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## WOOD CUTS.

We send this number to our readers, as they will observe, without any wood-cut, or pictorial embellishment. We did not promise them in every number, and shall not, therefore, break our promise by withholding. For the illustration of such subjects as were contained in our last two or three numbers they are very useful and indeed indispensable, but, we cannot see what benefit is to be derived (unless by the children, who are fond of "pretty pictures," and that to be sure is something,) by presenting likenesses of bulls and cows that lived and died somewhere in the neighborhood of New York eight or ten years ago? We could illustrate in this way at a cheap cost, by sending off to Albany or New York for the old stereotyped plates to be found there in any number. But we are more utilitarian in our belief, and so long as better cannot be had we shall not take much trouble to obtain these. After we become thoroughly established we shall make a practice of giving at least one illustration of something useful in every number. For the remainder of this volume we shall make no promises, though if any thing important comes in our way we shall not neglect it and our readers will, we feel sure, approve the policy of such a course, when we inform them that every cut of the kind we have presented them, cost five and six dollars. It will be seen that this would make a pretty important item in our bill of expenses by the end of the year. We must therefore wait till the good and liberal public have moved in our behalf.

## AGRICULTURAL COLLEGES.

The 19th century presents the singular anomaly, of an age, skillful to a degree beyond any that has preceded it, in all the arts that minister to the comforts and luxuries of man, with the single exception of that art, which is alone the base and support of all others—the art of an enlightened agriculture. All the elegancies of life too, and the refinements of intellectual culture, the useful and recondite sciences, literature, poetry, music, painting, and sculpture, have been patronised, illustrated, and studied, under every advantage, and have thus been pushed far toward their maximum of improvement; yet is the foundation of this varied and beautiful superstructure, the only portion of the edifice which is destitute of strength, order, symmetry, or design. And if we look back through the history of the ancients, reaching, according to the most approved chronology, much farther than 6,000 years, we find no record from which we can learn that any branch of the world's ancestry has been wiser in this respect, than their descendants of the present day.

We shall not attempt to account for this gross and most inexcusable neglect, beyond the effect of that principle, which may be almost taken as an axiom in human conduct, that man's exertions are withheld, just in the ratio of the Deity's munificence. Supreme Benevolence has wisely provided for the success of the humblest efforts of unenlightened reason, in its struggles to procure from the earth the elements of subsistence; and on the very threshold of success, have all human efforts been arrested. Content with having achieved the bare means of existence, the human mind has been stayed in this vast field of enquiry; and has turned away from it, if not with loathing, at least with indifference, and with a keen and delighted relish for other and less important and less praiseworthy objects of ambition. Whence comes this lack of reason, this short-sightedness to our own best interests? We must acknowledge ourselves incompetent to give the answer, and we gladly assign the solution of this difficult problem to our modern philosophers, who are so worthily busying themselves with the "law of progress;" from whom alone it must come, if it come at all.

Whatever the cause may be, certain it is,

that the world has hitherto taken but the inchoate steps in the art of agriculture; and this broad land, like the western hemisphere in the days of Columbus, remains almost incognita, an unexplored continent, inviting the most intelligent research, and ready to pay its explorers with the richest rewards. It may be true, indeed, that portions of this goodly land have been heretofore discovered by the Northmen of preceding times, and even inhabited by a refined race of Aztecas possessing a high degree of culture; yet to the present race of man, no chart or history has been bequeathed, to point out its location or well-defined boundaries. Whatever discoveries may have been made in this great art in the early ages of the world, by the Egyptians, or other early civilized nations, who possibly, may have inherited from the antediluvians, a science and practice far beyond any thus far reached by successive generations—it is certain, that modern enquirers must re-discover it for themselves, if they wish now to have it in possession.

We would not be ungrateful for the worthy and efficient service rendered, since the commencement of the present century, by the devoted sons of genius, who have given a portion of their time to the elucidation of the principles of agriculture, and who have begun a systematic investigation of the laws of nature, that needs only to be followed up, rigidly and unremittingly, to result in all the benefits which may fairly be demanded at their hands. But, we ask, what has been the success in this all-important pursuit, that will compare with the improvements in the mechanic arts, as shown in the application of steam, machinery for the manufacture of the different fabrics from wool, cotton, silk, the metals; and the various other new and important aids rendered to the useful occupations of the present day? With the facilities afforded by the above inventions, one person can now do as much, as could have been accomplished by twenty, without them, only 40 years ago. Can any approximation to such improvement be shown in the cultivation of the soil? We speak not of the mechanical instruments of the farm, which have measurably, and perhaps to the extent which could reasonably have been expected, participated in the modern progress of improvement.

