

And the necessity which lies upon every man, high and low, except the uncaught thief, to serve other men, and be paid by them as his task-masters, is not the least pleasant leaf of that *Dulcamara*, which Adam found growing everywhere beyond the gates of Eden. Honourable service is the only freedom which belongs to man, and the spirit of brotherly interest and sympathy never rises higher than between the noble master, and the noble slave.

Secondly, the museum which I have been commending to you is a museum of the industry of the world in relation to ourselves. It cannot be less than this; and as this it will increase our civilization, and add to our power to civilize the rest of the world. We have deserved well of the other nations of the globe as improvers of the industrial arts; but they have deserved well of us. Tea, coffee, sugar, tobacco, opium, cinchona, cotton, caoutchouc, gutta-percha, guano, have all been bestowed upon us by distant tribes. The Chinese have taught us to weave silk, to make paper and porcelain. The Indians have shown us how to dye. The Venetians have given us the modern art of glassmaking. Our soda process is originally a French invention. The improvements introduced into the colonial manufacture of cane-sugar are largely borrowed from the processes introduced by the continental growers of the beet-root. There is not a single invention or discovery, indeed, not excepting even the steam-engine, of which we as a people can claim more than the lion's share; and seeing that in our veins run the mingled blood of I know not how many unlike races, it would be very strange if it were otherwise.

To no one nation has been given the monopoly of genius, constructive skill and practical sagacity. All our modern arts, such as photography and electro-metallurgy, have been rapidly developed by the combined activity of quick-witted men all over the globe. Take in special illustration of this two examples. The lucifer-match, although it was born late in our own day, has this peculiarity about it, that no one, dead or living, claims its invention. Although there is nothing God-like in its name, it is as much dissociated from a human inventor as those universal instruments of art, which the ancients held to be of divine origin. And the cause of this simply is, that it embodies the productions of so many countries, and the skill of so many men, and the thoughts of so many centuries, that no individual of any nation or epoch can call it his.

The same remark applies to the electric telegraph. It belongs to no single man or nation. Volta the Italian, Oersted the Dane, Steinhilber the German, Ampere the Frenchman, Faraday and Wheatstone of England, Bain and William Thomson of Scotland, Morse of the United States, are but a few among the many between whom the merit of establishing the telegraph must be, though unequally, divided.

The inability, as all history shows, of any single nation to be sufficient for itself, and the teaching of the nations by each other, which each successive age sees carried further and further, furnish the sure and broad foundation of the mighty civilizing power of commercial enterprise. The vast ends which God has in view in dividing the globe

amongst races so different as those which, since the secular historic period, have occupied its surface, are to us but dimly apparent. Yet we seem able to read a purpose of slowly opening up the world more and more as the centuries flow on. Not to the Egyptian, the Assyrian, the Indian, the Greek, or the Roman, but to men of our own day and generation, has the Ruler of All given the keys with which our Watts and Stephensons and Faradays have unlocked the barrier gates of the world, and made over its surface one continuous highway. Surely, without cant or pretence, I may affirm that this is the sign of the times for you. If we refuse to interpret Chinese and other placards bearing the ambiguous statement, "No passage this way," and suffer only the announcement, "No admittance but on business," let us see, when admitted on that plea, that our business is a noble one. Once, like the raven from the Ark, we found in the days of war no rest in all the world for the soles of our feet; now, like Noah's dove, we may pluck the olive leaves of peace wherever we will. To civilize the world through commerce, and stretch forth the hands of brethren to all the nations of the globe, is a mighty work, which God has largely given to our nation to effect, and he has laid the duty specially and honourably on those represented by you.

But why do I trouble you with my words? Was there not a parable spoken more than 1800 years ago, in answer to him who asked, "Who is my neighbour?" Did not the lawyer, the physician—even the clergyman—pass by him that had fallen among thieves, and leave the Samaritan merchant to interrupt his business journey, and help the unfortunate? Is it not curious to come across so minute a piece of ancient business-detail; the pouring of oil and wine into the wounds; the payment in ready money to the innkeeper of as much as could be spared from the scantily-filled travelling purse; the bond for further expenses which might be incurred by the sick man, and which the merchant should repay when he returned with the monies which he expected to receive? And do not all nations since call that merchant the *Good Samaritan*? Yes! and the parable was spoken by Him who, with His divine hands, handled the carpenter's tools, and in thus honouring the humblest handicraft, left us, as in all else, an example that we should follow His steps.

FRESH AIR.

From a paper by Dr. Lankaster, in the "Popular Science Review."

The pure air of the atmosphere contains four constituents, two of which are constant and two are variable. The two constant constituents are oxygen and nitrogen gases. They are in the proportion of twenty-one of the former to seventy-nine of the latter. The nitrogen is passive, remaining in an unchanged condition in the air; but the oxygen is ever being consumed and renewed. By its union with carbon, and other elements of the animal body, it maintains life. Just as it unites with the coals of the fire or the carbon of the gas and gives out heat, so it unites with the carbon of animal bodies and heats them, and they live. The result of their life is carbonic acid, which would