

2. Generally the rising of the mercury indicates the approach of fair weather; the falling of it the approach of foul.

3. In sultry weather the fall of the mercury indicates coming thunder. In winter the rise of the mercury indicates frost. In frost its fall indicates a thaw, and its rise, snow.

4. Whatever change of weather suddenly follows a change in the barometer, will last but a short time. Thus, if fair weather follows immediately the rise of the mercury, there will be very little of it; and if foul weather follows the fall of the mercury, it will last but a short time.

5. If fair weather continue for several days during which the mercury continually falls, a long succession of foul weather will probably ensue; and again, if foul weather continue for several days, while the mercury continually rises, a long succession of fair weather will probably succeed.

6. A fluctuating and unsettled state in the mercurial column indicates changeable weather.

ONS. These few principles are the result of the experience and observations of former ages; but no rule will hold good in every instance. —*Drew's Practical Meteorology.*

## 9. THE MORNING TWILIGHT.

BY EDWARD EVERETT.

[From his Oration at the Dedication of the Dudley Observatory.]

Much, however, as we are indebted to our observatories for elevating our conceptions of the heavenly bodies, they present, even to the unaided sight, scenes of glory which words are too feeble to describe. I had occasion, a few weeks since, to take the early train from Providence to Boston, and for this purpose rose at two o'clock in the morning. Everything around was wrapped in darkness and hushed in silence, broken only by what seemed at that hour, the unearthly clank and rush of the train. It was a mild, serene, midsummer's night, the sky was without a cloud, the winds were still. The moon, then in the last quarter, had just risen, and the stars shone with spectral lustre, but little affected by her presence. Jupiter, two hours high, the herald of the day; the pleiades, just above horizon, shed their sweet influence in the east; Lyra sparkled near the zenith; Andromeda veiled her newly discovered glories from the naked eye in the south; the steady pointers, far beneath the Pole, looked meekly up from the depths of the North to their sovereign.

Such was the glorious spectacle, as I entered the train. As we proceeded, the timid approach of the twilight became more perceptible; the intense blue of the sky began to soften; the smallest stars, like little children, went first to rest; the sister beams of the pleiades soon melted together; but the bright constellations of the north and west remained unchanged. Steadily the wondrous transfiguration went on. Hands of angels, hidden from mortal eyes, shifted the scenery of heaven; the glories of night dissolved into the glories of the dawn. The blue sky now turned more softly gray; the great watch stars shut up their holy eyes; the east began to kindle. Faint streaks of purple soon blushed along the sky; the whole celestial concave was filled with the inflowing tides of the morning light, which came pouring down from above, in one great ocean of radiance; till at length as we reached the blue hills, a flash of pure fire blazed out from above the horizon, and turned the dewy tear-drops of flower and leaf into rubies and diamonds. In a few seconds the everlasting gates of heaven were thrown wide open, and the lord of day, arrayed in glories too severe for the gaze of man, began his course.

I do not wonder at the superstition of the ancient Magians, who in the morning of the world went up to hill-tops of Central Asia, and ignorant of true God, adored the most glorious works of his hand. But I am filled with amazement when I am told that in this enlightened age, and in the heart of the Christian world, there are persons who can witness this daily manifestation of the power and wisdom of the Creator, and yet say in their hearts that "There is no God."

## 10. SEA GRANDEURS.

There is a peculiar charm about the sea; it is always the same, yet never monotonous. Mr. Gosse has well observed, that you soon get tired looking at the loveliest field, but never at the rolling waves. The secret perhaps is, that the field does not seem alive; the sea is life abounding. Profoundly mysterious as the field is, with its countless forms of life, the aspect does not irresistibly and at once coerce the mind to think of subjects so mysterious and so awful as the aspect of the sea does—it carries with it no ineradicable associations of terror and awe, such as are borne in every murmur of old ocean, and thus is neither so terrible nor so suggestive. As we look from the cliffs, every wave has its history; every swell keeps up suspense;—will it break now, or will it melt into that larger wave? And then the log which floats so aimlessly on its back, and now is carried under again like a drowning wretch—it is the fragment of some ship that has struck

