

they were going so soon, or if you had thought that your faithfulness to their souls might have saved them—now to human view lost for ever! Do you indeed believe that the issues of this earthly probation are changeless and eternal? Then since this probation may close in a night, it cannot be out of season to improve the day and the evening well.

CALIFORNIA.

We have received a large number of letters from all parts of the country, asking information in regard to the best way of getting to California, the cost, &c. &c. As we have no time to reply to each of these letters, we have thrown what information we possess upon the subject into the annexed article, and publish it for the benefit of all intending to seek their fortunes in California.

The quickest and best route is via Chagres and Panama. Between New-York and Chagres there are now the following steamers running:

Howard & Co's Line.
EMPIRE CITY. CRESCENT CITY.

George Law's Line.
OHIO. GEORGIA.

Howland & Aspinwall's Line.
CHEROKEE. PHILADELPHIA.

These are all staunch, safe and fast boats, and well commanded. The price of passage by the Howard line is \$65 in the steerage, and \$90 to \$125 in the Cabins. The steerage passage includes mattresses and board. The prices by the Law line are, State-Room berth, \$100; stateroom berth, \$90; steerage, \$50—also including bedding and board. By the Aspinwall line, After Saloon, \$125; Forward Saloon, \$100; Lower Cabin, \$90. The prices by the Law line are lower than by the others, because these steamers do not go direct.

Cabin Passengers are allowed eight and ten and steerage passengers six cubic feet of baggage, without charge. Freight is taken to some extent at 25 cts. per foot, but the difficulty of getting it across the Isthmus is very great. The cost is about 25 cents per lb.

The transit of the Isthmus is made in two to three days without much difficulty, at a cost of about \$25. Passengers go by the steamer Orus or by canoes to Gorgona or Crucés, and thence on foot or by mules and horses to Panama. At Panama living is moderately cheap, and by hiring a room and living at a restaurant one can get along for \$4 or \$5 per week.

The boats on the Pacific, or to be there soon, are as follows:

Howland & Aspinwall's Line.
OREGON, PANAMA,
CALIFORNIA, TENNESSEE,
UNICORN, CAROLINA.

Howard & Son's Line.
SARAH SANDS, NEW-ORLEANS.

M. O. Robert's Line.
COLUMBUS, ISTHMUS.

There are also two other steamers soon to be sent round the Horn to join Howard & Son's line.

The prices on the Pacific are the same in all the above steamers: First Cabin, \$300; Second Cabin or Steerage, \$150, board included. Passengers are allowed ten cubic feet of baggage. Freight in the Howard Line is taken at \$2 per foot and we suppose in the others at the same price.

The Aspinwall steamers are full, we understand, on the Pacific side, up to May. The Howard steamers are also full to May, and it is doubtful if a steam passage could be obtained from Panama until after April. We believe that sailing vessels are running between Panama and San Francisco, and passage can be obtained at from \$150 to \$200. Between New York and Chagres there is no difficulty in obtaining a steam passage.

Those who prefer a voyage round the Horn can find at any time fast and substantial vessels at this port about to sail for San Francisco. The time of the voyage ranges from five to six months, and the price is \$100 to \$300, according to the accommodations. Freight is taken at 65c a 70c per foot. There are some fifty-two vessels of all sizes, including two steamers, up at this port for California.

The overland journey from Independence, Mo. is slow, tedious, and in some measure dangerous, but cheaper than by the Isthmus or the Horn. We do not know enough about it to go into any detail. Persons wanting information should address some one at St. Louis.

The journey between New-York and San Francisco via the Isthmus of Panama can be made in 32 to 40 days, and any one wishing

to save time should take this route. The others are very uncertain.

We believe by all the steamers the passage money, or security, is required in advance. The rule is the same by vessels around the Horn for passage, but freight is taken frequently, the freight to be paid in California.

A little pamphlet, called "The Passage of the Isthmus," published by Messrs. Jennings & Harrison contains much information of value to the traveller Californiaward.—*New-York Tribune.*

The voyage across the isthmus of Panama is the quickest, but there are great difficulties in the way. Chagres, which is about fifteen to thirty days' sailing from New-York or Philadelphia, is a very unhealthy place, and then the journey of two or three days across the isthmus has to be undertaken in an intense tropical heat. The route by sea round Cape Horn, is nearly 17,000 miles, and occupies from 140 to 150 days from New-York; from England, five to six months. This route is reckoned the best. There is an English settlement—the Falkland Islands—near Cape Horn. Vessels are now on the point of sailing from the principal British ports. By procuring a map, each of these routes may be traced. An American paper gives us the following table of distances from New-York to San Francisco, which is situated on the seacoast, twenty miles from Sulters Fort, where the lower mine is discovered, and forty miles from the upper one.

