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World's Convention of Industry in America.

In 1851 a grand exhibition of the manufactures and products of all nations, is to be held in London. A building is to be erected that will cost half a million of dollars, and rich prizes are to be awarded. Prince Albert is to be the Grand Patron, and we confess it gives us more pleasure to hear of a Prince reviewing the products of Industry, than reviewing an army of a hundred thousand men. It would be a happy thing for the world, if potentates and rulers encourage the arts of industry and peace, rather than those of aggression and war. Although the government of Great Britain is essentially aristocratic, it wisely pursues the policy of encouraging genius and improvements in the arts. It was not British Nobility, it was not British valor, it was not Britain's naval superiority, that vanquished Napoleon. It was British gold, the fruit of her people's genius and industry, which clothed, armed, fed and marshalled the hosts of all the European powers, from the Cossack of the Don to the German of the Rhine, in one array against the Great Captain, and chained him at last to a lonely rock in the Atlantic. Well does Britain, as a government, appreciate the policy of encouraging industrial pursuits and improvements in the arts, and the great exhibition to be opened next year, exhibits her sagacity, and we admire it. We do not say that her aristocracy have philanthropic objects in view, we do not speak of that, but the policy merely.

And why cannot America have a World's Industrial Exhibition also. Such an exhibition is highly democratic in its nature; its spirit is that of freedom, for no fictitious aristocracy is represented—the only aristocracy is that of genius and skill. Our nation is now a great empire, and we possess abundant means to make such an exhibition as great, as noble and grand, as any other nation whatever.

It is reported that Congress intends to appropriate \$100,000 of the \$170,000 now in the Patent Office Treasury, to complete the new Edifice. We hope that the motion to appropriate this amount, will be defeated, and the amount voted out of the National Treasury, for the new office is to be partly used for National as well as Patent business, and will embrace the Agricultural Department. It would be better thus to apply \$100,000 of the National funds, and save it out of *ex parte* appropriations, or for building useless vessels, leaving them to rot on the stocks, until they are fit only to be taken down and sold for *punk*. The new Patent Office, so far as it has progressed, has cost the nation nothing—\$50,000 was paid out of the invention fund. The Report of the Commissioner recommends \$100,000 to be invested as permanent stock, and the interest of that devoted at stated periods, as awards for important inventions and discoveries. We believe it would be a good plan to apply such accumulated funds in the way recommended, and to award the prizes at our Great Exhibition of manufactures and industrial products. For example, let us have such a World's Exhibition every seven years, and at that period, let the Patent Office rewards be distributed for the new discoveries (given out seven years before) and let the other rewards be made up by national subscriptions, or some other plan, which may yet be suggested. The subsequent seven years' prizes of the Patent Office, for new inventions, should at that time be given out, and in this way there would be aroused to energy and emulation, an amount of inventive genius that would place our nation at once far in advance of every other, in physical discovery. Such an exhibition might take place even oftener than seven years, —and truly might we say, such exhibitions would be the Olympian Games revived with more than ancient Grecian glory.

Hon. Wm. H. Seward has our thanks for Congressional documents. Shall be pleased to receive more.

Invention, Civilization and Pauperism.

Wise, honest, and intelligent authors have always paid the highest tributes of respect to inventors, and have not failed to acknowledge the benefits which their works have conferred upon all nations and all classes. It is the divine spirit of invention which elevates man above the brutes around him, and leads him in the "image of his Maker" to be a creator, in one respect, himself—a co-worker with the Great Architect of the Universe. All animals follow after the laws of their instinct, from generation to generation, without the shadow of a deviation. But who could discover the savage Saxon of the fourth century, in his civilized descendant of the nineteenth? But it may be asked, "Does civilization consist in a high cultivation of the inventive faculties, and does it exist only in those nations where the arts and sciences are farthest advanced? Can a high advancement in the arts, and a proud name for science in any nation, cover up the sins of defrauding the poor; or give a good name for civilization, if misery sits like a canker gnawing at the hearts and hopes of thousands of her people?" We answer, No. A nation may develop the highest qualities of inventive genius, and yet be morally debased; while another nation may exhibit but a moderate amount of learning and genius, and yet occupy a high moral position, and exhibit the great civil qualities. The former may produce machines of the most cunning workmanship, and make every article to fill the lust of the eye, and produce enough to clothe and feed the world, and yet her cities may be filled with starving people. The latter on the other hand may have a happy, well fed and well-clothed people, while her products may no more compare with the first, in amount, than the waters of the Mediterranean with those of the Pacific. But although this is true, surely no one can doubt, that if the highest moral qualities were united with the highest inventive qualities in any nation or people, that nation or that people would stand on the highest round of the ladder of civilization. Genius was given to man as a social being, not for the benefit of one, but all—"the greatest good to the greatest number." And when genius is devoted to the purposes of plunder or ambition, to benefit one at the expense of another, the evil consists in the *abuse* of the greatest natural quality which God hath bestowed upon man, to make our race better and more happy.

