

human beings in order to secure a sufficient supply for the western markets, after all the loges to which the perilous traffic is exposed. The anxiety to escape the vigilance of the squadron, and to carry the wretched victims in the greatest possible numbers across the Atlantic, leads to the most fearful atrocities. We shall give the substance of various answers to the committee, given by most competent witnesses, medical and naval officers in the squadron, and others. From Nov. 1846, to Nov. 1847, about sixty five thousand were imported into Brazil, while about 100,000 were exported from Africa; so that about thirty-five thousand of the exported were lost on the passage. Of this immense number, part were recaptured by vessels belonging to the preventive squadrons; but by far the greater part were buried in the Atlantic, earned off by death in its most appalling aspects—say, *thirty thousand!* The Brazilian slavers are allowed by their Government to import a certain number of slaves according to the amount of their tonnage; but as the masters expect to lose about a third of the number on the passage, they are in the practice of shipping, if possible, a third more than their allowance, and thus occasions the most appalling sufferings to those poor Africans. Say that you have a vessel, with six feet between decks, they will put in two temporary floors, and divide the six feet of space into three portions, and literally pack in the poor slaves in these confined spaces as you do books on shelves; they are laid upon their sides, so close that they cannot turn, unless a whole section agree to turn at the same instant. It is not in their power to rise and sit up in a space of eighteen inches in height.

The only relief, after being embarked in this condition, arises from the fact that their bodies soon become exceedingly emaciated,—this increases space to some extent; and vast numbers of them are speedily released by death from their almost indescribable wretchedness—this again still more enlarges the space for those who survive. Contemplate this mass of human beings already used as if they were hales of inanimate goods, in a position in which the ventilation is of the most imperfect description; and where the victims of the most revolting oppression pant but pant in vain, for the life giving air; where joints and sinews and muscles are all laid under the curse of paralysis inflicted by man; where water is measured out to them by dribbets, and their thirst is intolerable; where they have to scramble for their food like dogs; where stilt and noisome vapour are such as to make it a dreadful punishment to enter between decks, to crawl through their ranks and remove the rapidly decomposing bodies of the dead—contemplate this mass of human beings, on what is called the Middle Passage, in this state of indescribable wretchedness, and say, will you not wage war against slavery, and bind your children by oath upon your death-bed, to perpetuate the conflict until the demon be hurled down to hell, whence he came, to curse and blast the family of man! No one will be surprised to be told, that in such circumstances as we have just noticed, the poor negroes are reduced to skin and bone; that when they reach the end of their voyage they are incapable of standing, and require to be carried out of the vessels and thoroughly washed, and somewhat carefully nursed for weeks together, before they can be exposed for sale. All this is not merely known on the western shores of the Atlantic, it is well known to the preventive squadrons, from the state of the slave vessels which from time to time fall into their hands.

ANTE-COLUMBIAN DISCOVERY OF AMERICA.

Professor Elton, of the United States, read a paper before the British Association of Science, in August last, on the above interesting subject.

He said that in journals of the past, and especially such as relate to the discovery of a great continent, had excited peculiar interest in the

human mind in all ages and among all nations. He would state a few facts exhibiting evidence that America was known to Europeans as early as the tenth century. An Italian historian, Porficus, in the year 1893, claimed for his ancestors the glory of having discovered the New World. This claim had been strengthened by a work published by the Royal Society of Antiquaries at Copenhagen, in 1837, and which had imparted a new impulse to this subject. The work was entitled, "Antiquitates Americane, sive Scriptores Septentrionales Rerum Antecolumbianarum in America." It was edited by the learned Professor Rafn, of the University of Copenhagen, and published in the original translation. This work gives an account of the voyages made to America by the Scandinavian Northmen during the tenth, eleventh, twelfth, thirteenth, and fourteenth centuries. Their accounts of their voyages are published from authentic manuscripts, which are dated as far back as the tenth century.

From this work it would appear that the ancient Northmen explored a great extent of the eastern coasts of North America, repeatedly visited many places in Massachusetts and Rhode Island, fought and traded with the natives, and attempted to establish colonies. The most northern region they called Hellaland—(i. e., slave land);—the country further south they named Morkland, (woodland); and the country most south—a, they called Vinland (vine-land), which is supposed to have extended as far south as Massachusetts or Rhode Island. The general features of the country accord with the descriptions which they have given. The discovery of America by the Northmen is confirmed by an inscription on a rock on the bank of the river Taunton, at a place called Dighton, in the State of Massachusetts, and which until recently had defied all efforts at interpretation. The earliest New England colonists observed the mysterious characters on this rock; and more than 150 years ago, Dr. Cotton Mather of Boston, sent an imperfect drawing of the inscription to the Royal Society. It also attracted the notice of the Rev. Dr. Styles, president of Yale College, nearly 100 years ago, who sent facsimiles of the inscription to many learned societies in Europe—but all attempts to decipher them were in vain. An accurate drawing of the inscription was made by the Rhode Island Historical Society, a few years since, and a copy was sent to the Royal Society of Northern Antiquaries at Copenhagen, which led to a more satisfactory result.

