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Devoted to Politics, News, Literature, Agriculture, Science, and Morality.

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Poet's Corner.

The American Sword.

Forged from Oppression's chain,
Welded when tears were vain,
Sword of the free!
Nations, the iron bands,
Shape to avenging brands,
Thinking of thee.

Sword that our father's drew,
God keep thy shining blue
Spotless from guilt!
Honor thy blade anoint,
Wrong fear and feel thy point,
Right grasp thy hilt!

Concord and Lexington
Saw thy great work begun,
Liberty's friend!
Who in the future wise,
Reads with prophetic eyes,
Where it shall end!

Heroes, in olden time,
Graced with some runic rhyme
Blades used in fight;
Be this proud sword thy rune,
While shine the sun and moon,
God and the right!

ANNUAL ADDRESS,

Delivered at the Exhibition of the "Susquehanna County Agricultural Society," October 13, 1853, by the Hon. J. Richter Joses, *of Sullivan County.*

Mr. President and Gentlemen:—

My subject is the book and the plough. I propose to trace the relations of those great symbols of mental and of physical life. I shall speak of the connection of science with the art of farming: I shall speak of the influence of reading on the individual farmer: and I shall speak of the necessity of education for the farmer's son.

The book has always been complimentary to the plough. Poetry and prose are lavish in the praise of farmer-life and farmer-art.—The golden age of the poets was a rural period: their brightest pictures of happiness have ever been drawn on the canvass of rural life: even the gods, says the poet of the Georgicks, have dwelt in the fields. Prose is equally lavish: the other useful arts, political economy tells us, are but secondary means of working up the various products of the farm: other artizans furnish comforts and luxuries, the farmer supplies necessaries—the wool, and the flax, and the cotton, and the silk—the meat and the meat—all the prime materials of clothing and of food. This praise is just: farming is the groundwork of all the arts. Until man learned to farm he remained a savage. The farmer founded the civilization of the world. The plough is the pioneer of the book.

With an origin so ancient, an importance so admitted, a dignity so praised, it is extraordinary that agricultural art at the present day should be so imperfect.

Writers of eighteen hundred years ago describe farm processes almost as we find them now. More extraordinary, still the social rank of the farmer has even sunk below his earlier dignity: the biblical prophets and kings were farmers: the Roman farmers, the Cincinnatus', the Catoes, the Scipios conquered the earth, and in the intervals of the forum and the camp, returned to the plough; warriors and statesmen, and advocates occasionally, but always farmers. During the whole glorious period of the Commonwealth, no calling was more honored, no citizen of any class outranked the farmer: down even to the empire we trace the lingering habits of the farm in the fact that the sisters of Cæsar Augustus, spun and wore the garments of that master of the world.

Why has not the farmer's art kept even pace with the improvements of the other arts?—Why is the farmer-calling less honored now than of old?

One answer meets these questions. The plough has stood aloof from the book. The farmer has neglected those studies, which would perfect his art and dignify his craft.—Instinctively, men value intellectual qualities: respect those arts and those professions which are connected with intellectual pursuits; reverence those men who exercise intellectual arts. If the farmer sinks his high art, to the brute level of mere physical toil; if he values himself solely on those muscles which the ox excels him in, he will scarcely stand in a more elevated rank: if he repulse the book, the capabilities of the plough will not be developed. But let him appreciate the true character of his art; let him see its intellectual as well as its physical aspect; let him understand its connection with more sciences, and more variety of knowledge than any other pursuit; and his position is altogether changed: with chemistry and mineralogy, and botany, and geology, and meteorology and animal physiology as studies subsidiary to farming, the calling advances at once to the highest grade of intellectual occupations.

