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American Philosophy---Maury's Sailing Directions.

The early efforts and original discoveries of American philosophers, have been duly acknowledged by the whole civilized world. Of old, we had our Franklin and Rittenhouse, —and for peculiar original discovery the name of Franklin stands very high. In many departments of science our country has recently earned a proud name, but in none so much, we think, as in that peculiar department at the head of which stands Lieut. Maury, U. S. N. America is a great nation, second to none, but as a nautical nation she is the greatest in the whole world, with the exception of Great Britain, and from the very nature of the case our country will, in a few years, be greater than her. The navigation of the seas, then, is at present, the most important of all sciences to our country. To this subject Lieut. Maury has devoted himself with all his energy, great learning, and keen perceptive faculties. There are some men who only can improve—act upon the suggestions of others; these never make peculiar original discoveries. This is not the case with him; he has developed a new field of observation, and this field is studded with new, brilliant, and useful discoveries to the marine interests of our great nation and the world. We have before us his third edition, enlarged and improved, of "Sailing directions," also his "Wind and Current Charts," they are monuments of which we should be far prouder than the most gorgeous marble tablet ever raised to commemorate human greatness.

The Wind and Current Charts of Lieutenant Maury include the Oceanic Currents, the Course of the Winds, and the Temperature. These Charts are constructed upon positive data of observations made by captains of vessels in all the various months of the year, and in the various parts of the oceans which cover two and four-fifths of the area of this planet. A knowledge of the winds at the various seasons of the year, has, by these charts, enabled commanders of vessels to shorten their voyages from the United States to the Equator. A knowledge of the currents of the ocean is of immense importance to navigators, as one single fact will distinctly prove. At one time vessels sailing from England to New York, during the winter season, took a long southern course, and made for Charleston, S. C., which was in almost every sense, the half way house; this was before the Gulf Stream was known to practical navigators, which, in many places, is nearly at a blood heat, and often reaches 90°. At that time Charleston was the greatest seaport in America, and vessels from England to New York, frequently ran down to the West Indies, and wintered there. American navigators were the first who discovered the way to make short voyages. The merchant vessels which sailed between London and Providence, used to make passages in two weeks' less time than the Mail Packets between Falmouth and Boston; and when Franklin was questioned, in London, upon the subject, he inquired the reason of an old New England captain, who informed him that the Providence vessels were generally commanded by New England fishermen, who knew how to avoid the Gulf Stream, while the Falmouth captains were Englishmen, who knew nothing about it. At that time Franklin made it known to navigators that, by simply dipping a thermometer in the water, they could know when they entered and cleared the Gulf Stream. This discovery changed the route across the Atlantic, and shortened the passage from 60 to 30 days. This changed the course of trade; vessels coming from England, instead of running to Charleston, went direct to their port of destination, and when attacked with severe cold, or snow storms, they stood off for a few hours until they reached the tepid waters of the Gulf Stream, in the general warmth of which the crew recovered their frosted energies, and as soon as the gale abated, were ready for another attempt to make their haven. In this way stations were shifted, and Charleston lost its pre-eminence as a seaport.

We learn from this work of Lieut. Maury how New York became the great seaport of the Union. Its rise is attributed to Quaker regularity:—in 1816, Jeremiah Thompson, Isaac Wright, and others, established a line of packets of 300 tons burden, to sail regularly every month to Liverpool. At that time, Philadelphia and Boston had about as much trade, but for the first time in our commerce, the New York Packets sailed regularly on their advertised days, and this Quaker punctuality turned the scale in favor of New York. It gave an impulse to prosperity, and it has now become the commercial emporium of the New World,—and, let us say, it will be of the whole world in 1870. "All these results are traceable to the use of the thermometer at sea." Truly, may we say, upon how small a thread does the fate of cities and nations sometimes hang.

Lieut. Maury commenced these charts with the desire that they should be exclusively the work of American navigators, and that American seamen should furnish all the materials that were peculiar to the work. Before this, American navigators were exclusively indebted to British surveys, which often guided them safely through dangerous places. Many true-hearted Americans have nobly seconded his efforts, while others, we regret to say, have looked coldly on his labors. Others are beginning, in other parts of the world, to follow Lieut. Maury's example, and thus knowledge is increased. Mr. Macfarlane, Assistant Surgeon of the Bombay Geographical Society, has made considerable progress in Wind and Current Charts, belonging to that great country—a country which has 6,000 miles of seacoast.

