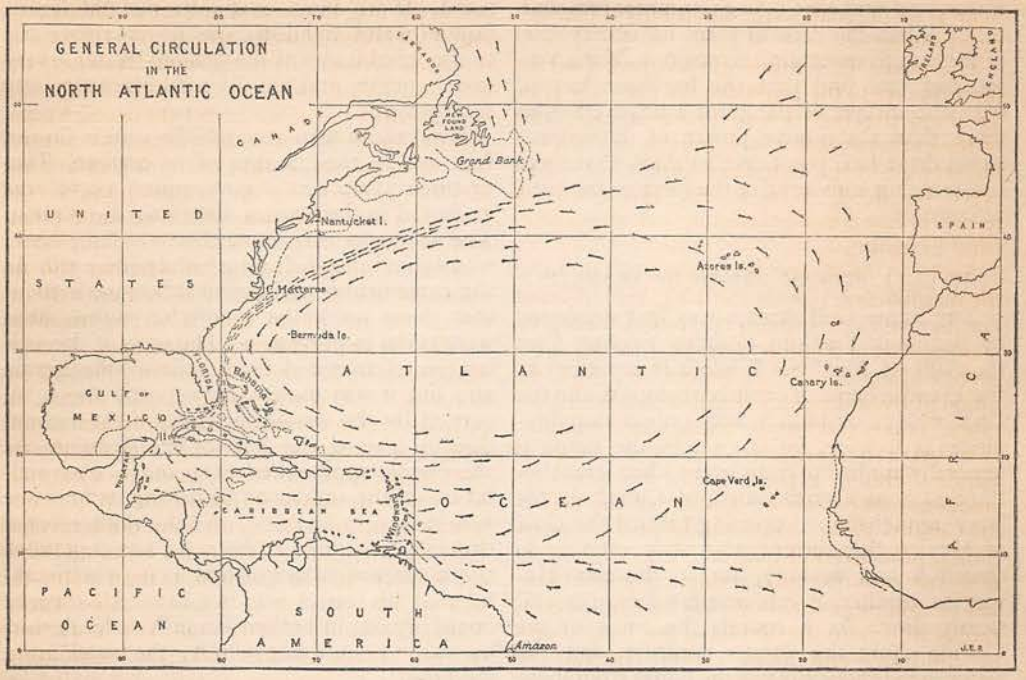
RECENT DISCOVERIES CONCERNING THE GULF STREAM.



THE subject of ocean currents is one that has engaged the attention of practical and scientific men for centuries. There is no part of the vast expanse of waters but has a movement, either due to tides or to a regular, constant flow; and an accurate knowledge of the laws relating to these movements is of great importance to mankind. Many branches of scientific inquiry are concerned in their examination, for they bear directly upon the dissemination and evolution of species, and the deposit and structure of geological formation, while in the every-day business of the world they enter as a factor in the price of everything that is carried afloat as well as in the safety of all those "that go down to the sea in ships."

The currents of the ocean are the great transporters of the sun's heat from the torrid zone to temper the climate of the polar regions. It is argued by some that such a stupendous change as that which occurred in Europe and America at the time of the glacial period was caused simply by a deflection in the currents in the northern hemisphere whereby its share of tropical heat was partly diverted toward the south.

In the three great oceans, the Atlantic, the Pacific, and the Indian, there is to be found a similar circulation—a general westerly movement in the tropics, a flow toward the poles along the eastern shores of the continents, an easterly set in the temperate zones, and a current toward the equator along the western shores. This system thus becomes a grand circular movement, some parts being very slow, but still quite constant, and other parts very swift. There are offshoots here and there, due to local causes, and perhaps in the slowly moving current there may be a temporary interruption, but, taken as a whole, the movement is continuous.

