

The River Amazon—A Great Project.

When Lieut. Maury says anything, everybody may be sure it is something new, something striking, something to the honor of himself, and to the benefit of his country. He has recently presented a singular memorial to the Senate and House of Representatives, which embraces new and varied information, and he proposes a new national enterprise, which, if carried out, will give the United States an impetus in trade and commerce, and produce as decided an effect upon our national prosperity, as the possession of the East Indies has upon Britain. But let us quote some extracts from the memorial:

"On account of the currents which flow through, and the winds which blow over, the Gulf of Mexico, the Gulf of Mexico is, for many of the practical purposes of commerce and navigation, a closed sea. Hence commercial men and navigators have maintained that the real outlet of the Mississippi river to the ocean is not at the Belize, but in the straits of Florida.

Similar agents have placed the commercial mouth of the Amazon, not where that river empties into the ocean, which is under the equator, but they have moved it far into the northern hemisphere, and placed it near the commercial gateway of our own Mississippi.

If the drift-wood of the Andes, in the interior of South America, be set afloat upon the head waters of the Amazon, and if another log be felled from the Rocky Mountains, in the interior of North America, and cast upon the head-waters of the Missouri, these two pieces of drift, taken to represent the currents of their rivers and into which they empty, will each, obeying the force of the winds and set of the currents, be drifted out upon the broad ocean through the Florida pass.

The prevailing winds at the mouth of the Amazon are S. E. trade winds, and no vessel coming out of the mouth of that river can stand to the southward on account of the land, nor to the eastward on account of the winds and currents, both of which are directly in the teeth of all sailing vessels that attempt to steer such courses.

Passing a few leagues to the north, the outward bound Amazonian then enters the region of the N. E. trade winds, which compel her, unless she be bound into the Caribbean sea, to stretch off to the northward and westward until she has passed through the region of the N. E. trades, and gained the parallel of 25° or 30° north, by which time she finds herself off our own coast.

Now, this is the course of all vessels under canvass from the Amazon, whether they are bound to the Rio de Janeiro, in Brazil, to India, or to Africa, or any of the markets of the Pacific around Cape Horn, or to the commercial marts of Europe. Be their destination what it may, unless it be along the Spanish main or through the Caribbean sea, they must first steer north to cross the belt of N. E. trades, and in doing so they must pass our doors.

Therefore, for the peaceful and practical purposes of commerce and navigation, there is but one highway from the mouth of the Amazon. On that way the southern Atlantic ports of the United States occupy the position of half-way houses on the great market-way that is some day to lead from the valley of the Amazon to the rest of the world. The market way we overlook. The winds and the waves have placed keys of it in our hands. Let us not, by non-use, suffer it to fall into the hands of others.

If we regard the whole continent of America at one view, we observe that in the equatorial regions it is nearly cut in twain to receive an arm of the sea, skirted on the east by the chain of islands, the Great and Little Antilles, which extend from the peninsula of Florida on the north, to the mouth of the Orinoco on the south; that this land-locked arm of the sea is separated from the Pacific on the west by a narrow neck of continent called "the Isthmus." On the north this same arm of the sea receives the drainage of the valley of the Rio Grande, the Mississippi and the Alabama rivers; on the south the surplus waters of the Amazon, the Orinoco, the Magdalena, and Atrato, are emptied into it also. This sheet of salt water may, therefore, be

treated of as an expansion of the Mississippi on the north, and of the Amazon on the south.

Regarding this magnificent marine basin as a commercial receptacle, we may search the world in vain for another such feature in physical geography wherewith to compare it. It is unique. And for its commercial capabilities, it must for ever remain unsurpassed and unequalled.

The valley of the Mississippi extends, according to the computation of physical geographers, over an area of 982,000 square miles, that of the Amazon and its confluent, with the Orinoco as one of them, embraces that vast area more than twice over. The great Amazonia valley is said by the same authority to cover an area of upwards of two millions of square miles in extent.

The Mississippi river is computed to afford a littoral navigation of 15,000 miles in length, some put it down as high as 20,000. But the Amazon and its majestic tributaries wind through an inland navigation of such an extent that, if stretched out in one line, its length would be enough to encircle the earth three times. It is set down as high as 80,000 miles. The Amazon is said to be navigable for vessels of the largest class up to the foot of the Andes. The Pennsylvania 74 may ascend that high.