Farming as an art is connected with, and founded on, many sciences. I do not mean to say, a good farmer must necessarily be a profound scholar. But I do mean that many of the operations of farming are chemical processes: I do mean, that the relation of soils and manures can be properly known, only through geology or chemistry: I do mean, that the true character of plants and grains, is a mystery which botany reveals. I do mean that the grand agent in improving the farmer-art, in carrying it to the perfection of the other arts, will be science. Allow me to illustrate my meaning: navigation was at first a practical art: sailors crept along the coast, afraid to launch boldly into the open sea: voyages were slow and tedious and uncertain: foreign commerce, when it existed at all, was scarcely on the footing of that domestic trade which formerly conveyed on packhorses, the iron and the salt of our seaboard, to the interior: navigation was in its infancy,—as farming is now. But science came to the rescue of practical art: mathematics and astronomy went on ship-board: new implements were discovered: new powers were introduced: navigation became—what it is now. Navigation is now founded on science: but the sailor, who works the ship, is not a man of science; the officer even, seldom or ever can calculate the tables by which he steers his course. In like manner, the science, which guides the plough need not be visible to the ploughman; and often is not.

The sciences have built up the other arts. Science furnishes them with machinery supersedes entirely man's labor, or multiplies a thousand fold the powers of his single arm.—I do not say, that the same great agent can do as much for farming. The farm presents itself with difficult circumstances. Farms are isolated and apart: even on the same farm, labor is scattered: farm operation cannot all be gathered into one great work-shop, where the work of many thousand men becomes a unit, and may be done by a single steam-engine. Science may not do for farming all that she has for manufacturing, and the mechanical arts generally, but I fearlessly believe, that she can avail as much in the fields as she has on the ocean. If so, I dare not, or scarcely dare, calculate the results. The farmer of the present day would be as incredulous as "the mariner" would have been in respect to a calculation on the improved art of navigation.

Before I proceed to consider what science may hereafter do on the farm I must briefly review what art has as yet done; what farming has been, and what it is now.

There are several stages of practical farming. In the lowest, it is instinct more than art. Man slightly stirs up the soil and carelessly covers the seed, which he carelessly scatters. An abundant harvest is his reward; the reward of hopes rather than of skill. The next year and the next, he sows and reaps, and year after year he continues to crop the land and to reap abundantly, until at length—after many years on rich alluvial lands, more speedily where the soils are less fertile—exhausted nature begins to fail; the crops grow continually less; the fields are at last "worn out."—This primary stage of agriculture, "practical" farming in perfection, for there is not a particle of science to adulterate it; this primary stage: all the improved lands of our continent, of the earth perhaps, have passed through, or are now in. The exceptions are few: and among them gentlemen, I am happy to say, I see a great portion of your county: I wish I could say the same of my own. After a first crop or two, you have generally laid down your fields in grass. This is the right kind of farming. It is easy to preserve the natural fertility of a soil; but to restore it when exhausted is a work indeed. If we take a single crop from new land; seed it down with grass—for grazing with pasture grasses, for tillage with clover; turn under, deeply, when we plough a heavy sward of vegetable matter; save carefully the manures which our grass and grain crops create; if we add reasonable industry, our farms will grow better instead of worse. As a general rule, however, the first settler, the pioneer farmer, everywhere, exhausts his land; is starved out; is succeeded by another race whose farming is of a different school.

In the next great stage, the farmer has lost his trust in the natural fertility of his soil.—He believes in manures. He draws out on his land the incidental production of his stables and his barn yards; but he knows nothing of increasing artificially the quantity; and he wastes what he has, by injudicious management. Where the land has not been too much worn out, and the rotation of crops, and the turning under of sods, is understood, the process of exhausting the soil may cease; but generally it goes on slowly, though perceptibly. In this second stage of agricultural art, may be classed the greater number of those who in most neighborhoods are called good farmers.

Another step forward is made, when the farmer realizes the great fact, the fundamental principle of good farming, that manures are the raw material of all his crops. He now studies the means of producing manures artificially: he gathers the materials—straw, weeds, leaves, waste articles generally—and carries on a manufactory of the food of plants: if he lives near a city, he buys manures. Under his management the crops increase, and the land improves. In this stage, we find the farmers generally of the eastern counties of Pennsylvania; where the farm products have at least doubled within the last twenty years. Near cities, where manures can be easily purchased, and capital serves instead of agricultural skill, the productiveness of farms often reaches a high grade.