We have been induced to make these remarks, from reading an article in the last Edinburgh Review, on Civilization. That article lifts the veil and exposes to our view the leprosy of Britannia's Colonization. Her warehouses are filled with merchandise, and in the vaults of her great Bank there are more than 130 tons of gold. Her grainaries are groaning with food, and her factories and workshops surpass all others in the world. But alas! in the midst of all her abundance, and all her civilization, her pauperism reminds us of that wall of human skulls, which a cruel oriental monarch is said to have built around his palace.

"Pauperism," says the Review, "has for a long series of years engrossed a large share of public attention: but, frequently as it has been the theme of the philosopher and the economist, no efficient remedy has as yet been devised. We can travel at the rate of fifty miles an hour, and send intelligence a thousand miles in a minute; we have not been able, however, to outstrip pauperism. Wealth has accumulated; social improvements have been carried out; and political changes have taken place, only less than revolution; but our national Genius yet stands rebuked before the one gaunt phantom which meets it on every path of triumph. A few years ago pauperism threatened to swallow up all property: the Poor-law was amended, and the disease in some measure checked; but pauperism has again for several years been on the increase.

A low standard of life must obtain, equally where earnings are insufficient and where labor is excessive. It is generally thought the mark of a low state of civilization when women are obliged to go forth in search of employment. That cannot then be a very exalted

state in which, not only mothers, whose sphere of duty is at the hearth and by the cradle, but young children, whose place should be at the school or on the play-ground, are toiling in factories; while the mere infants are cared for by strangers."

It is well known that the greatest amount of misery exists in the English manufacturing districts, and this fact has led many to lay the blame to improvements in machinery, which they say, "has destroyed the occupations of the poor." We regret that there is the least room for the assertion, which some honestly make, "inventions have only made the rich richer, and the poor poorer." But inventors and inventions are not to blame for such evils; the spirit of mammon is at the root of them, and it is our duty to place the blame on the truly guilty. Surely it must be evident to every one, on a little reflection, that the greater the amount of necessaries and comforts of life which are produced, whether by machinery or otherwise, there should be a greater amount for all.

Surely, then, the evil is to be attributed to some other thing than inventions in machinery—destroying the labor of the poor. The world does not yet fully understand what benefits have been conferred upon all nations by inventors.

Future Discoveries.—What Science has yet to Accomplish.

"We have a confident hope—or rather a firm belief,—that, long before the coal-fields of Great Britain are exhausted, discoveries will be made, both of new Motive Powers and new sources of Heat or Caloric, which will make all future generations independent of these clumsy and dingy resources. Motive power, we think, will probably be supplied, either directly by such omnipresent and inexhaustible elements as Electricity and Galvanism, or by the employment of some gas far more elastic than steam, and capable of being called into action, and again condensed, by slight mechanical impulses, or by changes of temperate incalculably less than are now necessary for the management of that comparatively intractable substance. But, even if we should still require to use steam, we are persuaded that means will be devised for its generation,—or rather for the production or evolution of Heat, for that and all other purposes—far less oppressive, indirect and precarious, than the combustion of coal. This may probably be effected, without any process of combustion at all, either by the great agents of Galvanism or Electricity already referred to; or by the friction, hammering, or rolling of solid and practically indestructible bodies; or by the forcible compression of common air, or of other elastic fluids; or by the chemical combination of different substances; while, if combustion must still be resorted to, might it not be constantly maintained without the tremendous expense of the working and transportation of fuel, by merely contriving a method of burning the inexhaustible, omnipresent, and eternally reproduced element of hydrogen, as it exists in the great ocean, and in all our lakes, rivers, fountains, and tanks and tubs of rain water, with the equally omnipresent, inexhaustible, and constantly reproduced oxygen of the circumambient atmosphere?