miles and miles away, far from all help and all pity, unseen except of Heaven, and no messenger of its agony to earth except this log, which floats so buoyantly on the tide? We may weave some such tragic story, as we idly watch the fluctuating advance of the dark log; but whatever we weave, the story will not be wholly tragic, for the beauty and serenity of the scene are sure to assert their influences. O mighty and unfathomable sea! O terrible familiar! O grand and mysterious passion! In thy gentleness thou art terrible when sleep smiles on thy scarcely quiet, heaving breast: in the wrath and thunder thou art beautiful. By the light of rising or of setting suns, in grey dawn or garish day, in twilight or in sullen storms of darkness, ever and everywhere beautiful; the poets have sung of thee, the painters have painted thee—but neither the song of the poet, nor the cunning of the painter's hand, has more than caught faint reflexes of thy incommunicable grandeur, and loveliness inexhaustible! — *Blackwood's Magazine.*

## 11. GREAT BRITAIN ON THE WORLD'S MAP.

We see two little spots huddled up into one corner, awkwardly shot off to a side, as it were, yet facing the great sea, on the very verge and lip of the great waste of waters, with nothing outside of them to protect them; not like Greece or Italy, or Egypt, in a Mediterranean bounded by a surrounding shore to be coasted by timid mariners, but on the very edge and verge of the great ocean, looking out westward to the expanse. If she launches at all, she must launch with the fearless heart that is ready to brave old ocean—to take him with his gigantic western waves—to face his winds and hurricanes—his summer heats of the dead still tropics—his winter blasts—his fairy icebergs—his fogs like palpable darkness—his hail blasts and his snow. Britain has done so. From her island home she has sailed east and west, north and south. She has gone outwardly and planted empires. The States themselves, now her compeer, were an offshoot from her island territory. Her destiny is to plant out nations, and the spirit of colonisation is the genius that presides over her career. She plants out Canada, Australia, New Zealand, and the Cape. Ceylon and the Mauritius she occupies for trade. India she covers with a net work of law framed and woven in her Anglo-Saxon loom. She clutches China, and begins at least to break up the celestial solecism. She lays hold of Borneo, and straightway piratical prahus are seen wrecked and stranded on the shore, or blown to fragments in the air. She raises an impregnable fortress at the entrance of the Mediterranean, and another in its centre as security to its sea-borne trade. She does the same in embryo at the entrance of the Red Sea. Westward from Newfoundland she traverses a continent, and there, in the Pacific, Vancouver's Island—which may one day become the New Great Britain of Anglo-Saxon enterprize, destined to carry civilisation to the innumerable Islands of the great sea—bears the Union Jack for its island banner, and acknowledges the sovereignty of the British crown. At Singapore she has provisionally made herself mistress of the straits of Malacca, and thousand of miles away on the other hand at the Falkland Islands, near to the Land of Fire, the British mariner may hear the voice of praise issuing in the Anglo-Saxon tongue. In addition to this, she has representatives at every court and consuls at every sea-port. Her cruisers bear her flag on every navigable sea. Europeans, Asiatics, Africans, Americans, and Australians, are found wearing her uniform, eating her bread, bearing her arms and contributing to extend her dominion.—*North British Review.*

## 12. AN HOUR WITH AN AMBROTYPE.

Look a few seconds into the brass tube attached to that square box, on three legs, into which the operator has put a little piece of glass with some chemicals on it. Be still. There, it is over. The operator has closed the tube, taken out the little piece of glass, and gone into his dark room. In a few moments he comes out with a fine picture. It looks natural as life. Each feature perfect and distinct, even to the slight pucker of the mouth, occasioned by the effort to keep from smiling. The brow, lips, chin, good-natured smile, are all there. Now, let us see how it was done.

I don't think it necessary for me to describe the little box, called a camera, into which the operator put the little piece of glass, for you have all seen one, and you know just how it looks. But the next time you go into the room where ambrotypes or daguerreotypes are taken, ask the operator to let you look into the box when some one is sitting in the chair, and you will see how the image is formed upon a piece of ground-glass in the camera. As almost any work on philosophy explains all about this, I will not occupy space in describing what you can learn just as well anywhere else. So let us look at some things not explained in the books. I take it for granted, then, that you know all that is necessary about the camera. Let us take a picture also.

Take up this piece of glass, about three inches by four. Put some very finely pulverised rotten stone on it, and wet it with a little