But interior farmers, deberred from the easy process of farming with purchased manures, can improve their lands rapidly only by a stage forward in art. By an improvement of the mere turning under of a scanty sod, they sow plants—the red clover particularly—for the express purpose of converting them into manure for the soil they spring from. This fourth stage of farming is extensively met with in the valley of the West Branch and through many other interior counties. When combined with the judicious manufacture of manures; with improved farm buildings and farm implements; with proper farm stock; with some knowledge of the true use of lime, and other inorganic manures; it marks the highest level, which farming as a general art has yet reached in our commonwealth.

What proportion of the land of Pennsylvania might be allotted to these several stages of art, it is impossible to say: my opinion is that we have more in the improving stages than any other state of the Union; but I have no certain statistics. The lands of New York, we are told, have been declining in annual product for years past. Ohio, the oldest of the western states, is said to be in the same condition. The sea-board regions of the south are perfect illustrations of the first stage of farming; presenting worn out acres of barren waste; interrupted only by the river courses, and by occasional spots where the process of renovating the soil has been lately commenced. On the whole the present state of practical farming is not satisfactory. The only redeeming trait is the awakened wish to improve which is generally shown. To raise crops, as the majority of farmers do, by draining the land of those materials which nature has furnished to supply all the generations of mankind, is a grade of art which may fairly be called, robbery of nature. The necessity of improving the whole system is manifest.—We must bring our lower grade farming up to the higher stages: we must advance the higher stages to a still higher level. Gentlemen, we must step upward from the mere practice to the higher ground of science.

In considering the connection of science with practical farming, I shall first speak of chemistry.

When we apply manures to a soil we add something which causes an increase of the crop, through some agency not visible to the unassisted eye. The change of the manure into the grain so unlike in form, a mystery which the unscientific farmer cannot solve, the chemist can. He has discovered, that under the unlike form lies hid a like substance. His science has discovered the original elements of all substances. He reduces the grain to its elements; analyzes it; ascertains what elements of the manure are found in the grain: he analyzes the soil; ascertains what elements it contains of any particular crop; tells you whether it will grow that crop, or not, and, if deficient, what precise manures you must use.

Few farms are deficient in all the elements of fertility: some lack lime, some plaster, some vegetable matter: the deficiency is often a trifle, an inorganic manure of small bulk, and humble price. With proper knowledge, of soils by analysis, the fertility of the farm may often be restored by a trivial outlay: without precise knowledge of what is deficient, we may draw lime, at a great expense, on land which does not need calcareous matter, or we may heap barn yard manure where superfluous vegetable material already abounds: without precise knowledge, any extensive improvement of worn out land, must be slow, and uncertain, and expensive, and, unless near great cities, not likely to be soon effected.

But how is chemistry to be introduced on the farm: must every farmer be a chemist? certainly not: the analysis of soils, to be really worth anything, requires extreme accuracy. The chemist will be for the farmer what the astronomer is for the sailor; a fellow laborer, working in the same field, though not with the same implements. The chemist will analyze the soils, and the farmer will plough them.

There is a more speculative consideration connected with agricultural chemistry. The organic part of every plant—the nineteen-twentieths of its bulk—is only a different combination of the four primary gases; which abound in air and water. From air and water, certainly cheap materials, we can manufacture the manure for our farms—if we know how to combine their elements, nature herself who is a perfect chemist, combines them in the growing plant by her organic operations. The nitrogen of the air and the hydrogen of the water are extracted by the plants, are combined during their growth and their decomposition, and are converted into ammonia, which is the essential principle of barnyard manure. At present our only agricultural mode of manufacturing ammonia, is by sowing plants, the clover especially, and ploughing them under for decomposition: a process sure, but slow and expensive. Something speedier than the growth of an annual crop—some process of manufacturing ammonia directly from air and water, and thus making our farms themselves furnish the materials of an indefinite increase of manures—is a problem not beyond the possible reach of science. What has already been achieved warrants the sanguine hope that chemistry may wrest from nature this grand secret: a secret, which would be the philosopher's stone of agriculture.