These, we are aware, may now strike many (perhaps most) people as mere Utopian or other fancies: and undoubtedly they are, as yet, but vague and general suggestions. But when we consider how much wilder and more audacious (as less warranted by any analogous experience) similar anticipations of Electric Telegraphs, Photographic painting, or Railway locomotives must have appeared but fifty years ago, we really cannot consent to put them into such a category; but, on the contrary, confess to a certain feeling, both of pride and of confidence, in thus recording what we cannot but consider as a truly Prophetic, though it may be but a dim and somewhat indistinct vision of a good and a glory to come."—Edinburgh Review.

[There can be no doubt but the future will bring to light many secrets that are now wrapped up in Nature's Secret Archives. We have faith to believe that the time is fast approaching when our knowledge shall be greatly in-

creased; but in order to avoid expense, useless experiments, and consequently the retarding of important discoveries, it is the duty of Scientific men to point out the fields of observation where to make the experiments, where there is hope of success, and where there is none—the fields that have been explored already, and those that are comparatively unknown.

The above article of the Review expresses the same views which we have, respecting the future discovery of some gas to supersede the use of steam, but from the very nature of galvanism and electricity, we can see no hopes of their superseding steam. We have also some hopes that steam may yet be produced, at less expense and by less cumbersome means than the present modes employed. Some better plans of developing heat, than by the combustion of coal under huge boilers, may yet be discovered. But this never can be done by friction, hammering or rolling (hammering and rolling is friction), for it is certainly evident to every scientific man that the heat developed by a bushel of coals must be equal to the heat produced by friction during a certain time, for friction is a mechanical operation—combustion a chemical one. The compression of air or other elastic fluids never can supersede the combustion of coal, to develop heat to raise steam. Why? Because that, too, is friction, and must be done by mechanical pressure, and surely the combustion of a bushel of coals, will generate as much mechanical power as that mechanical power can generate heat by compression-friction, during the combustion of the coal. This is logic, and experiments have already been made to corroborate this inductive reasoning. The allusion to the combustion of hydrogen—one of the elements of water, is a happy one. In that field there is much room for experiment, with the hopes of a rich reward.

To Our Half-Yearly Subscribers.

Our next number will complete the first half of this volume. As we have a great number of subscribers who pay up their subscriptions every six months, this notice will no doubt put them in remembrance of forwarding their subscriptions next week. This is also a good time for others to subscribe, and as there are a great many places where we have but single subscribers, it would be well for them to try (each) to get one or more to send along at the same time. Our single wrappers are made up in much smaller bulk than the wrappers for two or more subscribers, and there is therefore less danger of Post Office miscarriage to places where we have a number, than where we have only single subscribers.

It is always a delicate subject to talk of ourselves, in fact we do not like to do it: it is something a little out of our line, although it is sometimes necessary; but our words will be few. The Scientific American is now in its fifth volume, and has a respectable circulation of 14,000—no paper of the same nature has, or ever had, the same success. We are grateful for this, and will more than ever strive to maintain the good name we now enjoy. To our subscribers, above any other we believe, we are indebted for our extensive circulation: you, gentlemen, have enabled us to add improvement after improvement to our paper, and by your help, we will continue "to go on from strength to strength." Those who endeavor to extend the circulation of the Scientific American, certainly labor to extend a knowledge of the arts and sciences, and every person knows that no man can justly claim to be intelligent, at the present day, who is ignorant of what is going on in the progress of science and art. It has been told to us a great number of times, by old subscribers that they have particularly observed a more elevated tone of conversation, and a far greater amount of the right kind of intelligence, in those young and old mechanics, in certain shops, who took our paper, in comparison with those who did not. This fact should not be forgotten by men who are the heads of families.

We endeavor to give as much interesting, useful and correct matter, in as condensed a form as possible. We no doubt make many slips of the pen, we do not claim to be perfect, we do as well as we can, and always try to "push along improving."