The part of this circulation flowing along the eastern coast of the United States is the greatest of all these currents, and, in fact, is the most magnificent of all nature's wonders. This is the Gulf Stream. When you are on board a vessel floating upon its waters, there is nothing remarkable in the surroundings, so far as the sight is concerned, which cannot be seen in many other places on the earth's surface. You look over the vessel's side and see a beautifully clear water, with perhaps a little seaweed floating on its surface, a dolphin or a shark playing about the ship, a school of flying-fish darting out of

the water and skimming over the waves, myriads of little animal life sparkling like motes in the sunlight; but all of these sights are not enough to impress the beholder as being anything different from what might be expected at other places. You put your hand into the water, and find that it has a summer temperature. When the captain takes his observation of the sun to ascertain the position of the vessel, and you find that she has been moved over the surface of the earth a hundred miles more than the motive power of the engines could drive her, you begin to think that there is something wonderful in the force of the Gulf Stream.

THE GULF STREAM NAMED BY FRANKLIN.

THE name Gulf Stream was first suggested by Benjamin Franklin, because it comes from the Gulf of Mexico. While it is a portion of the grand scheme of ocean circulation, and the Gulf of Mexico is in reality only a stopping-place, as it were, for its waters, the name is generally applied to the current when it reaches the Straits of Florida, north of Cuba. In the large funnel-shaped opening toward the Gulf of Mexico the current at first is variable in direction and velocity, but by the time Havana is reached it has become a regular and steady flow. As it rounds the curve of the Florida shore the Straits contract, and the water then practically fills the banks from shore to shore and reaches almost to the bottom, which is at this point about three thousand feet deep. I say almost, because in the changes which are continually going on, sometimes it does and sometimes it does not reach the bottom. As it leaves the Straits of Florida its course is about north, but it gradually changes its direction, following approximately the curve of one hundred fathoms' depth until it arrives at Cape Hatteras. From this point it starts on its course to Europe. It has lost something in velocity as well as in temperature, and as it journeys to the eastward it gradually diminishes in both, until it becomes a gentle flow as it approaches Europe.

SIZE AND STRENGTH OF THE GULF STREAM.

PEOPLE think the Mississippi River a grand stream, and it is so in truth, as far as land rivers go; but, great as it is, it would require two thousand such rivers to make one Gulf Stream. The great ocean river is an irresistible flood of water, running all the time, winter and summer, and year after year. It is as difficult for the mind to grasp its immensity as it is to realize the distance of the nearest stars. At its narrowest part in the Straits of Florida it is thirty-nine miles wide, has an average depth of two thousand feet, and a velocity at the axis (the point of fastest flow) of from three to more than five miles per hour. To say that the volume in one hour's flow past Cape Florida is ninety billion tons in weight does not convey much to the mind. If we could evaporate this one hour's flow of water and distribute the remaining salt to the inhabitants of the United States, every man, woman, and child would receive nearly sixty pounds.

Even those who navigate its waters do not fully realize the strength of its current. Two or three years ago a government vessel was anchored in the Stream observing the current. The wind was very light when a sailing vessel was sighted ahead, drifting to the northward. As she came nearer and nearer it became evident that there would be a collision unless steps were taken to prevent it. The crew of the sailing vessel trimmed their sails to the gentle air; but it was useless, for onward she went, carried by the irresistible force of the current directly toward the bow of the steamer. As the vessels approached each other, by a skilful use of the rudder on board the steamer she was moved to one side, and the sailing vessel drifted past a few feet distant. The captain of the latter was as astonished as he was thankful that his vessel was not lost. All that he could cry out in broken English as he flashed by was, "I could not help it; the water bring me here."