The influences of other sciences on farming is scarcely, if at all less than chemistry; but I find my limits too narrow to speak of them particularly. One interesting fact however, connected with meteorology, the science of the upper elements, I will mention: the vineyards of the south of France, which formerly suffered much from hail-storms, are now protected by the lightning rod. The science, which has disarmed the hail-cloud, may shed other benefits on the farm. Rains, and sunshine and frosts are not things of chance, but depend on established secondary causes, and regular laws: to control them may be beyond even that man who has reduced the fierce lightning into an humble post-messenger; but to know their times and seasons, so important to the farmer, may not be impossible. Another fact will illustrate the influence of animal physiology, a science scarcely yet introduced to the farm. Through recent French discoveries, the milking qualities of the cow can be accurately ascertained, it is said, from her bodily points and types. If this is so, it will go some ways to convince our dairy owners—that there is something not dreamed of in their present philosophy.

One other science remains to be mentioned; which rather ought to be, than is: I mean the science of agriculture itself. Science is art reduced to order, and made a system of settled principles and fixed rules: but farming is at present a vague jumble of traditional practices and doubtful theories. All that is certain in this agricultural chaos, may easily be reduced to order: but to form a useful science, is needed an extensive range of experiments, to test doubtful usages and to discover new processes; experiments unfortunately too costly for individual enterprize. Experiments are the ground-work of science: without experiments we can have no agricultural science, sufficiently extensive to be of much practical use: we can have no fixed rules, no indisputable system which every farmer can be acquainted with, and can improve his practice by. Experiments I trust will before long be undertaken by a board of agriculture, state or national, or by some state society.

Connected with the influence of science I must mention scientific machinery, and implements and motive power and farm buildings. This department advances more rapidly than any other connected with the farm. It is in good hands; the hands of that skillful American mechanic who invented successively the grain cradle and the reaping machine, and countless similar improvements. Mechanical art is in advance of agricultural; the mechanic is more regularly trained than the farmer; improvements in the farm implement is likely to continue to be more rapid than in the farm process. The next great achievement of the mechanic, I trust, will be some new operative power to supercede, in the cultivating of our fields, the costly sinews of the horse, and the still more costly human muscles.

Gentlemen, I must proceed to another point of my subject; the influences of the book on the individual farmer.

Do not suspect me of thinking that books can teach the art of farming. Such is not my opinion. Books cannot make a farmer, but they can improve a man who is already a practical farmer; they can make him a better farmer; they, and only they can make him a complete farmer.

By reading, the farmer learns what improvements are made in the management of the farm, what new implements, and seed, and stock are introduced. In the course of a practical life, something worth knowing is discovered by almost every thoughtful farmer. If the discovery is mentioned to the county society, and talked over, and published and read, it becomes the common gain of the whole farmer-world. Without books, the farmer's life may be spent learning from experience, what a few hours reading might have suggested, while he will remain ignorant of the experience of all other farmers. Without books, the farmer is unacquainted with the great improvements of his art, or hears of them, when they are already put out of use by something better.

But a farmer's reading is not to be confined to books directly relating to his art. General reading though apparently not connected with farming has philosophically a very close connection. History, travels, works of well chosen fiction, magazines, newspapers, cheer the mind and through its agency invigorate the body. The farmer who occupies with a book his winter evenings, his sultry noon-times, his leizure hours generally, will perform his physical labors more cheerfully and more vigorously. The farmer who reads, will labor as a man, the famer who never reads is a drudge—the mere slave of the plough.

The farmer, more than men of other casts, has need of the book. They inhabit cities and villages; his dwelling is among the lonely fields. His life is insulated individuality.—His recreations are scant; his daily associates few beyond his own family; he lives without the refreshing and refining influences of general society. Books are his society, his relaxation, his refinement. Without the book, his times of leisure are but temptations to discontent and to vice; always a burden, often a curse. Without the book, the farmer's success in life is no blessing; for it but gives him additional idle hours, which he knows not what to do with and is apt to pervert to his own harm. The book is the guardian of the farmer's virtue, of his property, of his happiness.

The last point I will ask your attention to, is the education of the farmer's son: the most important of our topics, the ground work to truth of any great improvement of agricultural art.

By education I do not mean literary acquirements merely, but the whole training, professional, literary, mental, physical. The professional education of the farmer's son should teach him along with the practice of farming, all the modern principles of the art, in its highest stages. His literary education should be such as to fit him for that social position which is his unquestionable right. His mental education should train him to discharge duly the sacred political duties of that great farmer class, which is peculiarly entrusted with the care of our republican covenant. Is an education of this kind? Gentlemen, I must answer, No! you must answer, No! Let us see what his education really is.