We would be glad to know that every captain of a vessel in our country was acquainted with the information contained in these Charts and Sailing Directions—but this we are sure is not the case; many mariners are too conservative for their own interests. American navigators, however, are less so than those of any other nation; we therefore anticipate from their use an untold amount of benefit to the commerce of our country.

Quinine.

This is a drug that is now very extensively employed in medicine, and it is the leading one of the Chrono-Thermal system of Dr. Dickson. Its composition is C.20, H.12, O.2, N. (carbon, hydrogen, oxygen, and nitrogen). It exists in the bark of the *Cinchona cordifolia.* There are several species of cinchona which grow in South America, but which are generally divided into three varieties—the red, yellow, and pale. The red furnishes a reddish brown powder when pulverized, and has a bitter taste; the yellow Peruvian bark closely resembles the red, and the pale is much the same, only a greater quantity of quinine is found in the yellow than in the other two—the pale having the least.

The sulphate of quinine is the substance so extensively used in our country for fever and ague. It is made by taking bruised yellow bark and boiling it in repeated portions of water acidulated with sulphuric acid. The decoction is then strained, and milk of lime added, which precipitates the quinine. The precipitate is collected, washed, and dried; it is then powdered and digested in alcohol, which takes up the quinine. The alcohol is evaporated, and the quinine is obtained in a yellow uncrystallizable substance; it is then dissolved in dilute sulphuric acid, and the sulphate of quinine crystallizes from a concentrated solution of it, Bone black, which is extensively used for purifying other substances, is also used to purify this. It is intensely bitter, and effloresces in the air. One pound of bark yields only about 107 grains of quinine, hence it is sold at a very high price. The crystals are very beautiful.

This drug is subject to great adulteration, it being often mixed with starch, sugar, cinchona, &c. In the Chrono-Thermal system of treating fevers, bark, or quinine, or opium, are administered in the intervals of relapse from fever. The Peruvian bark is the great prolonger of healthy relapse from fever. The general prescription, in this method of treatment is to give an emetic first, when attacked with chills and pain, and after that give bark in small doses, and perhaps a mild aperient. Peruvian bark is taken easily with wine, and to produce rest about 12 drops of laudanum should be given along with half a tea-spoonful of the powdered bark, in halt a glass of wine, for a grown-up person, and the half of that for a person between 10 and 20 years of age.

India-Rubber Power Accumulators.

Last week, on page 128, Scientific American, we mentioned the cicumstance of an English gentleman having proposed to apply India-rubber tubes as "Power Accumulators." His name is R. E. Hodges, of London, and he has secured a patent for the same. He recently addresssd a letter to Mr. Robertson, editor of the Mechanics' Magazine, on the subject, which was accompanied with some sketches, one of which we have selected to show our readers what the invention is.

This represents 151 vulcanized india-rubber tubes, each one foot long and all of them contained within an area the diameter of which is 12 inches. Its power is stated to be equal to 4 tons, 7 cwt., 17 lbs., and its own weight only 65 lbs. *a* are the tubes; *b b* are the ring bands; *c c* are the loops or eyes. These tubes will stretch to about seven times their length, and being quite elastic return again to their original length—one foot. It is the self-inherent continual effort to return to their original length, which has induced the inventor to call them "new power accumulators," for according to the power applied to extend the accumulator, so will it return or exert a like force in returning to its original length. They have the advantage of being very usefnl on board of ships, as they float on the water. They can be applied to relieve the sudden jerking on ship's cables, standing rigging, and tow-lines. An accumulator can be inserted as a spring in any part of the cables, or tow-lines; or an accumulator can be secured to the deck by a hook passing through one eye, *c*, and the end of the cable, &c., through the other eye. These accumulators would make excellent railroad buffers. By keeping an accumulator in a state of tension, it then has an accumulated power, and when convenient, it is attached to the body to be moved when the rope which holds it is eased off, and the body to which it is attached is then quickly removed.

The Aztec Children.