It is curious to note in the history of the Gulf Stream how great its influence has been on the fortunes of the New World. Before the discovery of America strange woods and fruits were frequently found on the shores of Europe and off-lying islands. Some of these were seen and examined by Columbus, and to his thoughtful mind they were confirming evidence of the fact that strange lands were not far to the westward. These woods were carried by the Gulf Stream and by the prevailing winds from the American continent, so that in part the Gulf Stream is responsible for the discovery of the New World. Ponce de Leon, while on his famous search for the Fountain of Youth, made the discovery of this more practically beneficial phenomenon. After his failure to discover on the coast of upper Florida the means of cheating death, he turned to the southward, and skirted the shore for hundreds of miles, thus stemming the current. Referring to these currents, his journal describes that they found a current that, though the wind was good, they could not stem. It seemed that their vessels were going fast through the water, but they soon recognized the fact that they were being driven back, and that the force of the current was stronger than the wind. Two vessels that

were somewhat nearer the coast came to anchor; the third vessel, a brig, being in deeper water, could not anchor, and was "soon carried away by the current, and lost from sight, although it was a clear sky." We can only imagine what must have been the thoughts of these superstitious people when they saw their companions being carried by a fierce current into a region entirely unknown. The brig returned some days afterward, probably much to the relief of all.

Shortly after this, one of the vessels of Ponce de Leon's fleet was detached from the main expedition to explore the Bahamas. The pilot of this vessel was a man named Antonio de Alaminos, who became, by the experience thus gained, a most valuable acquisition to other explorers in those waters. He was successively with Cordova and Grijalva in their voyages to Yucatan and the Gulf of Mexico, and finally was selected as the chief pilot of the expedition of Cortes to Mexico. Afterward, when it became necessary to send an envoy to the King of Spain with despatches and presents, Alaminos was chosen as the one most able successfully to carry out the nautical part of the mission. He sailed from Mexico, and, in order to avoid foreign enemies and domestic rivals, took a route north of Cuba and through the Straits of Florida, thus becoming the first to utilize the Gulf Stream for the purposes of navigation. Before this time the homeward voyages were east of the Bahamas. Soon afterward Havana became the chief port of the West Indies. Situated in the Straits of Florida, it was easy of access to vessels bound to and from Europe. By going through the Caribbean Sea and around the western point of Cuba, the vessels had a favoring current all the way, and on the voyage homeward the Gulf Stream was a sure assistance. Havana became, therefore, the rendezvous and distributing point of the Spanish possessions in the New World.

The navigation of the sixteenth and seventeenth centuries was crude at best, but so great a factor was the Gulf Stream that expeditions of colonization failed more than once because, through a want of knowledge, they tried to stem its current instead of avoiding it. Sir Humphrey Gilbert, in explaining the reasons which led to the failure of his expeditions and the arguments in favor of the two routes of approach, through the trades or across the North Atlantic, says, "The first course,—that is, from the south northward,—was without all controversie the likeliest, wherein we were assured to have the commoditie of the current, which from Cape Florida setteth northward, and would have furthered greatly our navigation, discovering from the foresaid cape toward Cape Breton all those lands lying to the north." The advantage of being able to provision the vessels with fish caught on the Banks of Newfoundland led him to accept the northern route, and his expedition failed.

The division of the English colonies, later, into New England and Virginia was probably in part due to the routes by which they were reached. Vessels bound from England to New England crossed the North Atlantic outside the limit of the Gulf Stream, or in a feeble adverse current. This voyage was thought to be impracticable with a vessel bound to the southern colonies. They sailed south to the trade-wind region, through the Caribbean Sea and around Cuba, thence following the Gulf Stream to their port. The Dutch afterward adopted the latter passage in going to their colony on the Hudson, so that Nantucket Island really became the dividing line between the two voyages. A difference in destination of one or two hundred miles caused a difference in the length of the passage of about three thousand miles.

The whalers of New England were the first to gain a fairly accurate knowledge of the limits of the current between America and Europe, by following the haunts of the whales, which were found north of one line and south of another, but never between the two. This, they reasoned, was the Gulf Stream current. Benjamin Franklin received this information from the whalers, and published it on a chart for the benefit of the mail-packets plying between England and the colonies. The chart was first issued about 1770, but was not accepted by the English captains. Before it came to be generally known and used the trouble between England and the colonies began, and Franklin, knowing the advantage the knowledge would be to the British naval officers, suppressed it all he could until hostilities ceased.

