

harvest are greatly in want of assistance; and some of them complain that efficient assistance is not to be obtained. The emigrants are very much deceived as to their own capabilities and the value of their labour. Unprincipled parties, who pretend to be their friends, do much to deceive them on this point. The country could absorb an immense amount of emigrants if they were all capable of labouring efficiently, and willing to take reasonable wages.—*Examiner.*

Literary Department.

SIR JAMES ROSS'S VOYAGE IN THE SOUTHERN AND ANTARCTIC REGIONS.

In 1838 the British Association for the advancement of Science, passed some resolutions on the importance of having a simultaneous series of magnetic observations; and suggested the localities in which they should be made, as well as the points to which attention should be directed. The regions pointed out by the resolutions fitted for stations were Canada, St. Helena, Van Dieman's Land, and Mauritius, or the Cape of Good Hope; the desirableness of having similar observations made "in the high Southern latitudes, between the meridians of New Holland and Cape Horn," was also suggested. The points to be regarded in the magnetic observations were the "three elements of horizontal direction, dip and intensity, or their theoretical equivalents, as also their hourly changes, and, on appointed days, their momentary fluctuations." A committee was appointed to press the subject upon the Government; and the council of the Royal Society (the acknowledged advisers of Government in matters of science) having strenuously supported the views of the association, the undertaking was resolved upon. At the same time, it was considered that Antarctic exploration might be combined with magnetic observation. Two vessels were accordingly fitted up with all the precautions and provisions necessary for a voyage in those high Southern latitudes, and placed under command of Sir James Ross. His leading instructions were to land the observers and their instruments at St. Helena, the Cape and Van Dieman's Land; to establish himself for certain periods at certain places in the Southern Seas, to carry on the magnetic observations on shore; and in the intervals of time to endeavour to penetrate toward the South magnetic pole, or to pursue such other objects of discovery as should seem best in his direction.

Besides making the passage out and home, with occasional visits to New Zealand, Van Dieman's Land and New South Wales, Sir James Ross remained some time at the Falkland Islands and St. Martin's Cove in the immediate vicinity of Cape Horn, for the purpose of scientific observation, or to rest. His most interesting voyages, however, were three in number, and all directed toward high Southern latitudes. In the first, skirting the more Eastern discoveries of Bellany made in 1839,* Sir James Ross penetrated beyond the 78th degree of South latitude; discovered a seeming continent, (laid down on the latest maps as Victoria Land); and traced it from the 70th to the 78th degree of latitude. He was then stopped by a perpendicular barrier of ice from 150 to 300 feet in height, and of course above the mast heads of the vessel, so that nothing could be distinctly seen beyond it except in one place; nor could it be reached. This barrier too was examined, as well as the difficulties of the season allowed; the position of the magnetic pole was determined, and approached within 160 miles. A spot was sought where the expedition might winter, and attempt an overland expedition in the spring to "plant the national flag" on the South magnetic pole, as Sir James had previously done upon the North; but the approach of winter, the formation of ice on the sea, and the manner in which loose pieces quickly became a congealed mass, compelled the expedition to return. This voyage was made in the Northern winter of 1840-41 the summer of the Southern hemisphere. As far as mere distance goes, the explorers penetrated about seven degrees beyond Cook's farthest, and about three degrees and a half beyond Weddell in 1823.

Such progress was not made but under favorable circumstances both of accident and season. In latitude 66° 55' they encountered a "pack," through which they had to force their way for upward of two hundred miles; but after that the sea was comparatively clear, and the navigation comparatively easy, till they approached the region "where, in a season of the year equivalent to August in England, the thermometer was at 12°

and the presence of icicles alone gave the idea that it ever thawed. We say comparatively, because the navigation was still beset by the difficulties incidental to those high latitudes; icebergs crowding the ocean, and involving incessant caution, for ice and snow storms often turned the day into night; a passage sometimes had to be made through newly formed ice, by cutting away or rolling the ships' boats upon the mass; and at one of the worst points of the voyage, "the waves, as they broke over the ship, froze as they fell on the decks and rigging, and covered our clothes with a thick coating of ice, so that the people suffered severely during the continuance of the gale," although before the middle of the Southern August. Nothing, in fact, but the previous experience of the commander and some of his people, with the extraordinary preparation of his ships, enabled the navigators to take advantage of the favorable circumstances in which they found themselves.