And so traversed with navigable streams and water-courses is the great Atlantic slope of South America, that there are in it no less than 1,500 miles of "furos" or natural canals, through which it is practicable for vessels to cross from one river over into another.

Were this valley settled upon and subdued to cultivation, "the Indies," in a commercial sense, would thereby be lifted up and placed at our doors, for all the productions of the East flourish there; and so jealous and afraid of such result was Portugal in her day, of East India possessions and commerce, that by a royal ordinance it became unlawful to cultivate in the great Amazon basin a single drug, spice, or plant of East India growth or production.

The foundation of commerce rest upon diversity of climate; for without diversity of climate there can be no diversity of productions, and consequently no variety of produce, which begets barter, and thus gives rise to commerce.

Imagine an emigrant—a poor laboring man he may be—to arrive from the interior of Europe, as a settler in the valley of the Amazon. Where he was, his labor could but support himself in the most frugal manner, and he was then no customer of ours. But in his new home, where, with a teeming soil and fine climate responding to his husbandry, and where the labor of one day in seven is said to be enough to crown his board with plenty, he works with his wonted diligence, and out of his own produce—coffee it may be, or drugs, or spices, or gums, or cocoa, or rice, or tobacco, or some other of the great staples of that valley; but be it what it may, he has enough to give largely in exchange with us for all the manufactured articles, whether of fancy, necessity, or luxury, that he craves the most. In the long list of what the emigrant there will require of us may be included that great assortment of goods known as "Yankee notions;" also pickled beet and pork, hams and flour, butter, lard, and the like; for the climate of the Amazon is not favorable to the production and stowage of any of those things. It is particularly unfavorable to the curing of meats and the grinding of flour; it is also unfavorable for all in-door occupations. And in the settling up of the valley of the Amazon, considering that New York and Boston are but eighteen or twenty days under canvass from the mouth of that river; considering that the winds are fair for going and free for coming, and that the Atlantic ports of the United States are the only market-places for which the winds are thus propitious—considering all the physical advantages which we thus enjoy, and regarding this immigrant as the type of a class—it may be expected, whenever the tide of immigration, guided and sustained by American enterprise and energy, shall begin to set into that valley, that New York and Boston, with the manufacturing States, will have to supply those people with every article of the loom or the shop, from

the axe and the hoe up to gala dresses and river steamers.

The man, therefore, who in his native Europe could not buy a cent's worth of American produce, simply by being transferred as a settler in the valley of the Amazon becomes at once a producer, and one of the best customers to American merchants that it is possible for a commercial people to have; and Europe is ready, as soon as the American commerce, backed up by American energy, shall give the world tangible evidence of the riches and resources of that country, to pour forth its hordes into it.

American merchants, American ships, and American sailors, will therefore be the chief competitors for the fetching and carrying of all that trade to which, in process of time, two or three hundred millions of people in the valley of the Amazon, and which it is capable of sustaining, will give rise.

The commercial future of that valley is the most magnificent in the world.

It belongs mostly to Brazil, and our trade with Brazil is already greater than it is with any other country whatever, excepting only England and France.

From the United States to Rio the voyage is long and uncertain, and our merchants are falling into the habit of conducting their Brazilian correspondence through England. There is a monthly line of steamers thence to Rio; its time of going is 29 or 30 days; the average sailing passage from New York to Rio is from 40 to 50 days. Hence it is more convenient for the business man to send his letters via England.

Now, there is a line of steamers from Para, at the mouth of the Amazon, to Rio. A line from Norfolk to Para, equalling in speed the Collins line to Liverpool, would make the passage in eight or ten days. At the same rate the distance thence to Rio might be accomplished in another week or ten days, thus bringing that great commercial mart of South America within twenty instead of forty days of our business men.

All the lines of ocean mail steamers that have yet been directly encouraged by the United States government on the waters of the Atlantic have their terminus in New York.

No direct encouragement to steamship enterprise has been given by the government to any port south of New York.

Your memorialist is opposed to centralization, and therefore for this, as well as for other reasons, prays that Norfolk or Charleston, or some other southern Atlantic port, may be made the terminus of a line of United States mail steamships to Para, touching at Porto Rico and such other West India Islands as may be agreed upon."