The farmer's son is put early to work; and, as he grows up, he learns farming by hap-hazard, until at sixteen or eighteen, he is probably as good a farmer, as his father; but he is no better. He is not exactly the lad that carried the stone in one end of his bag to balance the bushel of grain—because his father had done so before him; but he is very much like him; at all events, he is unacquainted with any improved stages of his art. How different is the training of the young mechanic, who serves a regular apprenticeship with some skilful master; and is even obliged in some countries to travel abroad in order to learn other master's improvements.

The school education of the boy has meanwhile kept even pace. His scholarship is as hap-hazard as his farmer craft. At the best, with the full literature of the District school, he has learned "to read, write and cypher," in some few schools he has acquired a little geography and history; in some very few, his acquirements are still more. Ninety nine cases out of the hundred, it is the shadow of education which he gets, rather than the substance. Nothing has been done, to enlarge his mind by introducing him to the institutions and characteristics of other countries and to the events of past times; to elevate his thoughts, by making him acquainted with the glorious universe, in which this Earth—to the uneducated man so vast—is but a contemplation; to inspire him with noble sentiments from the examples of heroic men. Even the reading which he is said to have learned, is a cheat: for it is the knowledge of letters and of books; the only books, which he is acquainted with, being his dog-eared lesson books.—He has not been taught the habit of reading, the wish to read, without which, the power is a useless and barren obstruction. His first impression of books, with almost every boy unfavorable, have not been corrected by better acquaintance; and in after life he is not likely to touch them except in dislike.

But there are farmer's sons whose circumstances allow the advantage of the classical academy and of the regular college. The boy studies the higher mathematics, some of the practical sciences; polite literature, the Latin, Greek and modern languages. The farmer's son becomes a bachelor of arts; but his years of academical life have given him peculiar tastes and habits. He has done no manual labor of any kind, his hands have grown unnaturally delicate, his dress has been finer than the farmers ordinary garb; his associates have been weak young men and weak young women perhaps—whose habitual language has been contempt of the manual labor classes:—The farmer's son has become a scholar, but he has lost the habits of the farm; and he is lost to the farmer class, he is fit only for one of the professions. So sure is this result, that I would not advise any farmer, who wishes his son to pursue his own art, to give him a collegiate education. Even if it do not withdraw him entirely from the craft, it will render him in many respects less fit for it, while it will not teach him those peculiar branches of knowledge demanded by its higher stages. A farmer's son, educated at one of our colleges, may become a more learned man than his father, but is likely to be a worse farmer.

If the means of education are thus defective the District school too limited, the college too alien from the farm, how is the farmer to educate his son? The question admits of but one answer, we must reform our educational institutions, low and high; the District school and the college. The District school must be elevated until every child of the Republic shall be fitted for his private duties and for his public responsibilities. The college must be reformed to meet the educational wants of the manual labor classes—the body of the community.

If the District school be made what it should be, the academy and the college will take care of themselves. The good seed, sown at every man's door, will spring up abundantly, and bear fruit, a general taste for educational knowledge. Scholars, anxious to learn something beyond the District school, will be numerous; those who have means—and when there is a strong will there is a sure way—will resort to higher grade institutions, academies and colleges will have a broad ground work to stand on. An elevated system of District schools is the best endowment of our colleges.

If the millions which have been lavished on the unnatural birth and sickly existence of academies and colleges had been lowfowed on the improvement of District schools, I feel confident, the number of college graduates in Pennsylvania would be many fold what they now are.

In the elevating of our District schools the first great step will be a better organization of the whole common school system. At present it is a chaos, without form, and void—void of uniformity and of efficiency. In some districts, the schools are of a high grade, in Philadelphia, their High School is on the level of ordinary colleges; in some villages, the district school is always an academy. But in most of the rural districts, which most nearly concern the farmer, our best methods of instruction and our most competent teachers are not employed. With any thing but the lowest elements of the most common, in the ordinary instruction. On the grade of moral education, the farmers, the great majority of the population, especially in New England, and mechanics, the people of the cities and villages. There has not yet been time for any general effect, but in some neighborhoods, a difference not at all flattering to the farmer class, is already perceptible. This philosophical view of the consequences of different grades of education for the children of the village and the children of the farm is too serious to be slighted. If the farmer do not wish to sink in the social scale, instead of rising, he must elevate the rural schools; he must place the grade of education on a more uniform level; he must re-organize the general school system.