The second voyage, made with the object of following out the previous discoveries, was less successful; but the perseverance equally great, the hardships and dangers very much greater. They made but thirty miles in one week, even before crossing the Antarctic circle, on account of a calm, a fog, and snow storms. They were entangled in an early period in a pack of ice, whence they never emerged for a thousand miles; but sometimes forced their way through it when the wind served and the ice permitted; sometimes drifted with it backward and forward as the pack itself was swayed by the Antarctic storms; sometimes stood to and fro in a space of open water or made a little way, each vessel fastened to the opposite sides of a floe of ice, to avoid accidents or parting company. Yet, though nothing was done as regards actual discovery, the nautical maxim of pushing on to the very last illustrated in a remarkable manner the importance of not yielding to difficulties.

The setting-in of winter now required us to bring our operations in the higher Southern latitudes to a close, and seek a more temperate climate in which to pass the winter. And although our hopes of extended discoveries during the season had been frustrated by our protracted and tedious detention in the pack and the difficulties of penetrating a mass of more than a thousand miles in thickness had been overcome by the perseverance and exertions of my companions; still the time that was consumed in that laborious and fatiguing work left us only a few days of the worst part of the season to pursue our purpose. We had however, during that brief space attained a somewhat higher latitude than last year; we had traced the continuation of the barrier (of ice) ten degrees of longitude farther to the Eastward, and extended our researches over a large portion of the hitherto unexplored parts of these regions; an amount of success which, while struggling in the pack, few of us could have anticipated.

The third voyage only penetrated to 71° 30' on the same parallel as Weddell's (10° to 20° of West longitude.) when a pack of ice and the advanced season prevented all efforts to proceed further. As close and extensive a survey as the weather in that region permits had previously been made of the Shetland group, latitude about 62° to 64° and West longitude 50° to 70°, including Graham Land, and the Terre Le is Philippe, discovered by D'Urville.

In voyages of this kind the first object is scientific facts, and an accurate report of them; which, of course, somewhat interferes with popular attractiveness. The soundings of the ocean, its temperature at different depths, the observations of currents, the bearings of objects, the variation of the magnet, and the minute detail of other facts and phenomena, however interesting and suggestive to the geographer, (and they are highly so,) have only an occasional attraction for the public at large; while their continual repetition, which is an absolute necessity, interferes with the narrative and flattens us well as suspends it. The formality and retinue of official responsibility increase lengthiness by the detail prescribed and the formal compliments apparently required. Notwithstanding these necessary drawbacks, the volumes before us are in the main attractive even to general readers. There is the excitement attached to voyages of discovery, and the interest attending hardships borne and dangers and difficulties overcome. The Antarctic scenery is rather enumerated than described, for the style of the book is somewhat literal; but still it is there. The enormous icebergs standing on the ocean; the still ice-fields stretching away in every direction, or clashing and grinding under the influence of the storm; the mountains cased in eternal ice, and the wintry desolation of the frozen continent, are all indicated to the reader in the narrative of adventure.

There is, of course, continual risk; sometimes terrific danger—as when a collision took place between the ships close upon an

iceberg, and life hung upon the accidents of a moment; or the vessels, embayed in a pack during a gale, which forced the masses of ice against or over each other, drove helplessly about with damaged rudders; and nothing could be done but to hold on and wait the end. Some of the scientific facts are curious; and though the reports of the proper officers on the botany, geology, &c., may rather incur the narrative, they give a variety, and often contains bits of generally interesting description.

A controversy both as regards claims to discovery, and what is of much more importance, to far dealing, is half raised in the work, in reference to the late disputes between the French and Americans as to their right to the credit of certain discoveries of patches of land between the 65th and 67th degrees of South latitude and the 13th and 14th of East longitude; and in which controversy, Wilkes, the commander of the American exploring expedition, wished to make out that the English were taking a part. In our notice of the second and third volumes of that work, we entered so fully into the question of national claims, that a tabular synopsis of the subject will be sufficient here.

