

## Correspondence.

## The Word "Atlantic."

To the Editor of the Scientific American:

In an article by Dr. Le Plongeon, in SUPPLEMENT No. 509, there is, among several remarkable etymologies, one of so wonderful a nature that it ought not to be passed over without comment. Dr. Le Plongeon, speaking of the "Lands of the West" of the Troano and Dresden MSS., says that they were "surrounded by or [were] near the water, the *Atlan* of the Nahuatl, from which the *Atlantic* Ocean derives its name" (!) I had supposed that every intelligent person who cares to know the meaning of words knew that *Atlantic* was, through Latin, from *ἀτλαντικόν*, the adjectival prefix in the Greek name of the Atlantic Ocean—*Ἀτλαντικὸν πέλαγος*, i. e., the sea beyond Mt. Atlas. Deriving the word from a North American Indian language is carrying a hobby too far.

G. W. R.

## The New Star.

To the Editor of the Scientific American:

In your SCIENTIFIC AMERICAN of September 19, 1885, I read a communication from Mr. Wm. R. Brooks, of the Red House Observatory, concerning the new star in Andromeda. I have since that time been watching the papers, hoping some one would suggest whether this new star might not be the Pilgrim, which appeared in the years 945, 1262, and 1572. Allowing it to be a variable star, with a period of 310 to 315 years, it would be *due* again in 1885. Some years ago I read in H. W. Warren's "Recreations in Astronomy," the following:

"In November, 1572, a new star blazed out in Cassiopea. This star was visible in noonday, and was brighter than any other star in the heavens. In January, 1573, it was less bright than Jupiter; in April it was below the second magnitude; the last of May it utterly disappeared. A bright star was seen near the place of the Pilgrim, as the star of 1573 was called, in 1264 and 945. A star of the tenth magnitude is now seen, brightening slowly, almost in the same place. It is possible this is a variable star of a period of about three hundred and ten years, and will blaze out again about 1885."

About the time I read Mr. Warren's book, I saw another notice of the Pilgrim, which traced it *further* back, to the years 630 and 320, and suggesting it might very possibly be the veritable Star of Bethlehem! I cannot lay my hand upon the author of this suggestion, but if it really *can* be traced back to 320 A.D., *why* may it not be?

If the present new star "*does* blaze out brighter than any other star," it will be a most interesting event, especially if it can be connected in any way with that most wonderful of all stars which shone in the East 1885 years ago. Can you or any of your readers throw any further light upon the subject?

S. W. MILLER.

Media, Penn., October, 1885.

## American Whale Fishery.

To the Editor of the Scientific American:

An article in the issue of your paper for August 8, 1885, on the "Right Whale of the North Atlantic," taken from *Science et Nature*, represents so incorrectly the present condition of our whale fishery that a reply and correction ought, in fairness, to be made. The writer, evidently, was not well informed as to matters on this side of the Atlantic. After referring to the former great extent of American whaling, he says:

"In 1856 they still had 655 ships on the sea, but today the industry is almost completely abandoned for lack of whales. Fishing is no longer done, except by a few rare ships from the ports of Scotland, that go out to the polar sea for seal, and fish for whales incidentally. In the large seas of the temperate zones, the South Atlantic, the Pacific, and the Indian Ocean, . . . the whale is now so rare that it may almost be said there is none."

Now, these are by no means fair representations. There are at this moment 130 American vessels engaged in whaling, having an aggregate tonnage of 29,424 tons. New Bedford alone has 82 vessels, of 20,302 tons, and San Francisco sends out 20, of 6,155 tons.

Thus much for the vessels employed; but the whaling grounds are well worthy of notice. Twenty-two New Bedford whalers have spent the season this year "in the Arctic," that is, northward and mostly eastward of Behring's Strait; 16 have been on the South Pacific whaling grounds; 21 have cruised the Atlantic below the line, everywhere from the African coast to South America; while 3 have been engaged in that which is the successor of the old Greenland whaling, their field being Hudson's Bay.