The current divides into two branches as it approaches Europe, one flowing to the southward, along the African coast, and one toward the Arctic Ocean. Both are very slow in their movements, but the latter is of sufficient magnitude to force a return current along the coasts of Greenland and Labrador, which carries immense fields of ice and enormous bergs past the Newfoundland Banks and across the shortest steamer track to Europe. This ice, together with the fog which usually accompanies the meeting of currents of such markedly different temperature, compels those steamers seeking safety rather than economy and the quickest passage to make a detour around the ice limits, thus lengthening their voyages materially. The track of the steamers bound to the eastward is farthest to the southward, so as to be near or within the edge of the favoring current,

while the route of the steamers in the other direction is as near the ice limit as prudence will allow, and as far removed as possible from the adverse current.

THEORIES.

THE theories as to the cause of this and other ocean currents have been very numerous. Columbus thought that the waters, the air, and the stars all partook of the same motion around the earth from east to west. He brought forward as evidence of the great force of the current in the West Indies, that the Windward Islands were caused by the land being washed away in places, thus forming the islands. Toward the end of the seventeenth century the idea seemed to prevail that the ocean circulation was maintained by means of subterranean passages or abysses. A current at the end of its circuit, or upon meeting land, was supposed to descend into the bowels of the earth, and to appear again on the other side of the land, or very far distant, where it started again on its journey. A little later a theory was advanced that the sun evaporated so much water at the equator that a current was forced to run along the coast of Africa to fill up the hollow. Another was that the heat of the tropical sun attracted so much that a long mountain of water was formed. This was supposed to be carried around the earth until it met the obstruction of land, where it would divide and thus cause side currents. In comparatively recent times the cause of most currents has been laid to the rivers, and of the Gulf Stream chiefly to the Mississippi. The flow of all the rivers in the world will not equal the volume of the Gulf Stream alone. Some eminent men have attributed the currents to the revolution of the earth. It is said that the water, being fluid, does not fully partake of the revolution of the earth from west to east, but is left behind as it were. Many have decided that differences in the density of the ocean at the poles and the equator cause a flow from the latter on the surface and from the former along the bottom. The surface equatorial water is warm and light, while at the poles it is cold and heavy. The latter is said to sink, and is replaced by a surface current from the equator. This in turn draws its supply from the depths, and so a vertical circulation is maintained. Franklin's theory, which has many advocates at the present day, is that the winds produce the current by the friction of the moving air on the surface of the water. None of the theories have been based upon direct evidence, but all are inferences drawn from temperatures, school-room experiments, the drift of vessels, or from reasoning based upon opinions of what ought to be.

THE GULF STREAM SCIENTIFICALLY EXAMINED.

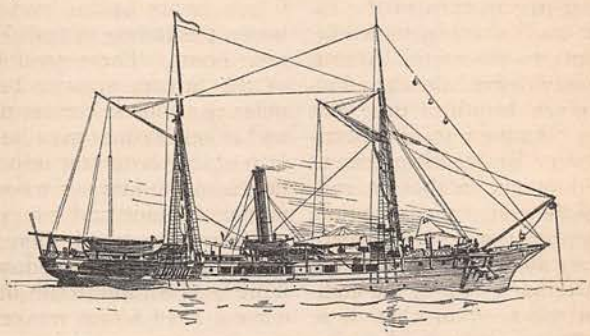
AN immense amount of labor has been devoted toward attempting to define the limits of the currents. Columbus was the pioneer in the investigation of the Gulf Stream, or rather of the equatorial current, which is a part of the grand circuit. On his first voyage, when he was nearing the West Indies, he was sounding one day with a long line and weight, when he noticed that the line inclined toward the southwest, from which he concluded that the surface water was moving faster in that direction than was the lower stratum which contained the weight. Benjamin Franklin endeavored to utilize the thermometer to indicate the presence of a tropical or polar current, and so evident did it appear that this could be done that the idea became an accepted fact in navigation, and at the present day is believed in by many seafaring people. Various governments issued instructions to their naval officers and requests to their merchant marine to keep a record of temperatures of the surface water, and by a compilation of these data the supposed limits of most currents were placed upon the charts.