Date.	Navigators.	Nation.	Land discovered.
1831 Feb.	Biscoe.	English.	66 deg. 41 deg. East.
1832 Feb.	Biscoe.	do.	67 deg. 72 deg. West.
1839 Feb.	Bellany.	d.	67 deg. 161 deg. East.
1839 March.	Bellany.	do.	65 deg. 121 deg. East.

(These were the extremes of Bellany's discoveries. He sighted, or supposed he sighted, land between the two points, along the line of the French and American discoveries the following year.)

1840 Jan & Feb.	D'Urville.	French.	66 deg. 140 deg East
1840 Jan & Feb.	D'Urville.	do.	55 deg. 130 deg East

(This last was icy cliffs, supposed to cover land, and named by D'Urville, "Cote Claire.")

1840 Jan & Feb.	Wilkes.	American	62 deg 97 deg to 67 167 deg East
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* The latitude and longitude are given in round numbers, as no point whatever is involved in exact position. It should be observed that the French and American discoveries were made in ignorance of Bellany's, and of each other's.

The priority of days between D'Urville and Wilkes is not easy to settle, because it is not easy to tell what actual land Wilkes really did discover; but in the verified places the Frenchmen seems to have been the first, and there is no doubt as to his superior accuracy of proceeding. When he has verified land he marks it as land; when he finds ice cliffs, but considers them as a covering of land, he so distinguishes them—"Cote Claire;" when he infers a thing, he lays it down as suppository—"Isle supposed." Wilkes on the other hand, with true go-ahead precipitation, lays down every thing that loomed like land as land, and seems to have connected intermediate places that were not seen. At all events, while Ross was at Van Dieman's Land, Wilkes sent him, from New Zealand, a letter, of very general advice, and a chart of the alleged American discoveries, in which a continuous coast line is traced from the 97th to the 167th degrees of East longitude, with a latitude varying about five degrees (62 to 67.) The first use Ross made of the chart was to avoid the longitude of the French and American discoveries, to sail nearly twelve degrees further South, and to discover Victoria Land and the icy barrier. The next use was to sail over the Easterly extremity of Wilkes land on his return.

We have seen by the extracts how easily the inexperienced or even the experienced navigator is deceived by the appearance of land in these high latitudes; and the history of men is full of men misled by apparent signs of land, under clearer skies. The mistake is natural enough, and reflects no discredit upon Wilkes as a mariner; but laying down lands in the way he did is conclusive as to his character, as a scientific explorer and discoverer, whatever may be thought of him as a seaman. It is a graver charge than any errors in observation or shortcomings in science, that though he knew of one if not both of Bellany's discoveries, when he sent the chart to Ross, he omitted all mention of his name; but when Ross had sailed over his alleged land, he turned round and declared that it was an English discovery which had been falsified—though Bellany's Islands had been seventy miles off, besides having been verified by landing; and in his published narrative Wilkes suppresses all mention of Bellany's discoveries. In future the Americans must be more cautious what officers they send on scientific expeditions.—[*London Spectator.*]

TRANK IN GODS!—Strange and even profane as this title may sound, it is a literal fact, *La Démocrate Parisienne* states that there is a warehouse in Paris with the title "Dapot for African Gods!" The firm of Regis carries on an extensive business with Senegal, where there are about as many kings as medieval Italy had princes. These African kings make war by way of a little pleasant excitement. When one of them has lost a battle he dismisses his "Gods," and orders new French ones from Regis & Co., who employ artists to make them of deal, with serpents' heads, lions' manes, and tigers' claws. When a Senegal potentate obtains a consignment of new "Gods" he goes to war in order to test their efficacy. Hitherto Regis and Co. have been lucky in their "Gods."—[*True Sun.*]

