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(Illustrated articles are marked with an asterisk.)

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THE ATTAINMENT OF BEAUTY IN COMMONPLACE HANDIWORK.

Is there any real advantage in having all that surrounds us beautiful, so far as may be, consistently with other requirements? Is man any the better or happier for cultivating the sense of the beautiful and gratifying that sense within reasonable limits?

On the contrary, there have been a large class of philosophers who have no less sincerely believed that the love of beauty in nature and art has a refining and elevating influence upon the mind and soul of man; and that its indulgence tends to draw him nearer to the great Author of all good, which term includes beauty.

Most men feel themselves impelled to do something towards the adornment of any kind of handiwork, no matter how humble or simple it may be; but as the sense of the beautiful is, in the vast majority of minds, very imperfectly developed, their attempts too frequently rather result in forms and colors repulsive to a refined and cultivated taste.

The really beautiful is only attainable through patient cultivation of taste. How then can ordinary mechanics whose time is mostly occupied in toil, and whose daily walk is among rude rather than graceful forms, ever attain such cultivation? This is a question which we find it quite difficult to answer satisfactorily.

There is always a singular appropriateness in French designs. You feel even while you are looking upon the box from which you eat your Paris bon-bons that the ornament on it is just the right thing in the right place.

While the art sense is so highly developed in the French mind, it manifests itself very faintly indeed in the American mind. The large majority of all designers, decorative artists, and makers of fancy and ornamental wares in this country are of foreign extraction. These facts will not be disputed, and therefore need no argument; but that we, with so few objects of taste to which our workmen can have daily access, are ever to elevate the taste of our working classes, seems, to say the least, problematical.

likely to cultivate the taste of working people is what may be seen in the shop windows. We have no magnificent art collections, to which artizans may have free access, and the metropolis is yet poor in the public art wealth which enriches all parts of the French capital.

Still, in the absence of such collections of art as may be found in the old world cities, it seems we might do something to stimulate the growth of a feeling for art. It does not seem essential that costly statues or paintings should be accessible, in order that such ideas of art as would be useful in handicraft may be obtained. Copies of rich and elegant designs in the various departments of the mechanic arts might be collected at a comparatively small expense, which would not only be very interesting and attractive, but very instructive to inspect and study.

It is to be hoped that some steps will ere long be taken to secure such collections, in all the principal cities of the United States, and to make them accessible at such hours as workmen are at leisure. They could be made made without very great cost, and certainly would greatly tend to improve all classes of mechanics, especially such as are engaged in those arts that require superior taste and appreciation of beautiful forms and combinations of color.

TECHNICAL EDUCATION IN THE UNITED STATES-- THE SHEFFIELD SCIENTIFIC SCHOOL OF YALE COLLEGE.

The importance of scientific and technical education is generally acknowledged both in this country and in Europe. Old systems have been forced to yield in some measure to the current of popular opinion, and at the present time there are quite a number of scientific and technical schools established in various parts of the country.

It is no fault of these schools that the common school instruction has not as yet been modified to fully accord with modern views on this subject. It is doubtless the proper purpose of common school instruction to supply a knowledge of reading, writing, and arithmetic, with an outline of grammar and geography. These simple and homely tools, especially the three first, are all important to subsequent success in business or study.

A mind trained to habits of minute and accurate observation, and to the analysis of things and events, is of more importance than a knowledge of either or all of the elementary branches now taught. With a mind so trained, a knowledge of whatever is necessary to future progress, not only can be, but will be obtained. We hazard the opinion that no youth possessing this quality of mind in a high degree, combined with physical health, ever failed to rise above the common level in the respect of his acquirements.

But while the pupil is mastering the elements of reading, writing, arithmetic, etc., his faculties of observation and analysis may not only be cultivated, but in so far as they are cultivated, in so far will his progress in any and all branches of study be facilitated. It is foreign to our purpose to elaborate arguments to substantiate this proposition. It will, undoubtedly, be confirmed by the opinions of all those who have attained eminence as instructors, or who have made the human mind the subject of careful study.

If this be a fact—and if, as we believe, the presentation of natural objects to the eyes and minds of pupils for inspection and minute examination, be the best and most natural means of cultivating the power and habit of observation—it follows that this sort of training cannot be begun too early or persevered in too long. The place then for the commencement of natural science teaching is the common school; the place for its continuance and more extended employment is the high, or grammar school, and the college and university should only complete it so far as aid of special appliances and instructors are concerned. A graduate thus trained will not only be competent but disposed to continue his progress without special aids other than those which he can himself supply.

