about a fortnight after the St. John was wrecked at Cohasset he found two bodies on the shore at the Clay Pounds. They were those of a man and a corpulent woman. The man had thick boots on, though his head was off, but "it was along-side." It took the finder some weeks to get over the sight. Perhaps they were man and wife, and whom God had joined the ocean-currents had not put asunder. Yet by what slight accidents at first may they have been associated in their drifting! Some of the bodies of those passengers were picked up far out at sea, boxed up and sunk; some brought ashore and buried. There are more consequences to a shipwreck than the underwriters notice. The Gulf Stream may return some to their native shores, or drop them in some out-of-the-way cave of ocean, where time and the

elements will write new riddles with their bones. — But to return to land again.

In this bank, above the clay, I counted in the summer two hundred holes of the bank-swallow within a space six rods long, and there were at least one thousand old birds within three times that distance, twittering over the surf. I had never associated them in my thoughts with the beach before. One little boy who had been a-bird's-nesting had got eighty swallows' eggs for his share. Tell it not to the Humane Society! There were many young birds on the clay beneath, which had tumbled out and died. Also there were many crow-blackbirds hopping about in the dry fields, and the upland plover were breeding close by the light-house. The keeper had once cut off one's wing while mowing, as she sat on her eggs there. This is also a favorite resort for gunners in the fall to shoot the golden plover. As around the shores of a pond are seen devil's-needles, butterflies, etc., so here, to my surprise, I saw at the same season great devil's-needles of a size proportionably larger, or nearly as big as my finger, incessantly coasting up and down the edge of the bank, and butterflies also were hovering over it, and I never saw so many dor-bugs and beetles of various kinds as strewed the beach. They had apparently flown over the bank in the night, and could not get up again, and some had perhaps fallen into the sea and were washed ashore. They may have been in part attracted by the light-house lamps.

The Clay Pounds are a more fertile tract than usual. We saw some fine patches of roots and corn here. As generally on the Cape, the plants had little stalk or leaf, but ran remarkably to seed. The corn was hardly more than half as high as in the interior, yet the ears were large and full, and one farmer told us that he could raise forty bushels on an acre without manure, and sixty with it. The heads of the rye also were remarkably large. The shadbush, (*Amelanchier*,) beach-plums, and blueberries, (*Vaccinium Pennsylvanicum*,) like the apple-trees and oaks, were very dwarfish, spreading over the sand, but at the same time very fruitful. The blueberry was but an inch or two high, and its fruit often rested on the ground, so that you did not suspect the presence of the bushes, even on those bare hills, until you were treading on them. I thought that this fertility must be owing mainly to the abundance of moisture in the atmosphere, for I observed that what little grass there was was remarkably laden with dew in the morning, and in summer dense imprisoning fogs frequently last till mid-day, turning one's beard into a wet napkin about his throat, and the oldest inhabitant may lose his way within a stone's-throw of his house, or be obliged to follow the beach for a guide. The brick house attached to the light-house was exceedingly damp at that season, and writing-paper lost all its stiffness in it. It was impossible to dry your towel after bathing, or to press flowers without their mildewing. The air was so moist that we rarely wished to drink, though we could at all times taste the salt on our lips. Salt was rarely used at table, and our host told us that his cattle invariably refused it when it was offered them, they got so much with their grass and at every breath; but he said that a sick horse, or one just from the country, would sometimes take a hearty draught of salt water, and seemed to like it and be the better for it.

