

Scientific American.

NEW YORK, MARCH 4, 1854.

What we Drink; Tea and Coffee.

A correct knowledge of the beneficial, or deleterious effects of any kind of meat or drink, can only be obtained by experience. The food of man is exceedingly diversified, and so is his drink. No person can set up his standard of meats and drinks, as the best one for all others. The food and drink most suitable for people living in a certain locality, may be totally unsuited to people living in a different one.—And besides, it is impossible for a person living in the arctic regions to obtain the same food as one residing in the tropics. The Esquimaux cannot raise wheat nor the Laplander maize, or rice; they must therefore use just such food as their own climates can produce.—Some assert that water alone is the natural drink of man; this may be true, but how can we be satisfied of its correctness? It may just as truly be said, that all grains, vegetables, fruits, and flesh, should be used without being cooked—in their natural state—as to assert that water alone is the natural beverage of man. Human beings are not guided by instinct, but reason and experience, and this is the reason why civilized men neither eat nor drink like the brute creation. All nations and peoples, above the very lowest stages of barbarians, use some kind of beverage, as a necessary concomitant of life—just as much as their solid food. We find that many nations, have used different beverages at different periods of their history; this is manifested in a most extraordinary manner by the general use of tea and coffee at the present day, by European nations, and by ourselves—beverages with which our forefathers three centuries ago, were totally unacquainted. These beverages, when first introduced into Europe were denounced from pulpit and press, as being temptations of the evil spirit, and yet for all this, neither pen nor tongue have been able to stay their use or progress. This is a serious question, for 37,669,312 lbs. of black and green teas, were used in the United States in 1853, and no less, we are sure, than 225,000,000 lbs. of coffee, the latter averaging 3½ cts. per lb. and the former 37½ cts. per lb., the value of which is \$33,250,991. Taking our population to be 27,000,000—not far from the mark now—and allowing for infants, children and those who do not use such beverages, it is a fair estimate, to assume, that the amount of tea and coffee were consumed by one third of our population, which would amount to 25 lbs. of coffee, and nearly five pounds of tea for each, but even allowing that one half of our population indulge in the use of these beverages, it amounts to 15 lbs. of tea and coffee per annum, for each—an enormous quality. If these beverages are injurious to health, it follows that we exhibit the very essence of foolishness by paying \$33,250,991, per annum, for them in their raw state; certainly this cannot be very creditable to our boasted civilization.

The prevailing opinion of scientific men at the present day, is not unfavorable to their use; Knapp asserts, that tea and coffee as beverages, are more than mere habits, and Liebig is friendly to their use, asserting that tea contains the active constituents of mineral springs.

In some parts of the world the inhabitants—such as the nomadic tribes of Tartary, who are a sturdy and healthy race—use tea both as a beverage and a solid food. They use the leaves as we do dried apples, and the beverage as we use soups. A man and a nation may abuse a good beverage, and then blame the beverage for the evil results of their own imprudence. A change of food is beneficial to man, and so it may be with drink. A certain kind of food or drink may agree with a person's constitution for a number of years, and then it may cease, (perhaps from some cause totally unexplainable) to be beneficial, or rather, he will find it conducive to his health to change it for some other. There are habits of a very bad character, which are so transparent as to be seen at a glance,—but it is not so with tea and coffee. As this question has a very important bearing on the health and the purses of our people,—

it deserves more than common attention. Food, drink, clothing, houses, and fuel, are the grand physical necessities and comforts of life. We could do very well without gold; it does not add a single essential comfort to life, but it is very different with any of our common foods or drinks. The richest man in this world merely gets his living; he cannot eat and drink more than the well-fed peasant—so far as the essentials of existence are concerned, there is not difference between them. Every question, then, of food or drink, is of incalculable importance; far more so to us than those which relate to Court dresses or Russian wars. This question—the use of tea and coffee—is one respecting which no person should feel indifferent. If such beverages are injurious, as some say they are, let us save our money and health by abandoning them forever,—but first of all, let us have the conclusive proof, by accumulated evidence, of their deleterious influence established.

An Efficient Steam Navy.

