

workmen. Here he will be well to make a note of, the decided difference between the two modes of representing solidity for the two purposes named.

When the three dimensions are represented for artistic or pictorial purposes, the drawings are made from actual objects, or else imaginary objects are drawn as though they were actually in existence and before the eye. In neither case can the drawings be used for the purposes of construction, except in a merely incidental way. Drawing from the solid is only indirectly of service in the industries, but that indirect service is very great.

When the three dimensions are represented for the guidance of the artisan, the drawings, instead of representing what already exists, represent an object which is to be made. That the object may be made from the drawings, they must represent its inside as well as its outside, its rear as well as its front. The object must be shown in parts, and not as a whole, and each part must be drawn to a scale. Of course there can be no perspective,—none to the effects of chiaroscuro.

Such being the radical difference between the two modes of representing solidity,—the one for a pictorial, the other for an industrial purpose,—that it is not a little astonishing to find persons, even in this country where ignorance of drawing is so great, who hold that, even for industrial purposes, drawing from the solid, with all the difficulties of chiaroscuro, is the kind of drawing which should be specially taught in the public schools. In their opinion all other kinds of drawing may be safely ignored, or should at most receive but slight consideration. For a moment contrast this opinion with the lesson taught by the Centennial Exposition. If you examine all the manufactured products there displayed, you will not find one that was made from the perspective drawing. Some of the more elaborate decoration, however, will show effects of chiaroscuro that can be learned only by drawing from the solid and from natural objects.

Drawing from the solid, as a part of advanced technical or industrial education, must by no means be ignored. It affords an admirable discipline for the hand and eye; it trains the imagination to realize solid form in space; it increases sensibility for delicate gradations of light and shade; and so it must always be regarded as an essential element of technical as well as purely artistic education. It is only necessary to see that it occupies its legitimate place. As to the general course which instruction in this kind of drawing should take.

To be continued.

Grammar for Little Ones.

MAKING WORDS.

When we add *er* to the end of a word, it sometimes makes it mean one who does the deed, or who works the work.

Thus a man who can hunt is a hunter, and a man who can sing is a singer. A miller is a man who works in a mill, and a farmer is a man who works his farm with his men and horses.

A man who keeps anything is a keeper; if he keeps a shop he is a shop-keeper, and if he keeps an inn he is an inn-keeper.

When I sleep I am a sleeper, and when I eat I am an eater; when I walk I am a walker, and when I read I am a reader.

Father and mother say that I am a player more than a worker. It is better to be a lover than a hater; and it is better to be a well-doer than an evil-doer.

But when we add *er* to others words it has quite an other meaning. When we add *er* to deep the word is deeper; and deeper means more deep. In the pretty brook that runs by our door, the parts where it runs fast are not very deep, but the still pools are deeper. The mill dam is deeper than the pools of the brook, and the well is deeper than the mill dam. As the well is deeper than all the others we call it the deepest.

We say the pools are deep, the mill dam is deeper, but the well is the deepest of them all. The word deepest is made by adding *est* to the word deep.

In the same way Ann is smaller than I am, and my little brother is smaller still. I am taller than Ann is, Ned is taller than I am, Mother is taller than Ned, and father is taller than mother. He is the tallest of all.

—Monday Morning.

Great Mistakes.

To set up our standard of right, and judge people accordingly. To measure the enjoyments of others by our own. To expect uniformity of opinion in this world. To endeavor to mould all dispositions alike. Not to yield to immaterial trifles. To look for perfection in our own actions. To worry ourselves and others with what cannot be remedied. Not to make allowance for the infirmities of others. To consider every thing impossible which we cannot perform. To expect to be able to understand everything.

Conservatism in Spelling.

BY GEORGE F. CHACE.

It is alleged that the orthography of the English language is illogical, inconsistent, and difficult to remember. Radicals advocate a spelling reform which shall remove these faults. Assuming that the multitude will then learn to spell, they proceed to indicate the means of reform.

Admitting the allegations to be, in a measure, true, I deny the feasibility or the desirability of radical change. When a child is born, it inherits the constitution, and temperament of its parents, and in a lesser degree, of its more remote ancestors. Careful training may foster what is good, check what is evil,—may, to a certain extent, control the physical, moral, and intellectual growth. To attain the best results, even thus far, implies an intelligent, unrestrained, unopposed guide, religiously obeyed. But training cannot wholly eradicate constitutional tendencies. Training cannot transform ugliness into beauty, deformity into symmetry. Training will not make an idiot become a Plato. Barring accidents, a child is intelligent or stupid, comely or ugly, to some extent virtuous or vicious, according to his ancestry. His parents and teachers must take him as he is, and make the most of him. A sculptor could design a better physical man (Adam accepted) than ever breathed the breath of life. Adam was made a "little lower than the angels." Humanity of to-day has inherited the accumulated imperfections of numerous generations of ancestors.

The law of language does not differ from the law of life. Given a few roots, certain laws of combination and sound, and a language could be constructed perfectly logical and consistent,—a complete machine. But language is not a machine; it is a growth, and liable to all the accidents of growth. Its formation has depended upon the wants, the virtues and vices, the harmonies and discords of mankind. You may prune and manure your