The importance of a complete knowledge of the Gulf Stream to the commercial interests of the United States was recognized by Congress in the passage of an act authorizing the Coast Survey to include it within the scope of its examination. Later, authority was given to investigate the Sargasso Sea (the body of water in the Atlantic lying at the center of the grand circular movement of currents) and also the mate to the Gulf Stream in the Pacific, called the Black Stream of Japan. The first regular and systematic examination of the Gulf Stream was made by the United States Coast Survey while under the superintendence of Professor A. D. Bache, between 1844 and 1860. Reasoning on the same basis that the current could be defined by its temperature, he caused many thousands of thermometrical observations to be taken on lines extending across the Stream at intervals from Key West to beyond Nantucket. He found by this means that all along our coast the surface is divided into bands of warm and cold water. They are spread out or separated at the northern end, and converge at the Straits of Florida. The warmest band, Professor Bache concluded, was the axis or the swiftest current, and each of the others was a part of the Stream, which spread as it increased its distance from the tropics. The cause of the cold streaks was supposed to be irregularities in the bottom over which the current runs; but this was based upon erroneous measurement of the depths, and in recent years, with better instruments, the bottom has been found to be nearly even.

Another method of approximately determining the current has been in use since the introduction of accurate navigation. A vessel at sea is moved by the wind or by engines as nearly as possible on a certain course and distance, but she is deflected from that course by winds, waves, currents, etc., to an unknown amount. By astronomical observation the commanding officer ascertains where the vessel is at the time, and the difference between this and the supposed position is called current. It is of course the sum of all the errors of observation, of leeway, of compass, and of steering, combined with current, and is of but little practical value to the mariner. Still another method has been practised and even now is somewhat used to determine the flow of currents. Bottles are thrown overboard from vessels at sea, each one containing a paper on which is written the date and position at which it is put afloat, and a request printed in various languages requesting the person finding it to mark the date and locality and forward it to some official. This method is, for many reasons, of but little use. The bottle is tossed by the waves and driven by the wind. If it is picked up on shore, there is no means of knowing how long it has been traveling at sea and how long idle on the beach; and when it is found, all that it tells is that it has journeyed from one point to another in a certain time, but by what route it is impossible to ascertain.

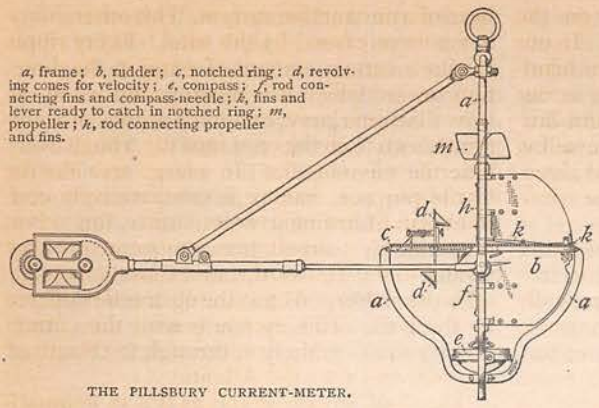
It is obvious that the old methods of establishing the currents, by temperatures or by drift of vessels or bottles, are inadequate, and in 1883 the Coast Survey decided to attempt to anchor a vessel in the Gulf Stream and actually measure the amount of water flowing past. It was thought to be possible to do so by the use of steel-wire rope instead of chain or hemp, as the improvements in the manufacture of the former gave a rope of great strength with sufficient pliability and lightness. The first trial was made in a little schooner, the *Drift*. She succeeded in anchoring in water over twenty-four hundred feet in depth, which at that time was the greatest ever attempted, and observing the surface flow; but the difficulties were so great that a larger vessel and an improvement in methods became necessary. The *Blake*, under the command of the writer, was detailed for the purpose, and permission was granted to use an instrument which he designed for measuring the current from the surface to the bottom.

