ADDRESS ON AGRICULTURAL EDUCATION, DELIVERED ON 10 FEBRUARY, 1869; PP. 1-46

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ANDREW D. WHITE

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from the Author.

ADDRESS

ON

AGRICULTURAL EDUCATION,

DELIVERED BEFORE THE

N. Y. State Agricultural Society,

AT ALBANY, FEBRUARY 10, 1869,

BY ANDREW D. WHITE,
PRESIDENT OF CORNELL UNIVERSITY.

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ADDRESS.

Apart from one or two great political and moral questions of our day—questions of life or death, and which, apparently, must be settled soon,—no national problem is eliciting more earnest thought than the relation between education and the great fundamental industries.

This thought you see taking firm shape in various countries; shapes often vague and unreasonable, but sometimes crystallizing solidly into institutions.

The whole brood of littérateurs may declare against this thought, may ridicule it, may ignore it; the whole brood of scholars may proclaim the beauty of the honored old courses of study, may indeed prove quite satisfactorily that they are the *only* courses; and yet men in all parts of this land and other lands keep on thinking upon this question of a new education, keep on planning for it, keep on thinking that it *ought* to be, keep on believing that it *will* be.

In England, tied more firmly than any nation to mediæval systems of education, you see LAWES and GILBERT, one giving his fortune, the other giving his life-work, in the application of science to agriculture, at the laboratory and farm of Rothamsted. You see VOELCKER and many compeers, in their laboratories and lecture-rooms, bringing scientific methods to bear directly on sources of fertility. You see an eager body, of whom MECHI is a type, bringing the results of these theorists to bear upon economic practice. You see a peer of the realm,—one of the lordliest names in English history,—seconded by a goodly faculty,—carrying on the Agricultural College at Cirencester, endeavoring to send forth every year a few apostles of scientific agriculture.

So, too, in France, the nation most given to revolution, but also most given to routine, you see the idea of scientific education, pure and applied, taking such noble shapes as the Polytechnic, the Schools of Arts and Trades, of Manufactures, the Imperial Colleges of Agriculture at Grignon, La Saulsaie, and elsewhere.

In Germany, where the older scholarship has had its fullest bloom and fruitage, you see a host of magnificent establishments of this new sort,

typified by the Polytechnic Schools at Carlsruhe and Stuttgart, the School of Manufactures at Berlin, the Agricultural College at Hohenheim, and the Agricultural Department of the University of Bonn.

And in our own country, the legislation of Nation and of States, the utterances of the press, various plans, various attempts, show the same longing and belief.

All this is new, much of it is crude. There have been stumblings, and blunderings, and failures, and there will be more; but the idea lives. Evidently, it is not to be scolded out of existence by solid review articles, or pooh-poohed out of existence by pleasant magazine articles. Evidently the idea is rooted in our planet, and will hardly be pulled up by narrow literary men, who hold the time-honored studies the most "eminently respectable;" or by narrow practical men, who disbelieve in "book learning;" or by narrow religious men, who fear that geology may harm Genesis.

So much for the strength and prevalence of this thought. The question then arises:—has this idea of a new education foundations?

Numbers of excellent men will tell you that it

has none; that the old methods will never be superseded; that the studies which best suited the world in the days of ERASMUS best suit it now; that there is no other mental discipline comparable to that supplied by the time-honored courses of study.

Elsewhere I have attempted to answer this: the full answer seems not difficult, but I shall not now repeat it. The simple fact that these ideas have struck so deep and spread so far gives sufficient basis for what I have to say to-night. The hold which they have on so many earnest and capable men in all lands certainly raises a sufficient presumption that there is something in them.

I pass then to the first practical question—*what shall this new education be?* In this system of education, which we hope to see established—this system which coördinates the development of the human mind and the development of national industries,—what shall be our aims and methods?

First of these I name the education of the power of observation.

Moving before us all is this great God-given panorama of things and thoughts,—of forces and

currents,—of growth and decay. It spreads in special beauty and wealth before the Agriculturist. Unfortunately, while all *see* it, few *observe* it. Men generally see clearly only what others have pointed out to them;—they have not the habit of detecting for themselves new good so as to use it, or new evil so as to shun it.

Millions of men had seen the steam rising from a kettle. JAMES WATT saw that and more, he observed in it *power*, and therefrom he drew the steam engine.

From the earliest ages, men had seen trees. JOHN SMEATON *observed* them, and built Eddystone light-house.

Sailors on every sea had looked at the teredo,—Brunel observed it, and found therein a model of the shield and enginery for the submarine tunnel.

In all lands, men had scratched the earth with rude implements for centuries,—they had seen the furrows their fathers had made,—they had seen the instruments with which their fathers made them. In these latter days, strolling out on the Roman Campagna, I examined the first plow in my way, and found it exactly the plow described by Virgil.

But modern men, in countries more active, observed the instrument and the problem, and forth came the series of modern plows; and the wealth of the world was increased more than by new Golcondas.

Those who see are millions; those who observe are but scores. Every addition to this corps of observers is an addition to the wealth and force of the country.

Now nothing is more certain than that these powers of observation can be cultivated in men who have them partially, and aroused in men who have them not at all.

Interest a young farmer in natural and physical science—especially as applied to things which bear on his tastes or aims or general pursuits, and you have given to his powers of observation a stimulus;—educate him to a moderate degree, and you give him method;—educate him thoroughly, and you give him power.

It is wonderful to note how the powers of observation may be thus trained. At the Rothamsted laboratory, Dr. GILBERT pointed out to me peasant boys with bundles of grasses before them. They were great bundles, representing the results on different plots enriched in different