alone of them all, makes every science tributary, and finds its fullest and most perfect development where its votaries make them all subservient to its interests.

By the aid of philosophy and mechanics the scientific agriculturist is enabled to determine in what manner he may achieve the greatest results with the least expenditure of force. Every labor-saving implement by which the labors of the farmer are lightened is an instance of the benefits accruing to the agriculturist from the application of the principles of Physiology and Mechanics in the business of agriculture. Every farmer realizes the advantages derived from the mowing and threshing machines, and perceives their superiority to the scythe and the flail, and yet, there are few who trace these things back to their source, and see in them merely the application of the principles of mechanics to the business of agriculture. If the benefits accruing to the farmer from the application of the principles of philosophy to the business of farming, seem to be greater than those arising from an application of any other science, it is merely because we have advanced farther in this direction than in any other. While philosophy and mechanics have engaged the attention of men from the earliest ages of the world, there are other branches of natural science, perhaps, equally important, which are as yet in their infancy. Scarcely any attempt worthy the name has yet been made to render the deductions of geology of practical utility to the cultivation of the soil, and yet there can be no doubt but that they are of the utmost practical importance to every man who has an acre of ground to till. The determination of the character of the soil, of its mineral constituents, of the material beneath it, and of the general dip or conformation of the strata, are all problems of geology, yet every one can see their application to agriculture. The geological features of a district will decide what mode of cultivation will be necessary, and the mineral composition will determine what crops are most adaptable to the soil.

Chemistry is of even yet greater practical importance in agriculture, and the enumeration of the different ways in which it is applicable to tilling the soil, and kindred avocations, would fill a volume. Indeed any farmer who attempts to carry on his business without some knowledge of chemistry, may well be compared to a man groping in the dark. The farmer who knows nothing of chemistry will be unable to determine what manures are needed by his land, and thus while he may make a proper selection he will be far more likely to choose something which will be of little or no benefit.

Botany also, and both animal and vegetable Physiology and Anatomy, are almost indispensable branches in the education of a true farmer. By the aid of these he will be enabled to determine the proper food for plants; the conditions which conduce to health and disease; and whatever may be necessary to be known that he may direct his efforts in accordance with nature's laws, and thus secure the largest return from his labour. Even a hasty review of the physical sciences which may be employed for the benefit of the farmer, cannot fail to disclose their great importance to him.

The idea, that the profession of agriculture is suited only to those whose minds are incapable of cultivation is false, pernicious and degrading to this noble profession. The fact is, that the more a man knows, the better farmer he will make. Nothing could tend more to the advancement and improvement of agriculture than the prevalence of correct views as to the qualifications requisite to its successful practice. It should be the aim of every agricultural journal to show that boorishness and clodhopperism are no more necessary concomitants of agriculture than of any other profession, and by every means in their power to ennoble the profession and cause it to be looked upon as a field where there exists an opportunity for the application of every science, rather than as a mere dreary routine of manual toil. AGRICOLA.

Northville, L. T.

## THE PROGRESS OF THE CANE ENTERPRISE.

THE Chinese variety was first introduced into Europe by Count de Montigny, consul of France to Shanghai, in 1852. From the package of seed sent by this nobleman to the Geographical Society of Paris, but *one* seed germinated. From this a small quantity of seed was matured, and the next year carefully cultivated. From this seed Messrs. Vilmorin, Andrieux & Co., seed merchants of Paris, procured eight hundred seeds, for which they paid eight hundred francs. The product of this seed, and of another portion of the same crop, cultivated by Count de Beauregard, furnished the Chinese Sorgo seed, which was distributed far and wide