have been labouring for years past to introduce into this country. Contrast one of these old country mansions with those cited in the editor's excellent leading article of the September Horticulturist—place them in juxtaposition, and I ask—which would you imitate and which condemn?

A critic should be *just* as well as generous; but especially ought he to be impartial and unprejudiced. Some people cannot write the name of England without spitting fire at it. But were the sentiments consistent, the language might be excused.

As I have ventured to quiz probably some great incog—I hope he will receive my remarks in the friendly spirit in which I write them, and thank me for my candour.—R. B. Leuchars. *New Haven, Ct., Sept.*, 1849.

[Although we think our American friend has somewhat overstated his case by saying that "the English parks are *doubly more productive* than any equal surface of land in the whole island;" yet so much impressed are we with the general justness and remarkable good taste of his remarks, that we could not resist the temptation to transfer them to our own pages. It is a vulgar and most erroneous notion that the noble parks of the British Islands are generally unproductive. They are usually stocked with the best breeds of sheep and the finest specimens of horses and horned cattle that the world can produce: and even of such portions as are allotted to deer, the returns are far from being inconsiderable. Who for instance, could visit the noble and classic grounds of Woburn Abbey, the seat of His Grace the Duke of Bedford, covering some thousands of acres, with the extensive gardens, conservatories, farmery, picturesque cottages, adorned with the vine, the rose, the jessamine and the honey-suckle, surrounded for many miles by a thriving and contented tenantry and working population, without recognising marks of England's freedom and greatness—not merely at the present, but comparatively so through ages that are past—and with fond hope of yet higher degrees in ages yet to come. Some of our earliest and most endearing associations are connected with parks, which with the ivy mantled tower of the old village church, form the distinguishing characteristics of English rural scenery. Heaven in its mercy long spare our native land from the vandalism that would render treeless the one, and the impiety that would raze the other. —*Editors of C. Agr.*]

MATERIALS FOR YOUNG PEOPLE WHO WISH TO THINK.

The Atmosphere.—The ponderousness of the atmosphere serves us in a number of ways, of which the following are merely specimens.

By this quality we have what is called "*draught*" in our chimneys. The heat evolved from the fuel applied to our fires produces a rarified state of the atmosphere, which, together with the smoke, being of less specific gravity than the surrounding air, must seek a higher region, on the same principle as wood swims on water. Nature rebels against a *vacuum*, and, wherever the slightest approach to this is produced, she sends forth her resources to keep up a *plenum*. There are two things which some people think constitute the greatest plagues of life, viz., "*a smoky house and a scolding wife.*" The former is always the result of the builder's non-attention to nature's law; the latter often arises from a cause which we shall not here define.

This ponderousness, too, is that which causes to ascend, far away from us, all the effluvia generated by decomposed substances, and the numberless other causes, with the effects of which most people are well acquainted. Were it not that the air is heavier than these vaporous emissions, most of which are noxious as well as unpleasant, we should in vain open our windows, or in other ways seek the comfort of "*fresh air.*" Our olfactory nerves, designed to be the means of conveying the pleasing sensations which the fragrance of vegetation is designed to supply, would, in the absence of this quality of the air, be the most intolerable nuisance, as we should be constantly sickened by stenches the most disgusting, and prolific of disease.

The ceaseless motion in the atmosphere is the result of this ponderousness. Perhaps few are sufficiently acquainted with the benefit of winds. For a commentary on these, we will not go to the owner of a wrecked vessel, nor to the weeping mother of a lost sailor boy—their circumstances are peculiar; but we shall take our readers up the eminence which unbiassed reflection will supply, whence numberless advantages will be seen as the result of winds. To say nothing on the subject of navigation, so replete with civilizing effects, we perceive their necessity in order to vegetation. Rain is produced by a most beautiful process, which we shall in a future paper describe; but, as rain is produced from condensed vapour, which the heat of the sun exhales from the oceans and seas, we may remark, that were it not for the winds, these clouds would discharge their contents directly into those reservoirs whence they were originally produced. But the winds are the aerial agents by which those cloudy magazines are carried with amazing velocity from clime to clime, and by whose ministry we are supplied with fattening moisture for our hills and vales. Now, winds are the result of the ponderousness of the atmosphere. The sun, always shining upon some portion of our globe, rarifies or expands the atmosphere beneath it by its heat; that rarifaction causes its subject to rise, and, as in the "draughts" before mentioned, the heavier atmosphere around the rarified part rushes forward or inward to prevent a vacuum, and that rush constitutes what we term the wind, the motion of which is more or less violent, according to the extent of the rarifaction in a given place. The inward rush of the denser masses of air from all sides, towards a centre, which centre is the point of greatest rarifaction, gives rise to the circular motion of storms.

Another peculiarity belonging to the atmosphere is, that it always revolves with our earth in her diurnal motion. To find out how many tons of atmosphere rests upon our globe, would form a nice exercise for some of our young readers. When they know that each square inch is subject to a pressure of fifteen pounds, and that the earth is 8000 miles in diameter, the product may be easily ascertained. The weight is almost inconceivable, and if this atmospheric pressure were *stationary*, while the earth *revolves at the rate of one thousand miles an hour*, the results would be most disastrous. Most of our readers who are acquainted with the nature and uses of the lathe, must be aware that the effect of iron or wood *revolving*, while the "lathe tool" is *stationary*, is to dress off every protuberance, and to produce smoothness and uniformity. Suppose the earth be considered the substance revolving, and the atmosphere like a stationary "lathe tool," what would become of our waving forests, our stately mansions, and our strutting population? But Infinite Wisdom has finely adjusted everything which His hands have made; and those things which lie beyond the polluting touch of man, do yet deserve the epithet "*very good.*"—*Manchester Spectator.*