Distances from Sandy Hook, New-York, to	Miles.
San Francisco.	
Sandy Hook to Charleston Bar,	614
" " to Savannah,	680
" " to Havana,	1,260
" " to Balize,	1,771
Havana to Chagres,	1,048
New-York to Chagres,	2,308
Chagres to Panama,	50
Panama to Rio Realgo,	700
" to Acapulco,	1,500
" to Mazatlan,	2,030
" to San Diego,	3,000
" to San Francisco,	3,500
New-York to San Francisco, via Cape Horn,	17,000

Emigrant's Almanac.

The Farm.

PROFESSOR JOHNSTON'S FIRST LECTURE,

BEFORE THE LOWELL INSTITUTE.

Reported for the Puritan Recorder.

He announced the object of this course of lectures before the Lowell Institute to be, to show the close connection which exists between the natural sciences and agriculture.—This object does not require us to dwell on the importance of agriculture, nor on the increased attention which it has lately received both in Europe and in America, nor on the antiquity of the art, nor on the manner in which a knowledge of it was anciently transmitted by tradition. I would establish the conclusion that science may be applied to agriculture as successfully as to commerce and the arts of life.

This general subject presents several subordinate topics, of which *Physical Geography* is the theme of the present lecture. The influence of this on agriculture is powerful; as the practical farmer learns from facts, and the scholar from science. *Physical Geography* treats of the physical structure of the earth, and the changes which it undergoes by the action of water, wind, heat and other causes. These have a great effect upon the productions of the soil; as we should see, if we were to go from the equator, where spices, cotton and tropical fruits grow, north towards the pole, we should enter successively into regions where the productions are grapes, wheat, barley, grass, fruitless vegetation, until we reached the region of perpetual ice.

Hence latitude and temperature have a powerful effect upon the agricultural productions of a country. Take the United States for illustration. In the South you raise oranges and cotton; in the Middle States, and in the North where the temperature is raised by large bodies of water or other causes, wheat; and in the Northern States generally, barley, Indian corn and grass.

The sugar cane flourishes best where the mean temperature is between 66 deg. and 67 deg., as in Spain, the Azores, the West Indies and Brazil. In these it grows most readily, though natural causes may modify the climate of other countries in which it may be cultivated successfully. Of these causes the most powerful are wind and water. The at-

mosphere continually takes up water from the ocean, lakes and rivers, by evaporation and other processes. As it rises, it cools equatorial countries, and conveyed from the equator toward the poles it warms the temperate and frozen zones. The hot air from the equatorial regions of Africa, passing over the Atlantic, takes up a large quantity of water, and when it reaches America it cools and moistens the soil and makes it yield crops which it would not otherwise produce.

The elevation of a country above the level of the sea, affects its agricultural productions. Of this, we should find a beautiful illustration if we were to ascend a mountain in Mexico; we should see at its base and for a considerable distance along its sides, the various productions of the torrid zone; farther up, those of the temperate zones; and so on till we should enter the region of perpetual snow and ice.

The lecturer gave many illustrations of the influence of these causes on temperature, and consequently on agricultural productions. He spoke of the action of the trade winds, which passing from the Atlantic over Brazil, strike the Andes, and rising, deposit on them the water which they convey, in rain, snow and ice, till passing over their highest peaks, they fall warm and dry on the soil of Peru and Chili, where there effects, otherwise prejudicial to vegetation, are counteracted by the wind and moisture from the Pacific seas.

In addition to the tides and waves, the currents of the ocean essentially modify the temperature and agricultural productions of a country. Consider, for instance, that from the south-west of Africa, across the Atlantic to the coast of America, it is cooler than the water through which it passes, and reduces the temperature of the equatorial countries on the eastern shores of this continent. But here it divides, and a part of it collects in the Gulf of Mexico, and, issuing thence, is called the *gulf-stream*, which runs north along the coast of the United States, and then re-crossing the Atlantic, strikes the coast of Scotland and of Norway, and is much warmer than the water through which it runs. It carries the region of perpetual ice much farther north than it is in the centre of America or of the Russian Empire. It raises the temperature of the countries along which it passes, and prepares them for cultivation of which they would otherwise be incapable. But for its influence the north of Ireland, most of Scotland, the whole of Norway and Sweden, would be either frozen ground or unfit for agricultural purposes. A similar influence is exerted by the chief current of the Pacific Ocean on the agriculture of Chili and Patagonia.

The subject of the next lecture is the relation of Geology to Agriculture.

Value of Corn Cobs.