There have been on exhibition for some time, at the Society Library Room, this city, what are termed the Aztec Children. It has been stated that they are of a race of pigmies —rather the remnant of a race—away down in Central America. They have created no small sensation in this and other cities, and we do not wonder at it; they are great natural curiosities. We have no faith, however, in their being a distinct race from the South American Indians, nor have we faith in the romantic story published, about their capture and the stealing of them from the place where, it is said, they were held as objects of wonder. We believe they are Indian dwarfs. The profile of the boy is exactly like that of the figures found on the ruins of those cities in Central America, described in 'Stephen's Travels:" this proves conclusively that the present race of Peruvians, &c., are the same as those which built those ancient cities. The Aztec Children are lively, have beautiful black curly hair, and very large black eyes. They are very slender, and the girl appears to be the best formed; she looks like some Indian children, with the exception of the large eyes and curly hair. The boy would afford strong argument for a believer in the Montboddo theory: he has some distinct trait of the Simian tribe. The girl appears to be about 6 years of age, the boy 12; the height of the boy is 34 inches, the girl 29½. The upper lip of the boy projects to a great distance, and he appears to be incapable of ejecting his spittle.

They are interesting specimens of undeveloped humanity, and of a peculiar race of aborigines, still living, but descendants of the oldest tribes in America. They are the greatest objects of natural curiosity that we have ever seen; they are fixed curious facts in natural history, and Prof. Agassiz could make a most splendid article out of them, in proof of distinct species of the human race.

Repeal of a Patent in England.

A case was recently tried before Lord Campbell and a special jury, on a writ of *scire facias.* This was an application to repeal a patent which has been illegally granted, and the action is placed the Queen versus the Defendant. The crown, in this case, must come before the Jury. The case we are about to speak of was the application for the repeal of a patent granted in 1843, to one Steiner, for the manufacture of Garancine (a dye from spent madder, for an account of the process of making it—see page 107, Vol. 6, Sci. Am.) The defendant, Steiner, contended that his patent was good, as he was the first who introduced the process into England from France, and it was a most valuable discovery. It was alledged, on the part of the witnesses to repeal the patent, that the process was known and practtced among chemists and color makers, in calico print-works, for years before 1843, when the patent was secured; also that the process of manufacture had been published before 1843, in a French work called "Le Manuel du Fabricant d'Indiennes," and this work had been known and purchased in England, before the patent was secured.

A great many witnesses were examined on both sides, and Lord Campbell charged the Jury, that if the discovery was new, or first introduced into England by Steiner, they must decide in his favor; if not, then against him and for the Crown. The Jury returned a verdict against the patentee, and the patent was repealed.

Dr. Colton and the Fire Annihilator.

The spunky little Doctor came out in a long Card in the Tribune of last Wednesday, against the report, and the persons composing the Committee, mentioned by us two weeks ago; also against the Journal of Commerce. Giant Colton intends to annihilate all the scribblers and papers—the Journal of Commerce especially—for speaking out upon the Annihilator. The Doctor is great upon gas for extinguishing flame; but, then, it is very absurd for him to try it upon facts—they are sturdy things and cannot be annihilated.

The Gas Contract Vetoed.

The old New York Common Council, with a recklessness and flagrancy not to be surpassed by any of the old English Rotten Boroughs, recently passed a resolution annulling the contract of the present Gas Co., and enteringinto a new one for 17 years after May, 1852. The resolution was passed in violation of Sec. 23, of the Amended Charter; Mayor Kingsland has vetoed it, and his act will meet the approbation of our citizens. It is a great pity that he has had to do the same thing twice, but this shows how recklessly the Board of Aldermen acted.

Minot's Ledge Lighthouse.

A model has been made for a cast-iron Tubular Lighthouse, for the purpose of a gas light, to be supplied from the shore, for Minot's Ledge.

I would suggest, as an improvement, a structure of lattice work, of iron wire. It would, probably, be less expensive, and would present less surface for the wind and waves to act upon. A light could be supported, which, by lettered fixtures, would proclaim to the mariner the name of the Light. The former structure would, undoubtedly, have been now standing, had there not been a house in the top thereof, upon which the wind acted, with lever power, upon its foundation and lower structure. P.