The surface of the rock which bears the inscription, is about 15 feet in length and 9 feet in height, and is covered with hieroglyphics forming three distinct lines. The characters are deeply engraven in greywacke, and must have required the labour of several days. The lower part of the rock is subject to the constant action of the tide, in consequence of which several of the characters are obliterated. The word "Thorfinus" and the number "132" are very distinctly marked. The "Th" in Thorfinus are in Icelandic characters, and "orlinus" in the ancient Roman form of writing numerals. The circumstance of the Roman letters being used may be easily explained. Christianity was introduced into Iceland about the end of the tenth century—at which period there was evidence that the Latin language was cultivated in that country, at least by individuals. Now, there is a remarkable coincidence between the monument just described and an account in one of the manuscripts published in the *Antiquitates Americane*. It is there stated that Thorfinus, an Icelandic chief, made a voyage to Vinland in the year 1000; and that in the course of three years he was killed in a battle with the natives. It is worthy of observation, as proving that they had some knowledge of Christianity, that a cross was placed at the head of his grave. The particulars of Thorfinus's voyage, and his frequent battles with the natives, are also minutely recorded. His wife who accompanied him to America, returned after his death to Iceland with

her son, who was born in America. This son of Thorfinus became a chiefman, and from him, according to genealogical tables, are descended many eminent men, including Prof. Finn Magnussen and the celebrated sculptor Thorwaldsen. The author concluded by alluding to the supposed discovery of America by Prince Madoc in the twelfth century; the only information respecting which was received from the poems written by Meredith-ap Rhye, in 1478—of Gaiyr Owen, in 1480, and Cynlyn-ap-Gronw, who lived in the same period.

GEOLOGICAL CHANGES ON THE EARTH'S SURFACE.

The thickness of the fossiliferous strata up to the end of the tertiary formation has been estimated at about seven or eight miles; so that the time requisite for their deposition must have been immense. Every river carries down mud, sand or gravel to the sea; the Ganges brings more than 700,000 cubic feet of mud every hour, the Yellow River in China 2,000,000, and the Mississippi will more; yet, notwithstanding these great deposits, the Italian hydrographer, Manfredi, has estimated that, if the sediment of all the rivers on the globe were spread equally over the bottom of the ocean, it would require 1000 years to raise its bed one foot; so that at that rate it would require 3,260,000 years to raise the bed of the ocean alone to a height nearly equal to the thickness of the fossiliferous strata, or seven miles and a half, not taking account of the coasts by the sea itself; but if the whole globe be considered instead of the bottom of the sea only, the time would be nearly four times as great, even supposing as much alluvium to be deposited uniformly both with regard to time and place, which it never is. Besides, in various places the strata have been more than once carried to the bottom of the ocean and again raised above its surface by subterranean fires after many ages, so that the whole period from the beginning of these primary fossiliferous strata to the present day must be great beyond calculation, and only bears comparison with the astronomical cycles, as might naturally be expected, the earth being without doubt of the same antiquity with the other bodies of the solar system. What then shall we say if the time be included which the granitic, metamorphic, and recent series occupied in forming? These great periods of time correspond wonderfully with the gradual increase of animal life and the successive creation and extinction of numberless orders of being, and with the incredible quantity of organic remains buried in the crust of the earth in every country on the face of the globe. Every great geological change in the nature of the strata was accompanied by the introduction of a new race of beings, and the gradual extinction of those that had previously existed, their structure and habits being no longer fitted for the new circumstances in which these changes had placed them. The change, however, never was abrupt, except at the beginning of the tertiary strata; and it may be observed that, although the mammalia came last, there is no proof of progressive development, for animals and plants of high organization appeared amongst the earliest of their kind.—Mrs. Somerville's *Physical Geography*.

BOSTON MEMORIAL.—A Pamphlet from Amherst College containing the address of the Hon. W. B. Calkoun, (now President of the Massachusetts Senate) on the subject of the Observatory, says that the most liberal individual donation during the past year has been made by the Hon. David Sears, consisting of real estate in the city of Boston, estimated by the donor to be of the real value of \$12,000. This with \$10,000 formerly bestowed, is to constitute the "Sears Foundation of Literature and Benevolence." Mr. Sears gave \$5000 for the Cambridge Astronomical Observatory. It is Boston's great honor that among her citizens there are so many who are interested in the use of their money.