

Gravity is a law of God, and as such is only to be learned by observing its development in nature. We have cited this example only as a basis, and will now proceed to give a few other incidents, and then to shew the application to our present argument.

All will admit that some men profit by observation more than others, while but few know the means by which this power of observation may be increased. As examples of this absence of observation, how few farmers know that cows and sheep have no upper teeth; how few are aware that cold water will dissolve more salt or lime than hot water. Does one in one hundred know that a gallon of water will dissolve more plaster of Paris than it will of slaked lime, that has been long enough exposed to the atmosphere to become carbonate of lime? How many know that water is at its mean of size when at 40° of heat, that if cooled below that temperature it swells, until it becomes ice at 32° , and if heated above 40° it also swells, until it eventually becomes steam, thus occupying more than 1,700 times its original space? Still, all these are facts, and to minds generally observant, they are well known to be true.

The science of farming embraces all Nature's laws, and the habit of observation will soon render the farmer ready to recognize these laws in all their useful applications. Let him know enough of chemistry, which he may do by one week's reading, to comprehend the various changes that the integrants of the soil undergo to enable them to enter the plant, and he will soon observe the fact that these chemical changes must include the ability of being dissolved in water before the plant can receive them. He will also soon find that water, in its pure state, will not dissolve the necessary quantity of all these materials, unless it contains carbonic acid, and this will necessarily lead to his understanding whence this gas is obtained, and why it pervades the atmosphere. When he observes that water from a spring, applied to plants in time of drought will not produce the same amount of improvement as is received from a similar amount of water falling through the atmosphere in the form of rain, he will soon understand that the rain-water comes charged with some ingredient from the atmosphere which the spring water does not contain, and the slightest examination informs him that this is ammonia, and that it is received in the atmosphere from the decay of former crops, animal exudations, &c. The slightest exercise of the mind in the observance and application of the commonest truths of Nature's laws will capacitate it for another step in progression; for the brain, like the arm of the black-smith or the leg of the dancing-master, must increase in energy at least, if not in size, by healthful use, and this use is a free observance of God's laws as displayed in the progression of nature.

All have observed that the inhabitants of the country have this power of observation to a greater extent than those whose tastes lead them to become inhabitants of large cities, and to engage in mercantile pursuits. Indeed, this fact has given rise to many anecdotes, such as the boy, who, when asked which was the direction of up stream, ascertained the fact, and answered the question by throwing a stone at a frog, then remarking a frog always jumps up stream when disturbed.

The Captain who visited Sir Joseph Banks is another example of this power of observation. Sir Joseph said: "You appear, Sir, an observant man; do you know if the crocodile really cries to entice travellers, as has been stated?" "No," said the Captain; "he cannot cry; he has no tongue." "No tongue!" said Sir Joseph. "No, Sir; he has no more tongue than an elephant." "Has an elephant no tongue?" "No, he has no use for a tongue; he has a trunk." "Pray, Sir," said Sir Joseph, "how did you arrive at these facts?" "Well," said he, "I saw a stuffed crocodile in a doctor's shop, and I saw an elephant in a menagerie. Still thousands of others might have seen the same crocodile and elephant without ascertaining the same facts." These anecdotes may not seem pertinent to our argument, but they are so. Let any farmer devote the evenings of a single winter to the reading of Geology, Entomology, Chemistry, Natural Philosophy, and Natural History, and apply his acquired knowledge as an amusement, while pursuing his vocation during the following summer, and he will find himself able to observe and comprehend thousands of incidents connected with natural law, which would before have passed by unobserved. He will then see and understand that the soil is but a debris of the rocks, that in its original formation this occurred from the combined influence of sun and air, and changes of temperature by freezing and thawing, in rendering these rocks a soil. He will see how the convulsions of nature have mixed the soils of different localities; he will see, also, that the earliest vegetable growths were necessarily grosser sorts than those now produced; and that they, by receiving carbon from the atmosphere, for the carbon originally must have existed there in immense quantities, in the form of carbonic acid, by their decay deposited it in the soil, thus improving its quality and rendering it fit for the development of a more advanced class of vegetation. He will also see where and from what causes animal life progressed, and can trace its progress. He will clearly understand that such vegetable matters as were consumed by animals merely change the arrangement of their particles by such process, and that no one particle was put out of exist-

tence, but that by the decay of this animal and the change of the arrangement of the ultimate particles, both of themselves and their food, that they re-enter nature's great storehouse, the atmosphere and the soil, in a progressed condition; that thus both plants and animals have progressed to their present state.