Our meaning is much broader and deeper, and includes the whole science of agriculture, in all its varied phases and relations. We look to, and demand for agriculture, that enlarged and liberal measure of discovery, which will enable the human race to provide sustenance for its thousand millions of inhabitants, now covering the face of the earth, destined, probably, hereafter, to be indefinitely augmented; with an approximation to that certainty and success, that attends human labour in the other departments of life. We prepare our land and sow it to wheat, or plant it in corn; and after much doubt and uncertainty, reap from the first an average, in these United States, probably, not exceeding 14 bushels; and gather from the last, not more than 20 bushels per acre. Yet we have seen under favourable circumstances, that the former has yielded 80 bushels, and the latter over 180 bushels per acre. We claim, that alating somewhat from the accidents of seasons, unusual droughts, humidity, or frosts; or perchance, the destruction following upon the eccentricities of the elements, as a hail-storm, or whirlwind, on an ungarnered crop, we might look for the highest results from every well-directed effort, with the same confidence that we now look to the attainment of any given speed from a steamboat, after providing it with a suitable model, engine, and fuel; or the weaving a definite number of yards by a power loom, properly constructed, and moved by the requisite force. To accomplish thus much, we have but to place our soil, and seed, and culture, in the same precise conditions, that have once been successful; and yet how seldom is this achieved, even on the same field, and under the same direction as many have been before employed.

If we look beyond the discoveries hitherto applied, and bring the science of agriculture such analogies as are appropriate to the subject, as shown from the progress of human invention in other departments of enterprise, we may reasonably expect developments in aid of this object, which would now be con-

sidered as perfectly Utopian. What brilliant results may yet crown the researches of the devotee of agricultural science, and what green and enduring wreaths of glory are destined to circle the brow of genius, who may hereafter successfully explore this hitherto almost untrodden waste. And how the comforts of this world, and its means of subsistence will be multiplied, when all the aids to its cultivation are rendered, which mankind have a right to demand.

We have then our deficiencies for the present and past, and our hopes for the future pointed out. Where are the remedies for the former, and the proper and reliable foundations for the latter? First and mainly, it may be answered, in bringing the right minds to the just and full consideration of this subject; and secondly, and as a necessary sequence to the former, the application of the requisite amount of funds, which shall secure genius of the highest cast, under all the circumstances of advantage, essential to its fullest effect.

Briefly, and in a form that all may comprehend, we say; we want an agricultural institution, founded and arranged on the best principles which can be dictated by enlightened experience, sound judgement, and a shrewd common sense; and so guarded, as to be unassailable by the corruptions of party, and beyond the reach of any hostile innovations of the fickle multitude; and such an institution should be endowed with a permanent fund of one third, to half a million of dollars. In this institution, we would place a chemist and geologist; an anatomist and physiologist; a botanist; an entomologist; and a practical agriculturist, who should give embodiment and effect to the suggestions of science, and run each out to a clear distinct and definite result. These professors should be such as the choicest spirits of the age could afford; surrounded with all necessary assistants, books, and apparatus, and a well conducted and sufficiently extended farm; and their services should be secured by a compensation perfectly adequate to their entire independence for life. Under these circumstances, we should have a series of experiments following each other in well-arranged and appropriate succession; the results of one, constituting the starting point for another, and each department would be aided in its researches, by all the light afforded to it by the others.

With such an institution, how long would it be, ere the tyro in agriculture could go to it, with the same certainty of receiving the requisite information, that the mariner now does in consulting his chart and compass? The slow and dangerous coasting, amid shoals and breakers, that now mark out his benighted course, would at once give way to bolder movements, and more direct and certain success.

