Scientific American

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Notice.-To Our Readers.

As the next number of the Scientific American will be the last one of this volume, we hope our readers will renew their subscriptions at as early a date as possible. If they could all do so next week, along with many new subscribers, we would be able to form a very good estimate of the number of papers which we would have to print in opening Volume Nine, in order that we might be able to supply every subscriber with the volume. Our next number will contain a complete index of this volume, and a beautiful title page, engraved expressly for the Scientific American, which cost $250. We are much obliged to a great number of our subscribers, who have already, within the past week, promptly renewed their subscriptions. Our friends will confer a favor upon us if they will show their prospectuses and the chapter of suggestions on other pages, to their friends who are not subscribers. We honestly believe that no mechanic or manufacturer can invest two dollars to better advantage than in subscribing for the Scientific American.

Taste---American Sculpture.

Who can tell us what is the standard of beauty? That "there is beauty all o'er this delectable world" no one can doubt; it is seen in every bounding line of the exquisite statue; in the waving lines of distant dark blue mountains rising up against the red setting sun; in waving fields of golden corn; in the flowing river and the winding rill. But how are we to judge of the beautiful, who is the umpire of true taste; in short, as we have said before, *what is the standard?*

There is a quality of mind which can perceive and appreciate the really beautiful.—This mental quality belongs perhaps to the few; it at least is only fully developed in those who have a fine imagination combined with *common sense.* This is the mental power which gives opinions that never die. It can be cultivated and improved, and we must say that we would like to see it more cultivated among our people than it is. There can be no doubt that at the present moment this quality of mind belongs, pre-eminently, to many Americans. If the Crystal Palace in this city had done no more than it now has in exhibiting the unrivalled works of our countrymen, Hiram Powers, along with those of many foreign sculptors, it has done enough to make us feel grateful and honestly proud. Within the past fortnight, statues of the "Greek Slave," "Eve," the "Fisher Boy," and a bust of "Proserpine," all the works of Powers have been erected in the Palace.—There are no works in sculpture in the exhibition that can approach them; they bear the impress of lofty genius and the finest taste. Yet for all this, we believe that the great majority do not appreciate such works. We noticed that a finely dressed wax boy in "Genin's Clothes Case," met with more admirers than the finest pieces of sculpture. The velvet coat, with spangles, and the satin pantalettes finely embroidered, seemed to attract the attention of more men and women—eliciting from them such remarks as "how pretty," "beautiful," &c.—than the "Greek Slave" the "Fisherman's Boy," and "Mother Eve," looking fondly on the tempting apple—a sample of the finest poetry of art. Our countrymen and women, we feel saddened for you! Lift up your eyes and hearts from the showy and the tawdry, to the sublime and the beautiful; seek to cultivate true taste, and you will the more often drink in, with heaving breasts, emotions of pleasure that will make you happier and better for life. A city cotemporary recently remarked that a beautiful statue of a girl at prayer, was passed by with but a glance, by scores, who at once were delighted with weighing themselves in a pair of large scales. From what we have seen for ourselves, it does not appear that a fine taste—an eye for the beautiful—is a common property, nor does it belong to any class. We noticed, we think, more men and women who were arrayed very extravagantly in costly apparel, display (judging from their remarks) a lower appreciation of the beautiful, than many who were less gaudily mounted. We have made these remarks, because in our opinion they are called for at the present moment; the taste for the sublime and the beautiful can be cultivated, and we have had evidence presented, that such a cultivation of the mind in many of both sexes is demanded, in order that they may be able to form a proper estimate of the genius of some of our countrymen.

Ether Ships and Ether Engines.

One of our city dailies, no later than the 26th inst., directed the attention of its readers to the letter of its Paris correspondent, wherein it is stated that very successful experiments had been made in France, with Mons. Trembley's ether engine, in a ship. It was stated that the engine was 75 horse power, and that its superiority was so great over the steam engine, that it saved 75 per cent. of fuel.