My limits forbid my speaking of the details of a reformed organization, but I may make a few general suggestions. A prime reform would be to separate the office of superintendent of school from that of secretary of the commonwealth. There are duties enough to occupy the whole time of one functionary; if not of a board of education. At the outset the superintendent should visit the different counties of the State, should explain by proper discourses the necessity of an improved educational system; should enlist in the cause of our rural population, without whose hearty co-operation any general improvement is out of the question. Another reform would be a system of educating teachers; of examining them, of giving them certificates of competency according to their respective grades; without improved teachers there can be, no improved scholars. Another great reform would be the introducing of a school library into every district school. The success of school libraries in the sunday school system, is so remarkable, that it is strange the common schools should not have resorted to them. A district school without a school library is almost a barren abstraction. Another improvement, though not so immediately important, would be county high schools for higher grades of education. Nature has sown broadcast the seed of great qualities, which perishes and is lost, in rare instances it falls within the genial influences of education, and there grows up a giant in the land; were opportunities extended to every child of the people, who can calculate what genius would be developed! what ornaments and benefactors of the human race would arise.

Gentlemen, we *must* re-organize the school system. The only obstacle I see is the increased cost, and that I think will be no obstacle when the matter is considered and understood. A good house costs more than a poor one, so does a good horse, a good wagon, or a good article of any kind but the cost does not prevent men's having good articles generally. Convince the community that the advantage of an improved system of education more than repays the cost, and the affair will be settled.—It is doubtful, however, whether there is any increase of cost; the increased expenditure being probably met, if not more, by the indirect saving. The school costs less than the almshouse and the goal. An educated individual may be the inmate of a poor house or a prison, but an educated mass will produce fewer paupers and fewer criminals; this is proved by the statistics of poverty and of crime. When we weigh the general advantages of improved education; the pecuniary gain even; the political necessity; when we consider that without it there is no rock to build the republic on; written constitutions being but sandy foundation which will fail, whenever the floods come, when we consider the advantages, we cannot hesitate about the cost.

In former times none but young men designed for the professions, or of independant fortunes, sought a regular collegiate education. Colleges of the old model were then sufficient. But the progressive spirit of an age, whose name is progress, has imposed on the manual labor classes the necessity of scientific education. The arts have been developed into practical sciences. In the art, which we are now particularly considering, there is no institution in our commonwealth where a young farmer can obtain a professional training, scientific and practical; and there is now no where he can be liberally educated without losing his appropriate tastes and habits. For our art, for the farmer-class, there is no resource but in colleges of some new model.

A college for the education of the farmer's son should have its scientific professorships more prominent than the literary, and there should be, of course, professors of the theory and practice of farming, and also a model farm, and also workshops to teach the dexterous use of tools. Every student should practise manual labor certain hours of the day, four perhaps, which would leave him, ten for study and recitation and ten for recreation and sleep. Four hours a day of physical labor, while it would enable him to study more diligently, and would actually increase his intellectual progress, would give the student a sound constitution and a robust body.

The farmer's son thus educated would not lose his early handiness, and his early respect for physical labor, he would acquire a practical knowledge of farming, the art, in its highest stages, and of farming, the science, with all its improvements, in literary accomplishments he would excel other collegians; in scientific acquirements he would surpass them. Thus educated the farmer's son would enter on life a complete farmer and an accomplished man. As the literature of the lawyer and the science of the Doctor, he would add more general and more practical economical knowledge. Young men with less educational opportunities would receive as apprentices to those of scientific acquaintance with the art, would soon succeed to the whole of a farmer's craft.

