

The reader will readily perceive that the more commendable course advocated is for chemists to confine their labours to their laboratories, in the advancement of the practice and science of chemistry, and to let physiology and farming alone. Applied to milk, the churn and the cheese-vat tell us better than they can do the quantity of butter and cheese which our milch cows daily and yearly give. Two samples of milk may possess equal quantities of butter and cheese, and yet the value of the two, when sent to market, may be very different in the estimation of competent judges. The difference is equally great in the rearing of calves at home. As to the butter and cheese, the difference of value in the market is often as great as three hundred per cent. Nothing can be more fallacious, practically speaking, than to judge of the quality of the milk exclusively by the quantity of butter and cheese which it contains. "Galen placed a newly-dropped kid near three vessels—one filled with milk, another with honey, and another with wine; after smelling at all three, it presently began to drink the milk!" (Todd's Cyclopaedia, article *Smell*) It was not the butter and the casein that led the kid to prefer the milk, but its odorous properties. Nature hath implanted in animals the organs of smell and taste, and these have their corresponding qualities in the odorous and sapid qualities of the food they consume. And milk is no exception from this natural law, its quality and value depending as much, if not more, upon its odorous and sapid properties than its butter and cheese; for however essentially necessary the latter may be, it is only when accompanied with the former that they possess their real value, giving richness of quality to this natural dietetic beverage. Now, what are these odorous and sapid properties, chemically speaking, upon which the value of milk so much depends? Again, we are all familiar with the difference between the odorous and sapid properties of milk, when the cows are fed upon grass, turnips, hay, grains, or oil-cake and barley straw, &c.; but we do not know what those differences chemically are, although this is the kind of knowledge farmers stand most in need of from the laboratory of the chemist.

The practice of the cow involves the conversion of the food she consumes into milk; and when we consider the diversity in the quality of the former, and the comparative uniformity in that of the latter, there must of necessity be a corresponding diversity in the process. But, as has been already shown, this uniformly is more apparent than real, there being a corresponding difference on the colour, smell, taste, and consistency of the milk to that of the food; and it is more than probable that this harmonises with the health of the cow and calf, and the normal quality of the milk, in all cases where the difference in the quality of the food is natural—the opposite being true when it is unnatural. Now, we have here normal and abnormal food, processes, and milk; but as yet we are not suffi-

ciently versed in physiology to distinguish the one from the other, so as to choose what is natural and shun unnatural food—unhealthy cows, calves, and bad milk.

Again, as to the richness of the evening milk, how is this accomplished? Can we by any artificial means so coax the cow as to make her give as rich milk in the morning as in the evening? One reason why the morning milk or that secreted during night is thinner may be traceable to the abstraction of more of the food to the reparation of the body. So far, this suggests an equilibrium of forces, or a more equitable distribution of the works of tear and wear, and reparation. But how is this to be effected? If the reparation is greater in poor cows than in fat ones, the milk of the former will be thinner. Query, is the case? Has Mr. Horsfall, who fattens his milch cows, done everything to the solution of the problem relative to an equilibrium of forces? What reply does his churn and his cheese-vat give?—*Farmer's Magazine*.

The Poultry Yard.

FOWLS.

Humanity demands that every precaution be taken to avoid submitting to preliminary tortures the unfortunate fowls devoted to death, not to tie them in bundles like vegetables that are sent to market, nor to allow them to be teased by children, &c.: finally, not to adopt the reasoning of cruel and ignorant idiots—it is only to kill! as if before killing one should torment.

Humanity demands besides, that the instruments destined to cause death should be even and sharpened, so as to act rapidly and certainly, and that the persons who kill should be instructed by competent teachers. We dare to hope that the day will come when such persons only who have studied under practised veterinaries will have a right to kill these beings that die by thousands every day to help to support our existence; and that we shall no longer see on the market place the horrible spectacle of an old woman killing an unfortunate fowl by inches with a knife which, having neither handle nor edge, refuses to cut the throat.

Let us listen to the precepts on this subject given by Messrs. Allibert and Mariott-Didieux, both veterinaries. M. Allibert writes thus:—

"Like cattle, fattened fowls should not be killed till they have fasted about twenty-four hours, which allows the crop and intestines to become empty. The extraction of the latter is easier in consequence. Lean, or half-fattened fowls, are killed by cutting the venous conduits near the head, and then holding the bird suspended by the feet; this facilitates the bleeding, and makes the flesh whiter. Choice