In the method of anchoring a new departure from the ordinary mode was taken, and, proving to be entirely successful, it is still in use on board the *Blake* in the current investigation. The great length of wire rope (over four miles) is carried on a large iron spool. A powerful steam-engine lowers and hoists the rope and anchor, while another winds the rope on the spool to be ready for use again. The quick pitching motion of the vessel, pulling the rope violently through the water, makes it necessary to use something to relieve the sudden strain, and for this purpose a large spar projects over the bow. This is hinged at its inside end, and is held up by a long rubber spring. The anchoring-rope is attached to the outer end so that it pulls directly on the spring at every motion of the vessel. With this arrangement the operation of anchoring is so simple and safe that currents have been observed down to thirty-six hundred feet below the surface, the vessel being anchored in depths of more than two and one-half miles.



THE "BLAKE."

To gain a knowledge of the laws governing the flow, it is necessary to ascertain the direction and the velocity at all depths from the surface to the bottom. This is done in order to eliminate as much as possible the effect of any abnormal force which may be influencing the current at one place and not at another. The instrument designed for this purpose is in no way complicated. In order to know the direction of the current below the surface, it



THE PILLSBURY CURRENT-METER.

has a rudder which is free to turn in the direction of the flow, and a compass-needle, which of course points to the north. After it has been lowered to any desired depth and allowed to remain a given length of time, it is hoisted to the surface. At the instant of starting its upward motion a simple arrangement of fins, connected with levers, catches the rudder and compass-needle, and at the same time a small propeller begins to revolve by the force of the water. In pulling the instrument through a short distance this propeller locks the compass and rudder in the position they were caught by the fins. To ascertain the velocity, the instrument has an arrangement of revolving cones which, being attached to the front of the rudder, are consequently always toward the current and ready to be turned by the force of the passing water.

The investigation began with these appliances in the narrowest part of the Straits of Florida, in order to find out the characteristics of the Stream at a point where it would be the least influenced by abnormal forces. After two years at this point the research was extended to the western part of the Straits and to the passage between Yucatan and Cuba, to gage the water entering and leaving the Gulf of Mexico. Afterward the equatorial current and the flow between the islands into the Caribbean were examined, in order to compare what may be called the source of the Gulf Stream with the outlet as it leaves the Straits of Florida for the Atlantic. The stream off Cape Hatteras received attention, and also the flow existing in the Atlantic Ocean north of the Bahama Islands.

We are now beginning to realize the magnitude of this "river in the ocean" from actual observation instead of from speculation. The investigation has resulted in many discoveries as astonishing as they are valuable. The average volume of the Gulf Stream flow has been fixed by many hundreds of observations to be nearly ninety billion tons of water per hour. Perhaps the most valuable is the discovery that the Stream changes in velocity daily and monthly, and that predictions can be made of the times of these changes. It will be remembered that the tides rise and fall daily, this depending chiefly upon the position of the moon in its revolution about the earth. In the same manner the current varies in velocity daily. For example, the equatorial current along the South American coast is running fastest at about six hours before the moon crosses the meridian. Between Cuba and Yucatan the maximum current is ten hours before, and in the Straits between the Bahamas and Florida the time is nine hours. These variations in some parts of the Stream amount to more than three miles per hour at certain times in the month, and at other times may be less than one mile. It is readily seen how important this information is to the mariner whose chief endeavor is to make a quick and safe passage.