A friend who had read an article in some paper, recommending corn cobs, ground or unground, as an excellent and valuable feed for stock, undertook to test the truth of the statement for himself. He had a large quantity on hand, and after providing himself with the proper vessel, (a half-hogshead tub,) he filled it with cobs, and then added a solution of salt in water. In this steep the cobs were suffered to remain, till they had imbibed a sufficiency of the fluid to make them soft. In this condition they were then fed out to the stock, at the rate of half a peck to a full-grown cow or ox, in the morning, and the same at night.—He remarked that all his animals were extremely fond of the cobs; that they consumed a much less quantity of hay and grain than before he commenced giving them this feed; neither did they require salt in its natural state. He has also ground several bushels of cobs, and finds the meal an excellent article for making mash.

I have used corn and cob meal, ground fine, with and without oats, for horses, the last 12 or 14 years, and I think it an excellent feed. It keeps a horse loose in his bowels, his hair lies smooth, and it makes a great improvement in his looks. I also use the meal with wheat or oat chaff, to feed horses. When I first came to live in the neighbourhood, I was ridiculed by the neighbors, who said my horses would all die before spring; but when spring came, they were fatter and in far better condition than theirs. I found that they took my advice after this, and fed the same as myself, making a great saving in feed.

Cutting Fodder for Stock.

That cutting fodder for stock, especially the coarser kinds, is a subject worthy of more attention among farmers, will, I believe, be ad-

mitted by all who have given it anything like a fair trial. Cut fodder, of every description, is of more value for stock than uncut. I have known persons to be of the opinion that a horse would thrive as well upon cut hay, as he would without its being cut, and a moderate allowance of oats added. This may be claiming too much for it; but yet there is a strong argument in its favor.

Horses as well as other stock, appear to relish the same fodder better for its being cut; besides the advantage of eating it in half the time, allowing more for rest. It also has a tendency to obviate the difficulty to which cattle and horses are subject, in the winter season, when they are kept upon dry fodder, of being bound. But another item in the account, and by no means the least, is in using up coarse fodder, such as wheat and oat straw, corn fodder, poor hay, &c., which will be much better eaten by being cut than without.

I have repeatedly seen fodder offered to cattle and refused, and the same fodder passed through the hay-cutter, returned to them apparently to their satisfaction, from the disposition they made of it. Hay that is musty is much improved by cutting, as the dust becomes liberated by the operation. There is one other benefit to be derived, which is in mixing straw, poor hay, &c. with that which is good, by which means all will be eaten. Some, however, may object, that straw and poor hay are in a manner worthless—therefore nothing is gained. But we may recollect that the time has not long since gone by, when very many doubted there being any advantage in grinding corn and cobs together for provender; but experiments have established the fact that there is economy in it; and from some experience in mixing fodder, I think the advantage fully equal to mixing cobs with corn for provender.—*Maine Farmer.*

Raising Turkeys.

Mr. Charles Starr, Jr., says:—"Heretofore I have had so much difficulty in raising turkeys, as to be almost discouraged, but of late have been very successful in consequence of pursuing the following mode, recommended to me by a lady, who said she had no trouble with them. When first hatched, she gave no food for twenty-four hours, then gave a little curd made from buttermilk, increasing the quantity as they grow older. They should be secured from the wet, and by no means have Indian meal; but with the curd they may have, in moderate quantities, wheat bread soaked in buttermilk. I believe Indian meal is fatal to the greater part of the young turkeys which die in the attempt to raise them. To allow them to wander too much is usually attended with considerable loss. I have found it a very good plan to make an enclosure of boards six feet square or so, and twelve to eighteen inches high, and set in a grass field during fine weather, in which to confine young turkeys. This is removed occasionally from place to place, and they thus get all the fresh green food they may need, besides an abundance of insects.

Burns and Scalds.

Scarcely a week passes in which the feelings of newspaper readers are not painfully excited by published accounts of dreadful accidents by fire, or steam, or boiling water.—We are confident, therefore, of rendering a service to humanity by giving larger publicity to the following passage from a highly interesting paper in the last number of the *American Journal of the Medical Sciences*, being the "Notes of Hospital Practice at Bellevue," by D. M. Reese, M. D. resident physician:—

BURNS.—Among the most numerous cases brought into the surgical wards of charity hospitals, everywhere, may be reckoned the injuries received by burns and scalds, which, when extensive are too often fatal. In the treatment of these injuries we have had great experience and uniform success, when the patients were brought in soon after the injury. No fatal case of recent burn or scald has occurred in the hospital, although several have been extensive and severe. The universal treatment of all such cases is to cover the parts with wheaten flour, thrown over the wound by a dredging box, which, if thoroughly done so as to exclude the air and prevent its temperature from reaching the suffering tissues, will afford instant relief from pain, and allay all that nervous irritation which is the chief source of immediate danger in all cases of extensive burns. We have had opportunity to test this practice in terrible burns occasioned by explosions of gunpowder, in scalds from the bursting of steam-boilers, in examples of