The San Francisco whalers have been in the Arctic, with a single exception. They do not seem to consider that "in the South Atlantic and the Pacific the whale is so rare that it may almost be said there is none." The reports from various ships in the Atlantic of this season, up to the latest dates, read like this: 850 sperm,

185 whale; 290 sperm, 10 whale; 299 sperm, 30 whale; 510 sperm, etc. In the Arctic it has read: 2 whales, 2 whales, 4 whales, 9 whales, etc.; but it must be remembered that these reports necessarily comprise only the earlier part of the season.

The returns for the total whaling fleet of the United States, as reported for this year, from January 1 to September 15, have been 13,366 barrels sperm, 15,749 whale, and 242,780 pounds bone. These, at current rates, are worth \$1,131,000, bringing the value of the year's fishery easily up to \$1,500,000.

This is certainly far below the returns of forty years ago, when our fleet exceeded 500 vessels, but it indicates a branch of industry by no means to be despised, and one not at all likely to die of inanition. M. Jouan's statement of "655 ships still on the sea in 1856" is another error. Even in the strongest days of the whale fishery, previous to 1845, the entire number was never quite 600, and that total had grown very decidedly less up to 1856.

The whales captured in the Arctic are the long known right whale, commonly called by the whalers "steeple top" and "bowhead," which, by the way, is the species represented in your woodcut accompanying the article quoted. It belongs only to the high northern waters, and is never found in our mid-Atlantic regions. Sperm whales, southern right whales, humpbacks, and California gray are the objects of chase in the lower waters.

W. O. A.

## The Aim and End of Machinery.

At the recent meeting of the Institution of Mechanical Engineers at Lincoln, England, a special musical service was held in the cathedral, to which the members were invited by the Dean and Chapter. An address of welcome by the Bishop, Dr. King, formed a part of the evening's service, and in the course of his remarks the Reverend Doctor gave expression to his thoughts in a manner which showed that he had studied the matter from a correct standpoint. Looking at the occupation of the mechanical engineers as one involving the subjugation of natural forces to the will of man, it appeared to him that we were tending toward a state of things in which toil of a severe nature would be annihilated, as even already time and distance had been annihilated by the subjugation of electricity, so that by its action even the very tone of the human voice could be transmitted through long distances. All this, in his opinion, placed the mechanical engineer in a high position among his fellow men. Such was the general drift of the Bishop's remarks.

Let us consider how it is that, with all the aid of steam and electricity, we still toil as hard as we ever did. Is it because machinery does not perform more work than could be performed by hand? This certainly cannot be the case, for it is self-evident that machinery does work that it would be impossible to do otherwise. The truth is that we have gone the wrong way to work. Quality has been subjected to quantity, as one consequence of our original error.

Before the days of steam power, and when the loom, for example, was wholly driven by manual labor, one individual worker could not possibly attend to more than one machine, for the constant presence of the worker was required in order to keep the machine at work. The labor was often severe and protracted. What did steam power do for the weaver? It relieved him of his severe labor, and left him with nothing to do but the light work of piecing broken threads, or refilling the shuttle and generally watching the good performance of the work of the machine. But it was very soon found that one man or woman could do more than this, and in place of tending a single machine it became the custom for one worker to superintend two machines; and as the machine improved in quality, and the turning of the steam engine also improved in regularity, another and another loom was added to the charge of each worker, until now it is not uncommon for one worker to superintend perhaps 4 to 7 looms, while at the same time the rate of work of each loom has progressed rapidly; the number of picks, from being perhaps 20 to 40 per minute in the hand loom, having attained from 100 to 300 in the most modern machines of a like width. Thus the number of yards produced has increased say fifty fold, and the only extra labor which has been employed to produce the steam power which has done this has been the proportionate fraction of the work of the engine driver and fireman, and of the coal carter or other carrier, and the collier. Now, so long as a large number of the earth's inhabitants require clothing which they cannot provide for themselves, the above state of affairs may, and will, continue; but during the last few years, more especially we in this country, who have for long had a supremacy in trade, have been confronted with the fact that many of our old customers have begun to make for themselves, and not only this, but they also aim at making for others who still buy from us. As civilization progresses, the disproportion between makers and users will become smaller still, and perhaps finally disappear; and the nearer we approach to the time when all shall make for themselves,