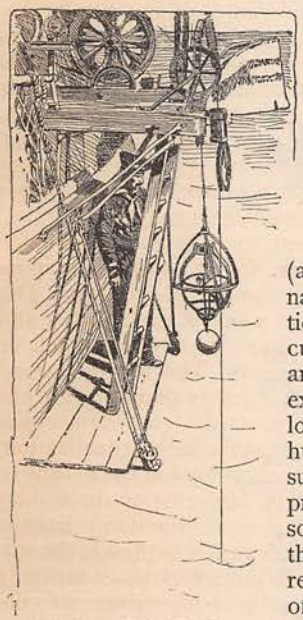
During the month there is another change taking place, which follows the moon in its journey north and south of the equator. The current always runs weakest at the sides, and strongest at some point usually to the left of the middle of the Stream. This strongest point (called the axis) changes its position. Two or three days after the moon has passed the equator, and is going toward the highest declination, the current at the axis is nearest the middle or farthest to the right, and two or three days after the moon's highest declination it has expanded, and the maximum is farthest to the left. Accompanying both these variations, the daily and the monthly, the temperature of the Stream changes, caused by a greater or less admixture of the warm surface with the cold bottom waters. At one time during the day the lower currents incline in direction toward the axis, while again they run more parallel with the general course of the Stream. This causes the surface water to intermingle with the lower water, and to cool. The observations, besides giving definite and decided information as to the actual limit, direction, and velocity of the Gulf Stream, bear strongly upon the question of what causes the ocean currents.

WHAT CAUSES THE OCEAN CURRENTS.

In the tropical regions there is a continued movement of the air from east to west known as the trade-winds. South of a certain line situated near the equator these winds blow from a southeasterly direction, while north of the equator they come from a more northeasterly

direction. The position of this belt on the earth's surface is continually changing. In our winter, the sun being in the southern hemisphere, the belt is farthest south, while in our summer it extends higher into northern latitudes. In the temperate zones the prevailing direction of the wind is in an opposite direction to that of the trades; that is, the winds predominate from the west.

Winds blowing over the surface of water induce a current in the latter. At first it is only the merest skim that moves, but gradually the movement is communicated from layer to layer until at last the whole mass is in motion. To allow the trade-wind to affect the ocean over which it blows sufficiently to cause a current to reach the bottom, would require many thousands of years with a steady force and direction. As the winds vary in both (although predominating in one direction), the induced current is shallow and weak, rarely extending much below three or four hundred feet. The superficial current produced by the southeast trades in the Atlantic finally reaches the coast of South America, and divides at its most salient point, Cape St. Roque. A part of the current then turns south toward the Antarctic, and a part follows along the northern side of the continent toward the Caribbean.



THE METER READY FOR LOWERING.

The northeast trade-winds also induce a current, and a part of the latter joins the other outside the Windward Islands, while a part passes north of the Caribbean toward the coast of the United States. All the passages between the Windward Islands carry some of the current into the Caribbean, and it is driven across that sea until it reaches the coasts of Yucatan and Honduras, from which it escapes by the easiest route, which is into the Gulf of Mexico. The water entering the Caribbean by this means is about half the amount which flows through the Straits of Florida from the Gulf of Mexico, and the other half is supplied from a source which does not come under the head of a measurable current. This other source is the wave caused by the wind. Every ripple carries a certain amount of water in the direction toward which it is moving, and when the waves become large, hundreds of tons of water are thrown from the crest into the trough every time the wave breaks. In a large area like the Caribbean Sea, having a comparatively constant wind blowing over its surface, this action is practically a simultaneous movement of the surface to the westward, and a continual escape of the water heaped up at the obstruction offered by the land. This escape is with the current into the Gulf of Mexico, through the Straits of Florida, and into the Atlantic.