The same paper very innocently remarks, "were the invention in American hands, and applied to American models, there is no doubt that their speed might be made to exceed greatly the maximum speed here indicated, (16 miles per hour.)" Those who are ignorant of the progress of invention—the green ones in engineering—should be very cautious about expressing opinions pro or con about such matters. This Mons. Trembley's ether engine has been in operation in this very city, and could have been seen at the Novelty Works in 1851. If it was a proper substitute for the steam engine, and saved 75 per cent of fuel, does any person suppose that Messrs. Stillman & Allen would not have adopted it? The combined ether engine of Mons. Trembley consists of a common steam engine, with two cylinders and pistons, the one piston acted on by steam, and the other by ether or chloroform, heated by the exhaust steam.—There can be no saving of fuel in this case that we can see; it is a very foolish arrangement, for it would be far better to use the steam to its utmost limit of expansion, or allow it to condense quickly, than to try and get a benefit from its heat by applying it to vaporize chloroform. If there was any benefit to be derived from this ether cylinder, that is in saving fuel, it would surely be more reasonable to apply the heat of the fire at once to the ether or chloroform, and use it as an ether engine entirely. It is well known to chemists that neither ether nor alcohol can be used as economical substitutes for steam; how then can ether save any fuel by being combined with a steam engine? The saving of 75 per cent of fuel is a grand idea, but how this can be done is a most perplexing question to answer; no logician would have made such a statement. It is like making a statement of this kind, "the real effect of the steam engine is only equal to 25 per cent. of the fuel; but the exhaust steam of the same engine applied to heat chloroform produces a mechanical effect equal to 75 per cent of the fuel; in other words, 75 per cent. of the fuel is lost in the exhaust steam of the steam engine." A little learning is not a dangerous thing; it is the *absence* of the *little* which makes pretenders to it dangerous.

Returned Californians Beware.

It is quite common for returned Californians to be met by runners inviting them to come and sell their gold dust and get a high price for it. On Wednesday last week two returned Californians went to a well-known dealer in gold dust in Wall street and asked what price he paid for gold. They were told $17 60 cents per ounce. They asked him to weigh one package of the dust, this was done, and they were told it weighed 11 ozs. 7 dwts. They thought they would try another place, and so they left that office.—They were met by a runner from another establishment, who told them he would give them $18 25 for each ounce. This to them appeared to be quite a difference in their favor, so off they went with this liberal fellow to sell their gold and get 85 cents more per ounce for it. The same package of dust was pulled out and asked to be weighed, when lo, it had lost 3 ounces 4 dwts.—it was declared to weigh 8 ozs. 3 dwts. exactly.—"Give us our gold!" was the response of the miners; the scoundrel buyer and runner looked blank, and the returned Californians departed with their dust for another gold brokers office. Here the same package of gold weighed 11 ozs. 7 dwts., and corresponded with the weight of the first broker. In this place they sold their gold—they were sure they had met an honest man. This story we had from the lips of the returned miners themselves. We have no doubt that many poor fellows just returned from California are cheated and deceived by such scamps as those we have described. The difference in the weight of the gold made between the honest and the dishonest brokers on 11 ozs. would have amounted in cash to $52,80. Let returning California emigrants beware of these land sharks—the gold dust runners and dishonest brokers. Let them at once go to a respectable broker, one whose name and character is established.

Improvements and New York Railroads.

On the 12th of August, 1830, the first railroad in this State was commenced for the purpose of connecting the Hudson with the Mohawk waters, between Albany and Schenectady. The distance was 15 miles, and it took twelve months to finish the job—not bad work, however, considering the inexperience of our people in such matters then. It was an expensive and unscientifically constructed road, for it cost about $1,000,000, and had two inclined planes on it, one at Schenectady and the other at Albany, by which the cars were drawn up partly with horses and partly with stationary steam engines. The object of this road was to cut off the long canal passage by the "Cohoes Falls," which took the packet-boats so long to accomplish. The Engineer who surveyed and planned it was Peter Fleming, a good mathematician and well-known in this city, of which he surveyed and laid out much of the upper portion. He was sent over to England by the projectors of the road prior to the time it was commenced, to obtain all the information possible on the subject; but railroads were but in their infancy there as well as here. The route selected, and the manner decided upon for operating it, were very rude but not bad for that period, especially as it was the pioneer railroad of this State. An English locomotive, named the "John Bull," was purchased abroad, and was the first one used. With some alterations (although it was very clumsy) it did good service, at the cautious rate of drawing trains from Albany to Schenectady, in about two hours. Over that short road we have travelled before a single rail was laid down in any other part of this State, and have been detained as long upon it, in 1836, as in going from Albany to Utica in 1846.