If the above title was applied to our navy, it would certainly be a ridiculous misnomer. At the present moment there are not over two—certainly not more than three—efficient steamships belonging to our navy, and these, if efficient, are not sufficient for the wants of our country. When news of the San Francisco's disaster (it having been seen in a disabled state) arrived at our navy headquarters, there was not a competent steamship belonging to our navy at hand that could be sent to the rescue. Was this creditable to our government? No. Did it dishonor us in our own eyes as a people? Yes. We feel humiliated as Americans when we reflect upon the miserable state of our naval steamers, and this is the reason why we have so often spoken out on the subject, and why we will speak out again and again until this blot on our national character is removed. It was fortunate that the last Congress paid no attention to the recommendation of the late Secretary of the Navy to build a hot air frigate; but at the same time such a vessel might have done as well as some of our steam frigates, namely, four miles per hour with a fair wind and a favorable tide. There is a new steam frigate belonging to our Navy, named the Princeton; we have spoken of it before, and have no intention of saying any more on the subject at present, than merely to state that extensive repairs have been made upon her, in this port, and she proceeded to sea last week to make a new trial trip, on which she behaved with dignified slowness. We allude to this at present merely to suggest to the Secretary of the Navy, if he wishes to confer honor upon his name, and redeem the character of our Navy, he must see to it that no more Princetons are constructed during his term of office. We suppose that this vessel, from first to last, has cost about \$800,000, and and yet at best it is neither an efficient nor creditable steamer.

By late accounts from Europe it appears that the British steam marine amounts to 55,000 horse power—enough to match all the steam fleets of the world put together. This force has been increased from 15,000 horse power up to its present astonishing amount in about 18 months. Such an exhibition of energy and go-aheaditiveness is more American-like than that which our own government officials have hitherto exhibited with respect to our navy. We do not need such a large steam navy as this, but we certainly do need a better and much larger one than that which we have at present. We ought at least to have twelve or fifteen first-class steam frigates, whereas we have not one. We have now a surplus revenue coming into the national treasury; this is fortunate; we need it all to raise up an efficient steam marine.

It indeed affords us some pleasure to know that our government has at least awakened to some sense of the necessity of a naval reform. On the 23rd ult. the Senate passed a bill appropriating \$3,000,000 for the construction of six new steam frigates; this is well, but it would have pleased us better, if ten instead of three millions had been appropriated for building ten first-class frigates. We do not believe that a first-class steam frigate can be constructed for less than a million of dollars. We need

at least twelve new steam frigates, but we are grateful for the small appropriation which has been made; it is a good beginning. If they are well built—and they will be if the practical engineers of the navy have their say—we shall feel some pride in having been the constant advocate of a steam naval reform. We do not expect war, we do not want it, we hope we may never see it, but it is best to be prepared for the worst.

We consider war, however, only as a subordinate occupation for our steam navy. We want such vessels principally for the performance of acts of national humanity to our commerce on every sea,—that should be their chief business.

It affords us some gratification to know that amid the political rancor exhibited at Washington, some important national interests are not being overlooked. It is our duty to agitate this subject upon all proper occasions and we shall cease not to do so, until every American citizen can lift his voice in exultation and say, "now we have an Efficient Steam Navy."

Platinum in American Gold.

In conversation with a gentleman, a few days since, who employs a great quantity of gold and iridium in his business, and who must have these two metals, separate, and in a state of great purity, he remarked, "it is strange that although there is iridium in our California gold, I have never seen any of it for sale. I am also sorry to say that I find grains of platinum and iridium oftentimes in our American coins, which should not be found there, and which unfit such gold for my business. The iridium which I use is obtained from Russia, and the gold mostly all foreign coin." This is as much as to say, "our California gold is not so well purified as it should be, and as iridium commands a higher price in the market than gold, it should be extracted from the latter with great care."

GOLD SEPARATION—In a letter to the "London Mining Journal," J. H. Rundle, of the Colonial Gold Works, at Rotherhithe, states that mercury, in the separation of gold from auriferous sands, unites with it in varying quantities. The quantity of gold absorbed by mercury depends, he says, on the following conditions:—First, the more or less finely divided state of the gold in the ore; second, the length of time during which the mercury remains in contact with it; third, the temperature at which the amalgamation is conducted; fourth, the presence of other metals in the amalgam.