AN ENGLISH PEER.—The Duke of Northumberland—one of the richest peers in Great Britain—died last month quite suddenly in his bed, of influenza. A foreign correspondent of an American paper says of the event:—It is an awful thought to reflect that all the enormous wealth of this nobleman—the descendant of the renowned Percys—with an income averaging him £2,000 to £3,000 daily, perfectly unincumbered—could not procure a single hand to close his eyes, or which he might have grasped and breathed farewell. His Grace died without issue, and is succeeded in his titles and possessions by his brother Lord Prudhoe. Though not a man of great abilities the late Duke held the high office of Chancellor of the University of Cambridge. He also had been Lord Lieutenant of Ireland, Ambassador to the Court of St Petersburg, and special envoy to France at the coronation of the ill-fated Charles the X. During the embassy he refused to receive money for outfit, or any thing else; though a diamond hilted sword worth £10,800 sterling voted to him by the House of Commons, he subsequently accepted. During the whole time that he remained in France, he had independent retainers, three hundred gentlemen of birth in his suite. As he progressed through France to Paris he scattered gold among the crowds that surrounded his train of equipages at every post-town. His wife was governess to Queen Victoria. The remains of the Duke were interred in Westminster Abbey, in the tomb of the Percys, and with royal state.

NERVES OF THE HEART.—The *New Orleans Commercial Times* states that an interesting discovery has recently been made by Dr. Lee of that city. It says:—"The doctrine that the heart was wholly devoid of nerves (*cor nervis carere*) and was a *stupidum et insensibile viscus*, which obtained, we believe, at the close of the last century, had already been modified by later authorities; but until Dr. Lee commenced his inquiries it was generally supposed that the nerves were very few in number; it was considered that the organ performed its important functions with little or no nervous action. Dr. Lee's inquiries are stated to establish not merely the existence of numerous hitherto unnoticed nerves in the heart, but also the curious facts, that these nerves increase with the increase of the organ; and that the nerves on the left side are more than double the size of those on the right. This latter circumstance is accounted for by the difference in the functions of the two sides, it being the office of the left ventricle to disperse the blood through the whole body by means of the arteries, while that of the right ventricle is merely to transmit it through the lungs to the left auricle—an operation obviously requiring a less vigorous pulsation, and consequently less nervous power, than that of the left ventricle. This discovery may be regarded as the complement of Harvey's doctrine of the circulation of blood."

THE DISTRIBUTION OF CARBONIC ACID IN ROOMS FROM THE BURNING OF CHARCOAL.—It is commonly supposed that the carbonic acid resulting from burning charcoal in a brazier remains as a heavy stratum of vapor upon the floor of an apartment as it does upon the floor of the "Grotto del Cane," and that no danger is to be apprehended in entering the apartment if a person stand upright; but this notion is seriously erroneous, as the chemist can prove. In fact, as carbonic acid is formed during the combustion of charcoal, it is materially lighter than air, because it is of an exceedingly high temperature, or, in other words, rarefied by the heat; and, accordingly, says the "*London Builder*," it ascends in virtue of this thermal levity, and bends uniformly with the air of the apartment, while another curious action is simultaneously ensuing, viz.: the charcoal, in order to burn and to continue burning, must have oxygen—it takes this from the air to form carbonic acid, but leaves the nitrogen, which is equally ineffectual, so that, in the course of a very short time, if no egress be permitted for these substances so inimical to life, the entire volume of the air becomes thoroughly vitiated, and a person entering the apartment would be suffocated.

Constant foresight is destructive of much happiness. They are happiest who can enjoy the present and leave the future to the future. However at times this nursing of the future is most beneficial. It is especially so to the man of the world, because it leads him to include in his mundane calculations future probability and contingency, while the plodding, unreflective man will lose by his short-sighted investments.

It is an error to suppose that domestic happiness does not require for its ingredient a large proportion of little cares and attentions. They are the soul of it. A man who says he is made for home, and is careless of little cares and attentions for his home, is under a delusion; such a man misunderstands himself; he is not made for home, for whatever else he may be adapted.

THE MIRAGE.—The following extraordinary optical illusion is described by a correspondent of the (*Paris*) *Journal des Debats*:—"On Friday last, between 7 and 8 o'clock in the morning, the weather being cold and clear, and while the sun was rising brilliantly, we beheld a mirage. From the point of the steeple of the Cathedral of Ulm rose a narrow ray of a dark color, almost vertical, with a slight inclination to the West. Here this ray, the image of the Upper half of the steeple of the Cathedral was designed, with its towers and all the numerous and delicate Gothic ornaments which decorate it on all sides. This image was so correct that it might have been mistaken for a representation made by the Daguerreotype. Eight times this phenomenon was repeated. Such an optical effect is, unexplained in this country."

* Bellany's lands, in about latitude 67 and longitude 164 East.