the more tense will become the situation. Long before such a time comes, however, we shall have some alteration. We cannot go on making millions of yards of cloth which no one will buy, and the weavers will have to turn to other pursuits. Such, however, are not open, for every worker will be confronted with the fact that his productions are not required, and all will be seeking other pursuits and not finding them. It is therefore evident that changes must be made before this state of affairs is reached. The change required is lessened production. As the world now stands, it would not be practicable for us as a country to say we will at once reduce our productions one-half. It would be the signal for our downfall, for the Germans and the French would at once seize the opportunity to produce a great part of our relinquished half. But the time even then would still surely arrive when they also would have to restrain production; and it is clear that some day all manufacturers will have to do this. When this time arrives, it will then be seen how machinery has reduced toil. So far the employment of machinery appears to have simply tended to the production of more goods. We have used it simply as a means to assist us in doing more work, but not, as we ought to have done, to enable us to do in one day the work of a whole week. We have been content to work along at the old strain with an assistant that has done 98 per cent of the labor, the remaining 2 per cent alone having devolved upon us; but we have put into the 2 per cent remnant the whole of the energy which we formerly expended upon the 98 per cent, which the machine now does for us. Thoughtful minds may perhaps long have foreseen what must inevitably be the result of this, to use a familiar phrase, "keeping of a dog and barking ourselves." We have kept our dog with a vengeance, but we have not ceased to bark as lustily as before we possessed a whole pack of hounds.

This cannot continue. We must either do away with machinery, or employ it to do in one hour the work that would take us a day. To dispense with machinery is out of the question, and this leaves only the other course open to us. How such a mighty revolution can take place we do not clearly see; we only see that the question is looming up more distinctly day by day and week by week. The distant rumbling of the storm has been heard this month in Oldham. When the storm has passed, which it will do, though not in our time nor perhaps for centuries, yet it will leave the world better for the change. The work of the mechanical engineer will have accomplished the end which the Bishop of Lincoln prophetically indicated.

It is well that the church should recognize facts which are becoming palpable to many thoughtful men. We live in an era of overproduction. The only way that we have yet been able to find to reduce the surfeit has been to find a fresh market. This we have found from time to time, and in the present strait all eyes are turned toward Africa as a new and extensive outlet for goods. Open up Africa, say our merchants, and it will absorb all and more than we can produce, and leave enough for our Continental rivals also. Granted, we exclaim, but when Africa has been opened up, what next? Let Australia first be filled with people. So be it; but how when, like the United States, they become their own producers? What must next be done? Where shall we turn for a fresh market when the whole earth is civilized throughout? Some nations must, of course, hold pre-eminence in certain pursuits, but the final result to the world at large can be but one—a cessation from toil. We shall have to do less and learn more. What we do will have to be done well. What we produce will have to carry the impress of beauty. We shall have to change many things now existing, but the change will be for the better. The force of competition will have run its course, for it is not possible that it should last forever.—*Textile Manufacturer.*

## Singular Effect of Naphtha.

Recently at the American Rubber Company's Works, Cambridge, Mass., a number of the girls in the coat room were suddenly overcome by the fumes of the naphtha used in the cement on the seams of the coats.

One of the girls suddenly began to laugh loudly and acted strangely, and then fainted. Several others also dropped upon the floor, and before physicians could be summoned more than thirty employes were unconscious or in hysterics. The alarm spread to the other employes, but they were soon quieted by the foremen in charge, and the girls most seriously affected were sent to their homes in carriages. No serious results are anticipated in any of the cases. Under certain conditions the naphtha produces effects somewhat similar to laughing gas.

THE new water works at Bismarck, Dak., are estimated to cost \$100,000, and will not be completed this year. The water of the Missouri is to be pumped into a reservoir 144 feet above the business part of the city, which will carry it to any building.