The following method of separating gold from the mercury, when the latter by assay is found becoming too rich, is employed by him at the aforesaid gold works:—

"The mercury, after being strained, is assayed; granulated zinc, previously cleaned with dilute sulphuric acid, is then added to it. As soon as the zinc is completely amalgamated, which takes place in a few hours, the mercury is well stirred and re-strained; a solid amalgam is obtained, containing, practically speaking, the whole of the gold, and the greater part of the zinc which has been added. The proportion of zinc necessary is about one-third the weight of the gold to be extracted—i. e., an equivalent of zinc to one of gold. With less, the whole of the gold is not obtained. If more than an equivalent be employed, the mercury retains a considerable quantity of zinc; the difficulty of refining the gold is also increased. When the object is to extract all the gold, it is advisable to use a small excess of zinc, as there are generally traces of other metals in the mercury, which interferes with the uniformity of the results."

Interesting Papers on Flax.

We shall soon commence the publication of a series of articles on Flax, Hemp, and the Tropical and Sub-Tropical Fibrous Plants, considered botanically, historically, commercially, and statistically, with a special reference to their bearing upon the agricultural and industrial interests of the United States. The articles will embrace the results of a Commission recently instituted by the French Government, to inquire into the condition and progress of the Flax Culture and Manufacture in Europe, not heretofore translated. It will form a most interesting subject for all classes of our readers.

Value of Foreign Patents.

FORTUNE OF A YOUNG AMERICAN INVENTOR. One of our foreign clients—a young American—has just sold his British patent for the extraordinary large sum of £120,000, (nearly \$600,000) and his patent for France, on equally advantageous terms. This certainly affords great encouragement to those of our countrymen, who have valuable inventions adapted for successful introduction into foreign countries. It would appear, from the success of this young American abroad, that whenever the real merits claimed for his invention were established, his fortune was made. No class of men are better entitled to fortune and fame than our inventors; their works confer benefits upon all mankind. The astonishing success of our countryman, spoken of, abroad, is more than we expected when he left our city for London, but it shows us, that the days of making fortunes rapidly are not yet over.

There are many inventors among our countrymen whose future career may be as prosperous. A good invention patented abroad and well managed there, is perhaps more profitable than a patent at home. A valuable invention, however, may, from bad management, bring no remuneration to the ingenious inventor; this oftentimes occurs,—it is a pity that it should be so. The inventor spoken of, who has sold his patent in England on such advantageous terms, had his machine illustrated in the columns of the "Scientific American," and he obtained all his foreign patents through our Agency.

Dr. Lardner and Ocean Navigation again.

Not long ago Dr. Lardner was re-attacked through some of the London papers, by anonymous correspondents, for having predicted "the physical impossibility of navigating the Atlantic by ocean steamers." To these attacks he has replied through the London "Times," stating that what he did say respecting regular steam navigation across the Atlantic, in 1836, he now reiterates with emphasis; and he accuses those who have misrepresented him, with ignorance of what he did say, and what has since transpired to verify his predictions. His assertion was, "that in the then present state of Atlantic steam navigation, voyages could not be maintained profitably." The results have shown this to be true,—the first vessels that were employed to establish Atlantic steam navigation, all failed as commercial speculations. Without large government subsidies, neither the Cunard nor Collins steamers could be sustained.

Nutritive Value of Rape Cake.

Prof. Emil Wolff, of Germany, has made some valuable experiments with the cakes of compressed rape seed. The experiments were made with cows, in order to see what effect the use of rape-seed cake, as a portion of feed, would produce upon the milk.

It was found that when too much of the cake was fed out, it imparted a bad taste to both the butter and the milk, but that 1 lb. of the rape cake, was equal to two pounds of hay for the purpose of maintaining an average living weight, both in cattle and in sheep. It was also found that about 1½ lbs. of the cake was sufficient to be fed out to one milch cow every day, which quantity had a very beneficial effect in the production of milk. Both as respects the production of milk in cows, and for fattening cattle and sheep in general, Prof. Wolf has come to the conclusion that no food exceeds rape-seed cake, when prudently fed in small quantities along with other common food, such as hay, potatoes, beets, &c.

Report of the Commissioner of Patents.

We have had the pleasure of examining some of the proof sheets of Commissioner Mason's annual Report of the Patent Office. We will present the leading features of it to our readers as soon as it is published. It contains some very important suggestions which will be received with pleasure by every reader of the Scientific American.

Some of our cotemporaries state that the hull of the "Great Republic," is to be used for that of a steam frigate for a foreign government—not likely, we think.