

One of the most remarkable of Liebig's theories is, "that every manifestation of force, every movement is the result of a transformation of the structure of the body or its substance." This may appear problematical in the highest degree, and yet there is no theory more easily proved by every day experience.

Poultry feeders confine their poultry when they want to fatten them, thereby depriving them of motion. Pigs about to be fattened are confined in a narrow sty, on the same principle. Mr. Childers found, in his experiments on sheep, that those fed in sheds consume one-fifth to one-half less food, and increase one-third more in weight than those fed in the open field. The cause of this is—first, the sheep in the sheds take less exercise, and therefore exhaust less food in the production of motion, than those in the field; and, secondly, the sheep in the sheds have their warmth economized.

OAT FODDER FOR HORSES.

At a discussion had at a meeting of the Darlington (Eng.) Farmers' Club, Dec. 8th, on the best and cheapest mode of keeping draught horses during winter, Mr. Trotter said—

"I have paid some attention to the subject of keeping draught horses during winter; for the last three years I have adopted quite a different mode to what I previously followed. My method formerly was to allow my draught horses each 2 bushels of oats per week, together with 1 bushel of beans and as much hay as they could eat, generally clover hay. For the last three winters I have fed them almost entirely on cut oat sheaf—cut into half-inch chaff—which has been a very great saving to me.

In an oat crop of about 40 stooks per acre, which might yield near 60 bushels, the feed of a draught horse averages 2 sheaves per day, or 14 sheaves per week, which would be about a bushel and 3 pecks per week, if they had been thrashed out, which is a saving of a peck of oats per week, each horse, from what I formerly gave them; besides, I save the bushel of beans per week, and the clover hay, which was a very considerable item. When I first changed my mode of feeding, the horses improved in condition wonderfully, thus showing that it suits them well. When they are very hard worked, I allow them half a peck of oats at dinner time besides the cut sheaf.

Last winter I had only 18 acres of oats; those kept 12 draft horses, besides four young ones occasionally. This quantity of oats would not have served me through the year, had I not pursued this system of feeding."—*London Ag. Gaz.*

FARMING.—What is there in the occupation of the farmer inconsistent with, or what does not, in fact, contribute to its dignity? If there be anything in the *origin*, or in the *antiquity* of a profession to entitle it to dignity, then surely agriculture must be thus entitled; for it had its origin in a Divine commission, and it is coeval with the race. If, to occupy a sphere of unparalleled *usefulness* and *importance* confer the title, then does it most rightfully belong to agriculture; for, says Dr. Johnson, "If we estimate dignity by immediate usefulness, agriculture is undoubtedly the first and noblest science;" and Professor Johnston, in his *Lectures on Agricultural Chemistry*, remarks—"That art on which a thousand millions of men are depending for their very existence—in the prosecution of which nine-tenths of the fixed capital of all civilized nations is embarked—and probably two hundred millions of men expending their daily toil—that art must confessedly be the most important of all." If to lie at the foundation of all the other great arts and interests of life, give dignity to an employment, then is agriculture dignified. "Perfect agriculture," declares Liebig "is the true foundation of all trade and industry;" and Xenophon has observed that "agriculture is the nursing mother of all the arts; where it succeeds prosperously, there the arts thrive, but where the soil necessarily lies uncultivated, there the arts are extinct."

If there be anything in the relations which a profession bears to the external world, to establish its claims to dignity, then is the claim of agriculture thus established; for not only has the scene of its operations been laid by the Creator in the midst of His works, but over those works has He given it dominion. Finally, if to be distinguished by its moral tendencies entitle any calling to this distinction, then does it belong to that of the former; for, says Socrates, "Agriculture is the mistress and school of sobriety, temperance, justice, religion, and, in short, of all the virtues."

WEIGHT OF ANIMALS.—The gross weight alone is an imperfect test of condition—the heavier animals are not always the fattest, nor the smaller ones invariably in a lean state; the weight of a carcass of quarters of animals, in different degrees of condition, exhibit considerable variation in relation to their weight alive; the carcass of quarters of oxen, for instance, are found to bear the following proportions to the gross weight;—

	Per Cent.	Per Cents
A lean Ox,.....	46—the offal being	54
Half fat.....	54	46
Moderately fat.....	62	38
Extra fat.....	70	30

It is universally admitted that cattle ought not to be put to rich pastures or forcing food, in a lower state of condition, than that denominated half fat.

WHAT EDUCATION IS.—The multitude think, that to educate a child is to crowd into its mind a given amount of knowledge; to teach the mechanism of reading and writing; to load the memory with words; to prepare a boy for the routine of a trade. No wonder, then, they think almost every body fit to teach. The true end of education is to unfold and direct a right our whole nature. Its office is to call forth power of every kind; power of thought, affection, will, and outward action; power to observe, to reason, to judge, to contrive; power to adopt good ends firmly and to pursue them efficiently; power to govern ourselves and to influence others; power to gain and to spread happiness. Reading is but an instrument: education is to teach its best use. The intellect was created not to receive passively a few words, dates and facts, but to be active for the acquisition of truth. Accordingly, education should labour to inspire a profound love of truth, and to teach the processes of investigation. A sound logic, by which we mean the science of art, which instructs us in the laws of reasoning and evidence, in the true methods of inquiry, and in the sources of false judgment, is an essential part of a good education.—*Channing.*

THE SECRET OF WARM FEET.—Many of the colds which people are said to catch commence at the feet. To keep those extremities constantly warm, therefore, is to effect an insurance against the almost interminable list of disorders which spring out of a "slight cold." Firstly, never be tightly shod. Boots or shoes, when they fit closely, press against the sole of the foot, and prevent the free circulation of the blood. When, on the contrary, they do not embrace the foot too tightly, the blood gets fair play, and the spaces left between the leather and the stockings are filled with a comfortable supply of warm air. The second rule is—Never sit in damp shoes. It is often imagined that unless they be positively wet, it is not necessary to change them while they are at rest. This is a fallacy; for when the least dampness is absorbed into the sole, in its evaporation it abstracts the heat from the foot, and thus perspiration is dangerously checked. Any person may prove this by trying the experiment of neglecting the rule; and his feet will feel cold and damp after a few minutes; although on taking off the shoe and examining it, it will appear to be quite dry.

TRANSFORMATION OF THE LOCUST.—In the summer evenings it is common to see upon the trunks of trees, reeds, or any upright object, a heavy-looking, hump-backed brown beetle, an inch and a half long, with a scaly coat, clawed lobsterlike legs, and a somewhat dirty aspect; which latter is easily accounted for by the little hole visible in the turf at the foot of the tree, whence he has lately crept. I have sometimes carried them home, and watched with great interest the poor locust "shuffle off his mortal," or rather