This is truly a magnificent scheme, and we hope it will be carried out in the course of twelve months. We would like to have published all the memorial, but it is too long for our columns; we have, however, given its leading ideas. We are, generally speaking, more ignorant of our own continent than of either Europe or Asia. This will not be so after we get the line of steamers established to run to the mouth of the Amazon. Wherever the American goes all assumes a new aspect. What was California before it came into the possession of the United States? Nothing but a wild region with a miserable and sparse population. What is it now? a young giant encased in gold.

Mulching Potatoes.

For the purpose of directing attention to the subject in season, and inducing the trial of experiments, we give the substance of a mode of raising potatoes, as performed by three different farmers, by mulching copiously with straw. The land, prepared as usual, was laid off in rows two feet apart, manured in the furrows; the potatoes dropped and covered as usual, leaving a level surface, and straw then applied six inches deep. The straw kept the surface moist and mellow throughout a long drouth, and the crop was 300 bushels per acre, the tubers being of the finest quality, although potatoes were generally nearly destroyed by the rot. "What struck us as a peculiarity," says the editor, "was their singular smoothness, being quite as much so as apples. Mr. Somers laid his potato cuttings upon unplowed, unprepared ground, merely covering them with straw.—[Albany Cultivator.

For the Scientific American.

Correct Ideas about Compensating Pendulums.

I beg leave to occupy a small space in your valuable paper, to correct what I call an error in the construction of a compensating pendulum as described by Wm. E. Lukens, and I think it will not give isochronous results. A truly compensating pendulum preserves the distance between the centre of oscillation and the centre of suspension in all ordinary changes of temperature, and in general the means used to preserve this distance, are attached to the centre of oscillation, and form a part of the "ball," but in Lukens' pendulum it appears that an attempt is made to effect compensation by altering the centre of motion with respect to the pendulum rod, and he has not shown how the piece of metal having the "slit" which determines the centre of motion, is kept at an unalterable distance from the top of the "wooden support," on which is erected the "rod of the same size, material and length of the pendulum rod," for it is very evident that if this distance be liable to alteration, the pendulum length will vary accordingly.

In Lukens' pendulum, if we suppose the centre of oscillation to be exactly opposite the top of the "wooden support," at any particular temperature, then it will be opposite at any other temperature, for if of the supporting rod and the pendulum rod be of the same material and length, the downward expansion of the pendulum rod will equal the upward expansion of the supporting rod, and the result will be the same during contraction; this is very clear in Lukens' description, but he says nothing about the distance between the wooden support and the slit, nor the means by which that distance should be unalterably maintained.

The wooden or metallic fixtures used to secure the wooden support and the slit, must alter by change of temperature as well as the pendulum rod, and as long as these are without a compensating arrangement the pendulum cannot be isochronous. The imperfection, then, is in the want of an arrangement to preserve, invariable, the distance between the top of the wooden support and the slit, and a combination of parts to do this would be about as costly and as complex as the so-called *gridiron* arrangement, but this or the better plan, the mercurial compensator, may as well be applied to the pendulum rod at once, thus forming the best, simplest, and most effective isochronous pendulum. HALDE COOPER.

Baltimore, Md., 17th May, 1852.

[We have received a great number of communications on this subject, some of which are extremely well written, but we cannot afford any more room for them at present.

An Old Invention Revived.

In the "Scientific American" of May 1st, under the heading of "Recent Foreign Inventions," is a notice of one (patented) for "Delineating Objects," by James Palmer, of Paddington, Eng. However original such invention may be with Mr. P., he is not the first one. I have an old book, entitled "Philosophical experiments and observations of the late eminent Dr. Robt. Hooke, and other eminent virtuosos in his time," published by W. Derham, London, in 1726, in which is published a communication to the Royal Society, by Dr. Hooke, Dec. 19, 1694, giving an account of the same thing, and accompanied with a copper-plate cut, representing the operation, looking through a glass, and on which he is drawing with a pencil the outlines of mountain scenery. JOHN P. NESSLE.

Albany, N. Y., May 27, 1852.

A Runaway Lake.

A short time ago a lake two miles and a half long, and located about eight miles from the village of Brighton, Canada, burst its banks and completely drained out the water on the neighboring land. The bank through which the water broke was about forty feet in height. The rush of water dug a channel twenty-five feet deep and one hundred feet wide for a length of two miles, uprooting forest trees, carrying away mill-dams, and drowning two men. Thus occurred the singular phenomenon of a lake being dried in a few days. The work was done with astonishing rapidity, independent of the drainage system.