It was surprising to see how much water was contained in the terminal bud of the sea-side golden-rod, standing in the sand early in July, and also how turnips, beets, carrots, etc., flourished even in pure sand. A man travelling by the shore near there not long before us noticed something green growing in the pure sand of the beach, just at high-water mark, and on approaching found it to be a bed of beets flourishing vigorously, probably from seed washed out of the Franklin. Also beets and turnips came up in the sea-weed used for manure in many parts of the Cape. This suggests how various plants may have been dispersed over the world to distant islands.

and continents. Vessels, with seeds in their cargoes, destined for particular ports, where perhaps they were not needed, have been cast away on desolate islands, and though their crews perished, some of their seeds have been preserved. Out of many kinds a few would find a soil and climate adapted to them, become naturalized, and perhaps drive out the native plants at last, and so fit the land for the habitation of man. It is an ill wind that blows nobody any good, and for the time lamentable shipwrecks may thus contribute a new vegetable to a continent's stock, and prove on the whole a lasting blessing to its inhabitants. Or winds and currents might effect the same without the intervention of man. What, indeed, are the various succulent plants which grow on the beach but such beds of beets and turnips, sprung originally from seeds which perhaps were cast on the waters for this end, though we do not know the Franklin which they came out of? In ancient times some Mr. Bell (?) was sailing this way in his ark with seeds of rocket, saltwort, sandwort, beach-grass, samphire, bayberry, poverty-grass, etc., all nicely labelled with directions, intending to establish a nursery somewhere; and did not a nursery get established, though he thought that he had failed?

About the light-house I observed in the summer the pretty *Polygala polygama*, spreading ray-wise flat on the ground, white pasture-thistles, (*Cirsium pumilum*,) and amid the shrubbery the *Smilax glauca*, which is commonly said not to grow so far north. Near the edge of the banks about half a mile southward, the broom-crowberry, (*Empetrum Conradii*,) for which Plymouth is the only locality in Massachusetts usually named, forms pretty green mounds four or five feet in diameter by one foot high, — soft, springy beds for the wayfarer: I saw it afterward in Provincetown. But prettiest of all, the scarlet pimpernel, or poor-man's weather-glass, (*Anagallis arvensis*,) greets you in fair weather on almost every square yard of sand. From Yarmouth I have received the *Chrysopsis falcata*, (golden aster,) and *Vaccinium stamineum*, (deerberry or squaw-huckleberry,) with fruit not edible, sometimes as large as a cranberry (Sept. 7).

The Highland Light-house,* where we were staying, is a substantial-looking building of brick, painted white, and surmounted by an iron cap. Attached to it is the dwelling of the keeper, one story high, also of brick, and built by Government. As we were going to spend the night in a light-house, we wished to make the most of so novel an experience, and therefore told our host that we should like to accompany him when he went to light up. At rather early candle-light he lighted a small Japan lamp, allowing it to smoke rather more than we like on ordinary occasions, and told us to follow him. He led the way first through his bedroom, which was placed nearest to the light-house, and then through a long, narrow, covered passage-way, between whitewashed walls, like a prison-entry, into the lower part of the light-house, where many great butts of oil were arranged around; thence we ascended by a winding and open iron stairway, with a steadily increasing scent of oil and lamp-smoke, to a trap-door in an iron floor, and through this into the lantern. It was a neat building, with everything in apple-pie order, and no danger of anything rusting there for want of oil. The light consisted of fifteen argand lamps, placed within smooth concave reflectors twenty-one inches in diameter, and arranged in two horizontal circles one above the other, facing every way excepting directly down the Cape. These were surrounded, at a distance of two or three feet, by large plate-glass windows, which defied the storms, with iron sashes, on which rested the iron cap. All the iron work, except the floor, was painted white. And thus the light-house was completed. We walked slowly round in that narrow space as the keeper lighted each lamp in succession, conversing with him at the same moment that many a sailor on the

* The light-house has since been rebuilt, and shows a *Fresnel* light.