He will next be able to observe why deeply disintegrated soils can never suffer from drought, because he will know that when water is absent from the soil it is present in the atmosphere, and will be deposited on the surfaces of colder particles, at greater depths than can be reached by atmosphere when attempting to percolate shallow plowed land. He can trace the action of this moisture and its office in the soil; he can know what amendments are required to replace those which he may find to be deficient; and, indeed, he can render himself doubly happy and a better servant of his Creator, and his vocation ameliorated to his fellow-men. All this must occur if he knows so much of nature's laws as will give his mind the first ability for closer observance, and his progression as an individual will be the natural consequence of its exercise. All this does not call for the tedious exertions of thought as practised by the mathematician and the merchant, but merely for the culture of the power of observation to see truths as they exist, and apply them rightly; and, this, and nothing else, he will find to constitute the science of agriculture.

THE BENEFITS OF EVENING SCHOOLS.

A committee of the Board of Common School Trustees in the City of Toronto, have been appointed to consider the propriety of establishing Evening Schools, has thus reported:

The Committee, after a careful consideration of the educational wants of the citizens, and an examination of the benefits of such institutions in those cities in which, for some time, they have been in operation, believe that no system of general education can be complete without the establishment of evening schools, and strongly recommend the opening at an early day of such classes, both for males and females, as the wants of the city demand, and the means at the disposal of the Board will permit.

Your Committee consider that such schools will prove highly beneficial to three classes of the community. 1. In the first place there are those more advanced in years whose early education has been partially, if not entirely neglected, but who, aware of the advantages to their business, as well as the respectability, which arise from even a small amount of education, are now desirous of availing themselves of the only means within their reach of acquiring those benefits. 2. A second class is composed of youths of various ages, who, either from unwillingness to go, or from the inability of necessitous parents to spare them, do not attend the day school. This is a numerous class in other cities, and one whose presence has been attended with much trouble to the teachers and but little benefit to themselves; still, it is a class that cannot be wholly overlooked in the consideration of this important question. 3. A third and perhaps the largest class, and one which is likely to constitute the chief portion of our schools, is that composed of those who have already attained a certain amount of information, and who are desirous of adding to it at those hours when free from their ordinary avocations and employments. Evening schools meet the wants of this large and interesting portion of the community, and therefore, both on economical and moral grounds, we are bound, so far as we are able, to satisfy these wants. The Committee, deeply sensible that the substantial benefits conferred upon society by such schools cannot be estimated in pounds and pence, and fully aware that they are regarded favorably by all classes of our citizens, cannot, however, under present circumstances, recommend the Board to do more than make a commencement by way of experiment, during the present season. The building of new school-houses and the perfecting of our admirable system of Common School Education, have necessarily entailed heavy expenses upon the city. Add to this that the item of evening schools was overlooked in the Board's estimate of the current expenditure of the year, and the Committee think the desirableness of restriction will be apparent.

The Committee, therefore, would recommend the immediate establishment of but one central male evening school—that one of the rooms in the Victoria Street school should be appropriated to that purpose, that one teacher, at a salary of £50, be engaged to conduct the classes—that these be open for five evenings each week from 7 to 9½ o'clock, beginning on the 15th October, and ending on the 15th April following.

The Committee had some difficulty in determining as to the propriety of employing to conduct the evening classes, those teachers already engaged in some of the public day schools. While in some places, this double duty has been thought too burdensome to the teachers, in other cases, it has been found that they were able to discharge both offices satisfactorily to themselves and to their employers. In the present position of our city schools, the Committee deem it, on the whole, the safest plan to employ a separate teacher for the evening duty.