I do not suppose, however, that the plan I have mentioned would be confined to the sons of the farmer. The blessing of a robust constitution is not despised even in the artificial life of the great cities. A man is not less fit for the office or the counting house by a vigorous frame, nor does he stand lower in city society on account of physical labor, which is voluntarily performed for amusement, or health. What are called manual labor colleges have always failed, because they have occupied a false position. Their express object was to enable the student by his own labor to pay wholly or in part for his education, the labor was on the supposition of necessity, and was looked on as a badge of poverty, the fate of the college was inevitable. But in the remodled colleges, labor would be a privilege not a necessity; a branch of education to be paid for by the student, an academic duty, instead of a badge of poverty.

Here gentlemen, you must allow me to philosophize a little—a very little. During the feudal ages, when manual labor, more than the iron collar, was the badge of the serf, it lost its patriarchal and Roman dignity. Society has since been at war with nature: by whom physical labor, like eating and sleeping, is prescribed under penalties, which cannot long be disregarded. Without physical labor man's system languished into feebleness, and preserves any measure of health only by severe restraints on the appetite for food. Non-laboring people use exercise, which is labor under a fashionable name; they ride, they walk; they practice gymnastics; they take summer excursions. But these mere shadows of real labor only mock the craving wants of the system. Nature unsatisfied still claims her rights. The non-laboring classes gradually degenerate, and finally "run out." If our professional and mercantile population was not continually renewed from the agricultural and mechanical, it would sink to the lowest grades of physical degeneracy. The recovering of society from its false position towards physical labor, the renewing of man's true relations with his own nature, would be a philosophical result of establishing our reformed colleges.

Gentlemen, I have detained you too long.—The importance of my subject must be my excuse. I have wished to press on you the improvement of the farmer Art, and the elevating of the Farmer Class. As a means I have proposed education in practical art, and in professional science, and in general knowledge; education of the body and the mind. And I have suggested a higher grade of District schools, and a new model of colleges. If these thoughts were fully realized, I do believe the Earth would become what it has never been; never since the gates of Eden were barred on our fallen projenitor.

When educational improvements shall have advanced the agricultural art, when science shall have done for the farm but part of what she has done for the work-shop, we may reasonably expect a manifold increase of the earth's productiveness. With increase of products comes cheapness of production. Through improvements in manufacturing, clothing at the present day costs not one fourth its price of a few years ago; with similar improvements in farming, food will be similarly cheapened.—When scientific machinery shall supersede more fully man's work on the farm, labor will be not a taskmaster exacting a strict account of the hours, but a kindly friend; the farmer will be able to indulge his higher faculties.—By nature man has tastes, which are checked by his necessities, but revive under the first gleam of genial circumstances. The toil worn drudge has no eye for the beauties of nature? but the farmer of comparative leizure can see fair flowers, and graceful shrubbery, and picturesque trees, and beautiful scenery on every hill, and in every valley. His tastes grow active; his fields are artistically arranged; his house becomes an ornamental cottage; he plants trees and shrubbery, and climbing vines, and flowers. Beautiful landscapes spring up everywhere; the face of the Earth becomes a picture to delight the eye, and cheer the heart, and strengthen virtue, and enhance the happiness of man. The moral and intellectual world is equally improved."

Gentlemen, I am not a perfectionist. I do not believe that sorrow and misery and vice will ever be banished from the Earth; for they are entailed on us by sinful passions and manifold weaknesses. I do not believe in the perfection of human nature, but I do believe in its improvement. I do believe that its present form may be elevated, levelled upwards, if I may use the phrase, the only rightful levelling of society: the levelling downward, the dragging down of everything eminent for virtue and intellect to the abasement of human nature. I believe that man is elevated by improvement in those arts which supply his bodily wants, and by education, which gives him a taste to use wisely his increased leisure. Indeed as we may of the good old times, the manners of the present day are more intelligent than those of old and more virtuous. The law of progress, the great laws of man's nature has carried forward his virtues along with his intelligence; and the onward path we still will continues.

Gentlemen, I must close. My subject has engrossed me my silence. The union of the book and the plough—the union of intellectual labor with physical pursuits—are no novel notions of old-fashioned men. Have I succeeded in showing you that you can unite with the labors of the farm, the pursuits of literature and science? Your intelligent [illegible] county, will make them [illegible] Through [illegible] The farmer class, the head of the manufacturing classes, is the vast majority of the people.