deep witnessed the lighting of the Highland Light. His duty was to fill and trim and light his lamps, and keep bright the reflectors. He filled them every morning, and trimmed them commonly once in the course of the night. He complained of the quality of the oil which was furnished. This house consumes about eight hundred gallons in a year, which cost not far from one dollar a gallon; but perhaps a few lives would be saved, if better oil were provided. Another light-house keeper said that the same proportion of winter-strained oil was sent to the southernmost light-house in the Union as to the most northern. Formerly, when this light-house had windows with small and thin panes, a severe storm would sometimes break the glass, and then they were obliged to put up a wooden shutter in haste to save their lights and reflectors, — and sometimes in tempests, when the mariner stood most in need of their guidance, they had thus nearly converted the light-house into a dark-lantern, which emitted only a few feeble rays, and those commonly on the land or lee side. He spoke of the anxiety and sense of responsibility which he felt in cold and stormy nights in the winter, when he knew that many a poor fellow was depending on him, and his lamps burned dimly, the oil being chilled. Sometimes he was obliged to warm the oil in a kettle in his house at midnight, and fill his lamps over again, — for he could not have a fire in the light-house, it produced such a sweat on the windows. His successor told me that he could not keep too hot a fire in such a case. All this because the oil was poor. A government lighting the mariners on its wintry coast with summer-strained oil, to save expense! That were surely a summer-strained mercy!

This keeper's successor, who kindly entertained me the next year, stated that one extremely cold night, when this and all the neighboring lights were burning summer oil, but he had been provident enough to reserve a little winter oil against emergencies, he was waked up with anxiety, and found that his oil was congealed, and his lights almost extinguished; and when, after many hours' exertion, he had succeeded in replenishing his reservoirs with winter oil at the wick-end, and with difficulty had made them burn, he looked out and found that the other lights in the neighborhood, which were usually visible to him, had gone out, and he heard afterward that the Pamet River and Billingsgate Lights also had been extinguished.

Our host said that the frost, too, on the windows caused him much trouble, and in sultry summer nights the moths covered them and dimmed his lights; sometimes even small birds flew against the thick plate-glass, and were found on the ground beneath in the morning with their necks broken. In the spring of 1855 he found nineteen small yellow-birds, perhaps goldfinches or myrtle-birds, thus lying dead around the light-house; and sometimes in the fall he had seen where a golden plover had struck the glass in the night, and left the down and the fatty part of its breast on it.

Thus he struggled, by every method, to keep his light shining before men. Surely the light-house keeper has a responsible, if an easy, office. When his lamp goes out, *he* goes out; or, at most, only one such accident is pardoned.

I thought it a pity that some poor student did not live there, to profit by all that light, since he would not rob the mariner. "Well," he said, "I do sometimes come up here and read the newspaper when they are noisy down below." Think of fifteen argand lamps to read the newspaper by! Government oil! — light enough, perchance, to read the Constitution by! I thought that he should read nothing less than his Bible by that light. I had a classmate who fitted for college by the lamps of a light-house, which was more light, methinks, than the University afforded.

When we had come down and walked a dozen rods from the light-house, we found that we could not get the full strength of its light on the narrow strip

of land between it and the shore, being too low for the focus, and we saw only so many feeble and rayless stars; but at forty rods inland we could see to read, though we were still indebted to only one lamp. Each reflector sent forth a separate "fan" of light: one shone on the windmill, and one in the hollow, while the intervening spaces were in shadow. This light is said to be visible twenty nautical miles and more, to an observer fifteen feet above the level of the sea. We could see the revolving light at Race Point, the end of the Cape, about nine miles distant, and also the light on Long Point, at the entrance of Provincetown Harbor, and one of the distant Plymouth Harbor Lights, across the Bay, nearly in a range with the last, like a star in the horizon. The keeper thought that the other Plymouth Light was concealed by being exactly in a range with the Long Point Light. He told us that the mariner was sometimes led astray by a mackerel-fisher's lantern, who was afraid of being run down in the night, or even by a cottager's light, mistaking them for some well-known light on the coast, — and, when he discovered his mistake, was wont to curse the prudent fisher or the wakeful cottager without reason.

Though it was once declared that Providence placed this mass of clay here on purpose to erect a light-house on, the keeper said that the light-house should have been erected half a mile farther south, where the coast begins to bend, and where the light could be seen at the same time with the Nauset Lights, and distinguished from them. They now talk of building one there. It happens that the present one is the more useless now, so near the extremity of the Cape, because other light-houses have since been erected there.