Such an Institution Mr. Allen remarks, would revolutionize the practice of agriculture within the present age, and more than double the products of the earth with the same labour and expense now devoted to them. Expressing his doubts that his government, which annually makes a peace appropriation of from \$10, to 12,000,000 for war—as a preparation for human butchery, will be likely to give even the twentieth part of that sum for such a purpose, he urges the necessity of individual bounty.

"Here indeed, is a glorious field for immortality, for one sufficiently enlightened to grasp it, and the man who shall have the good sense and liberality, to found the first Agricultural College on the enlarged and magnificent plan proposed, will secure a fame for all coming time, before whose brightness that of an Alexander or a Napoleon would become dim, or distinguishable only by its intensity of darkness.

We must confess our hopes in the beneficial results of the present efforts in the cause of agriculture—our enquiries and discussions—our treatises and periodicals—our agricultural premiums and shows—come up to this extent, and scarcely more; they are awakening the public mind to a sense of its deficiencies; they are discovering the vacuum which yet remains to be filled. They are the cre-

puscular light which heralds the coming morn, but they are not the glorious effulgence of the king of day. But his approach is indicated beyond the possibility of doubt; and ere long the world will be in the full enjoyment of his benignant rays. They are not the Light so long looked for, and so much desired, but they are "the witnesses of that light."

We shall soon have, not only one, but a multitude of agricultural colleges, and when they have had time fully to mature their fruits, a certain and overwhelming abundance will crown the efforts of every enlightened agriculturist. But we must have them, unassociated with other departments of human investigation and acquirement, where they would be exposed to a foster-mother's kindness. They must be planted, in all the vigour of manhood, on an immovable basis, where agriculture, and nothing but agriculture, shall be the theme and sole object of pursuit, to both professor and student. And well might they content themselves with the study of this single science, that embraces within it comprehensive grasp, (however disdainfully it may heretofore have been considered, by flippancy scholars and shallow philosophers,) almost the entire range of the natural sciences, embodying as they do, the most abstruse, as well as the most beautiful investigations of the human intellect.

[Agriculturist. R. L. ALLEN.

How TO TREAT BREAD WHEN TAKEN FROM AN OVEN.—Never set it flat on the table, as it sweats the bottom, and acquires a bad taste from the table. Always take it out of the oven, and set it up end way, leaning against something. If it has a thick, hard crust, wrap it in a cloth wrung out of cold water. Keep it in a tin box, in a cool place, where it will not freeze.

## GRASS.

(Goth. *gras*; from *gro*, to germinate, to sprout.) The common herbage of the field on which cattle feed.

The grasses, it has been often and well said, "are nature's care." There is, perhaps, no class of the vegetable world so little understood as this. "Grass," says Professor Martyn, "vulgarly forms one single idea, and a husbandman, when he is looking over his enclosures, does not dream that there are upwards of 300 species of grass, of which 30 or 40 may be at present under his eye. They have scarcely had a name besides the general one till within these 20 years; and the few particular names which have been given them are far from having obtained general use, so that we may fairly assert that the knowledge of this most common and useful tribe of plants is yet in its infancy." (*Letters on Botany*, xii.) It is certain, however, that since Professor Martyn wrote, much has been done to add to our knowledge of the grasses. These grow in all parts of the world promiscuously, and without cultivation, affording both directly and indirectly the means of subsistence to man. Europeans live chiefly upon wheat, rye, and barley, to which list their American descendants have added maize or Indian corn. "The cultivation of the earth," says Professor Johnson, "preceded the improvement of the intellect, and was the herald of civilization. It is remarkable that we have no direct criterion of the origin of many of those grasses met with everywhere in cultivation, as none of them are, to any extent, found wild. Some travellers have thought, that barley was indigenous to Tartary, rye to Crete, and wheat to Asia, but these might have been diffused from some cultivated source years previously. Corn is not only the support of man, but the grasses are the subsistence of the animals which form his nutriment. The nutritive quality of grasses is principally owing to the sugar which they contain, and of which some English grasses contain large quantities, but the sugar cane is the only grass that is exclusively cultivated for obtaining this article for commerce. The grasses are applied to a vast variety of important mechanical purposes; they are found in every part of the world, from the Poles to the Equator; on the land, as well as floating on the water, and are the universal food of animals."

The botanist has shown that there are