The Gulf Stream, grand as it is in comparison with other ocean currents, would be but little felt on the European coast did it not receive an addition to its volume while *en route*. It will be remembered that a portion of the northeast trade-wind current flows outside the West Indian Islands and the Bahamas. This slow current, meeting the obstruction of the continent in its path, gradually curves to the northward, and joins the Gulf Stream in its journey to the Old World. The temperature of this outside current in its passage along the West Indian Islands is about the same as that of the Gulf Stream, but it is less violent in its movements, and there is less intermingling of its lower and upper waters. It consequently arrives off Cape Hatteras with a much higher temperature than that of the more rapid and turbulent Gulf Stream.

The water thus delivered to the region of the prevailing westerly winds above the thirty-fifth parallel of latitude is moving in a northeasterly direction. The impelling force from behind — the trade-winds — has ceased to act on the surface, and the velocity of the current is consequently diminishing. By the time the Newfoundland Banks have been passed, the Gulf Stream as a separate and distinctly defined body has been almost obliterated, and in its place there is being formed a broad, slowly moving drift caused by the prevailing westerly winds. As this current reaches the obstruction of the European coast the water escapes in two directions, one toward Africa, to join the trade-wind current at the starting-point, and the other toward the Arctic. The latter must also have some means of escape, because the Arctic is a *cul-de-sac*, and as the line of least resistance is on the west side along the coasts of Greenland, Labrador, and Newfoundland, the Labrador current is formed.

IS THE AMERICAN CLIMATE MODIFIED?

THE question is often asked, To what extent does the Gulf Stream modify the climate of

the United States? To its supposed erratic movements is laid the blame of every abnormal season. There is every evidence that the Gulf Stream is governed absolutely by law in all its changes. The course through the ocean is without doubt fixed. Its fluctuations are by days, by months, by seasons, or by years, and they do not vary materially one from the other. Its temperature changes, depending upon the relative heat of the tropical and polar seasons, and upon the strength of the producing trade-winds. The warm water may be driven toward the shore by the waves caused by a favorable wind, but the current remains in its proper place. The warm water gives off a certain amount of heat to the air above it, and if this air is moved to the land we feel the heat. The presence of the warm water on the coast of Europe would in no way modify the climate if the prevailing winds were easterly instead of westerly. If the prevailing winds in New England in winter were southeast instead of northwest, the climate would be equal to that of the Azores Islands, mild and balmy. For the cause of abnormal seasons we may look to meteorology. The current is in its place ready to give off the heat and moisture to the air whenever the demand is made upon it, but by the erratic movements of the air this heat and moisture may be delivered at unexpected times and seasons, and thus give rise to the erroneous belief that the Gulf Stream itself has gone astray.

John Elliott Pillsbury.

RICHARD HENRY DANA.

I.

O SPIRIT dauntless, whom no danger moved,
Who loved the heaving vastness of the sea,
With zest its threat of gale and tempest proved,
And salty wastes found sweet with liberty;
When the earth-bounding heaven, sphered above
Thy country, with the muttering storm did lower,
When the massed engineries of hate and love
Thundered and flashed with elemental power,
Like was thy course as when on voyaging bound —
Steered, veering always by the central star,
Unseen or seen, straight or rough capes around,
Where thy soul's pointers led thee, wide and far,
Sure of the port, gold-gated, that would bless
With peace, in freedom's law of righteousness.

II.

Let fops and worldlings sniff, and pick apart,
At foibles carp,—shades that great virtues throw,—
And try in vain to brand, with specious art,
Thy life with failure. Thee they could not know.
Statesman and jurist with no curule seat,
A patron to the sailor and the slave,
One prompt the face of jealous power to meet,
Withstand, and speak the truth, the hard cost brave;
Leader of hopes forlorn that must be led,
If country, honor, freedom are to live;
Of God's elect thou wert, and of such bred;
Thee patriot saints thy place with them shall give,
Whose strength in faith and courage ever lies,
Whose unsought glory crowns self-sacrifice.

Darwin E. Ware.