Among the many regulations of the Light-House Board, hanging against the wall here, many of them excellent, perhaps, if there were a regiment stationed here to attend to them, there is one requiring the keeper to keep an account of the number of vessels which pass his light during the day. But there are a hundred vessels in sight at once, steering in all directions, many on the very verge of the horizon, and he must have more eyes than Argus, and be a good deal farther-sighted, to tell which are passing his light. It is an employment in some respects best suited to the habits of the gulls which coast up and down here and circle over the sea.

I was told by the next keeper, that on the eighth of June following, a particularly clear and beautiful morning, he rose about half an hour before sunrise, and, having a little time to spare, for his custom was to extinguish his lights at sunrise, walked down toward the shore to see what he might find. When he got to the edge of the bank, he looked up, and, to his astonishment, saw the sun rising, and already part way above the horizon. Thinking that his clock was wrong, he made haste back, and, though it was still too early by the clock, extinguished his lamps, and when he had got through and come down, he looked out of the window, and, to his still greater astonishment, saw the sun just where it was before, two-thirds above the horizon. He showed me where its rays fell on the wall across the room. He proceeded to make a fire, and when he had done, there was the sun still at the same height. Whereupon, not trusting to his own eyes any longer, he called up his wife to look at it, and she saw it also. There were vessels in sight on the ocean, and their crews, too, he said, must have seen it, for its rays fell on them. It remained at that height for about fifteen minutes by the clock, and then rose as usual, and nothing else extraordinary happened during that day. Though accustomed to the coast, he had never witnessed nor heard of such a phenomenon before. I suggested that there might have been a cloud in the horizon invisible to him, which rose with the sun, and his clock was only as accurate as the average; or perhaps, as he denied the possibility of this, it was such a looming of the sun as is said to occur at Lake Su-

perior and elsewhere. Sir John Franklin, for instance, says in his "Narrative," that, when he was on the shore of the Polar Sea, the horizontal refraction varied so much one morning that "the upper limb of the sun twice appeared at the horizon before it finally rose."

He certainly must be a son of Aurora to whom the sun looms, when there are so many millions to whom it *glooms* rather, or who never see it till an hour *after* it has risen. But it behooves us old stagers to keep our lamps trimmed and burning to the last, and not trust to the sun's looming.

This keeper remarked that the centre of the flame should be exactly opposite the centre of the reflectors, and that accordingly, if he was not careful to turn down his wicks in the morning, the sun falling on the reflectors on the south side of the building would set fire to them, like a burning-glass, in the coldest day, and he would look up at noon and see them all lighted! When your lamp is ready to give light, it is readiest to receive it, and the sun will light it. His successor said that he had never known them to blaze in such a case, but merely to smoke.

I saw that this was a place of wonders. In a sea-turn or shallow fog, while I was there the next summer, it being clear overhead, the edge of the bank twenty rods distant appeared like a mountain-pasture in the horizon. I was completely deceived by it, and I could then understand why mariners sometimes ran ashore in such cases, especially in the night, supposing it to be far away, though they could see the land. Once since this, being in a large oyster-boat two or three hundred miles from here, in a dark night, when there was a thin veil of mist on land and water, we came so near to running on to the land before our skipper was aware of it, that the first warning was my hearing the sound of the surf under my elbow. I could almost have jumped ashore, and we were obliged to go about very suddenly to prevent striking. The distant light for which we were steering, supposing it a light-house five or six miles off, came through the cracks of a fisherman's bunk not more than six rods distant.

The keeper entertained us handsomely in his solitary little ocean-house. He was a man of singular patience and intelligence, who, when our queries struck him, rang as clear as a bell in response. The light-house lamps a few feet distant shone full into my chamber, and made it as bright as day, so I knew exactly how the Highland Light bore all that night, and I was in no danger of being wrecked. Unlike the last, this was as still as a summer night. I thought, as I lay there, half awake and half asleep, looking upward through the window at the lights above my head, how many sleepless eyes from far out on the ocean-stream — mariners of all nations spinning their yarns through the various watches of the night — were directed toward my couch.