This pioneer railroad has undergone many changes in construction and locality. The inclines have been abandoned, and with them the horses and stationary engines. Before this change it never paid expenses, but shortly afterwards it commenced to pay good dividends, and is now valuable stock.

What a change has taken place in New York Railroads since 1830: instead of a poorly constructed railroad, only 15 miles long, there are now 2,013 miles of good railroads in successful operation, being at the rate of nearly 88 miles, which have been constructed during every year since 1830, or nearly six times more, every twelve months, than was constructed during the first twelve months of our railroad history. When we take a view of the improvements which have been made in the construction of our railroads, engines, and cars since 1830, we feel grateful and proud of the progress which has been made in railroad invention and improvement in twenty-three years. Then the rails were all the miserable flat kind, laid down upon very inefficient ways. Now all the rails are of the heavy T or the compound kind. Then the locomotives, in comparison with those which we now have, were like donkeys to blood-racers. Then the cars were like pigeon coups—short, dumpy, and dingy; now they are long saloons, beautiful in design, and comfortable in all their arrangements; in short, the railroads of 1833 (twenty years ago), in comparison with the railroads of 1853, appear to us more like relics of a barbaric age than works of modern times. It is not by taking the improvements of a day, week, month, or year, that we are able to see what progress we have made, but by looking down the long avenue to the end of the journey. In taking such a look down the avenue of railroad improvement, we feel as if we could give three hearty cheers for the progress which has been made in *useful improvements.* Will the next twenty years witness as many improvements in railroads as have been made during the past? We have no doubt of it,—we are not at the end of improvements yet. Engineers and mechanics! look to the past, and let it stimulate you to renewed effort: there are many prizes yet to win.

Prizes at Fairs.

The State of Ohio is eminently distinguished for agricultural enterprize and thrift.—This is owing to the good sense of her people, as manifested in her excellent "County Agricultural Societies," which are the best evidences of the good qualities of the "State Society."

The next Annual Fair of the Green County Agricultural Society, will be held at Xenia Ohio, on the 14th and 15th of this month (Sept.) and many prizes will be awarded by the intelligent committees appointed. Among the premiums to be awarded, we notice, with no small degree of pleasure, sixty volumes of the Scientific American, to be given in sixty different prizes. This Agricultural Society awarded a number of prizes of our last volume, at its last annual Fair, and they have no doubt given great satisfaction, as the number of prizes are nearly double this year.—Agricultural and Mechanics' Associations cannot, we are sure, offer more suitable prizes, for many things, than a work like the Scientific American. Many of such associations now understand the true value of such prizes.—What is a diploma to any man in comparison with a scientific work! Nothing but a toy. Those men who have offered such prizes as the Scientific American, evince a strong desire to spread abroad useful information, and have the real good sense to adopt one of the best possible modes of disseminating it. We are positive that every one who is awarded a volume of the Scientific American, will be both pleased and profited.

Patents in Canada.

We have received a communication from J. B. Futvoye, Esq., of Quebec, giving us proper information respecting the securing of patents in the British Colonies of North America. The present Patent Laws (the new law recently enacted in England) for the Colonies has provided no means for American citizens securing patents in them; British subjects, however, who may be in the United States, can secure patents in Canada, by going to Quebec and remaining there only one day, and through his instrumentality a patent may be obtained.

Our Canadian, Nova Scotia, and New Brunswick friends, we hope, will exert themselves and get their patent laws amended so that our citizens may be able to obtain patents in the Provinces at a small expense. It would be well if the fees for American patents were reduced to $30 to stated residents in the Colonies, and we hope the fees for American citizens will be reduced in the colonies to the same standard. An American patent, we know is of far more valuable than a Colonial one, but after all, in a question of an improvement in the arts, there is but little use of a dividing line on our Continent.

Cast-Iron Partition Walls---Erratum.

We noticed last week that L. A. Gouch, architect, Harlem, now of Yonkers, New York, had designed to construct double cast-iron partition walls for dwellings, the advantages of which we distinctly pointed out. In the notice of the same, however, there is one error, which demands correction. The thickness of the plates was stated to be *one sixteenth* of an inch in thickness, it should have read *one-sixth* of an inch. Mr. Gouch has taken measures to secure a patent, and will make his plates one-fourth of an inch thick, thereby rendering them, when double very strong for partition walls.

The members of the Montreal Mechanics' Institute, with their wives and children, are going to visit Portland, Me.