The subject of technical education in all its bearings is one that cannot be discussed in brief. Our present purpose is to show that while we have a number of institutions specially set apart for scientific instruction of the most thorough kind, and fitted out with the most improved apparatus, and with ample collections of specimens to facilitate study, they are some of them even thus early languishing, because, through the inattention to early scientific training, the tastes of a majority of our young men and women are turned to other pursuits.

The scientific schools which seem to prosper most are those which devote themselves to special departments, as engineering or mining, or both. Some of those intended to furnish facilities for the pursuit of all departments of scientific study, can hardly yet stand alone. The reason for this is that the large corps of professors necessary to conduct the several departments require for their support more than can be realized from the tuition of the students and the income from their endowments. Institutions so situated are troubled to retain the proper talent in the different professorships, and the grade of ability would be speedily lowered, were it not that in some notable cases, there have been found able men willing to forego positions of honor and emolument rather than to see the cause of sound scientific education suffer.

Such a case is presented in the present condition of the Sheffield Scientific School, at Yale College. This school is intended to provide a special professional training for the engineer, chemist, naturalist, etc. Through the gifts of various

liberal donors it is possessed of an endowment of \$420,000. The corps of professors is large, and the apparatus, building, etc., have been much enlarged since the erection of the first structure—Sheffield Hall, so called from the founder of the school, Mr. Joseph E. Sheffield, of New Haven.

An effort is now making to increase the endowment of the school by \$250,000, in order, as the committee state in their circular letter, "to perfect their plans for giving a college training based on modern studies for modern avocations." They further state that "they do not propose to employ any paid agency, or to use any personal pressure in securing this amount, but they ask the influence and aid of all who think that the country will be benefited by the maintenance of this undertaking. The sums now collected will not go into 'bricks and mortar' but will be permanently held as an Instruction Fund to carry on and improve the education now given."

The committee are Professors Daniel C. Gilman, Geo. J. Brush, and Chester S. Lyman. We sincerely hope that their appeal to the generous friends of "Good old Yale" and the friends of education everywhere in America, may result in securing the full amount required to carry out the plans of the institution they represent.

REPORT OF THE COMMISSIONER OF PATENTS FOR THE YEAR 1869.

UNITED STATES PATENT OFFICE, January 27, 1870.

SIR:—In accordance with the act of March 3, 1837, which requires the Commissioner "to lay before Congress in the month of January, annually, such information of the state and condition of the Patent Office as may be useful to Congress or to the public," I have the honor to submit the following report of the business of this office during the year 1869.

The receipts and expenditures for the year, and the condition of the balance in the treasury, standing to the credit of the patent fund at its close, are shown in the following statements:

Table with 2 columns: Description and Amount. Includes 'No. of applications for patents during the year 1869', 'No. of patents issued', etc.

Table with 2 columns: Description and Amount. Includes 'Amount received for applications, caveats, etc.', 'Amount received for copies and for recording assignments'.

Table with 2 columns: Description and Amount. Includes 'Cash paid for salaries and for miscellaneous contingent expenses'.

Table with 2 columns: Description and Amount. Includes 'Amount to the credit of the patent fund January 1, 1869', 'Excess of receipts over expenditures during the year 1869'.

STATEMENT SHOWING THE BUSINESS OF THE OFFICE FOR THIRTY-THREE YEARS, FROM 1837 TO 1869, INCLUSIVE.

Large table with 5 columns: Years, Applications filed, Caveats filed, Patents issued, Cash received, Cash expended. Shows data from 1837 to 1869.

It will thus be seen that, with average receipts and expenditures not greatly varying from those of the past year, the net income of the office will be about \$200,000 per annum; and that there is now standing to the credit of the patent fund a balance of over \$530,000.

This fact should be borne in mind in connection with any suggestions relating to increase of salaries, or facilities for performing the work of the office.

The Patent Office earns all the money which it expends, or proposes to expend; and as the inventors give, in the form of useful invention, quite as much as they receive by way of protection; as they are, moreover, taxed as citizens, as manufacturers, and as vendors of their patents and inventions, it would seem to be unjust to tax them again, in the form of additional fees, for the support of the Government or the payment of the national debt.

The patentee does not pay these fees as a compensation for the exclusive privilege which he receives. For that, he makes a full disclosure of his invention, for the future benefit of the nation. The fees are intended solely to pay the necessary expenses incurred in the examination of the invention and in the issue of the patent. In all other countries, the fund derived from the patent fees is applied to the advancement of science. The fees which are paid in this coun-