

testines, and other conveniences may arise. The remaining quantity of carbon is covered by fat, and if 500 of starch are taken, only 56 of fat will be required. This is the maximum of starch and the minimum of fat which, according to Voit, should be consumed by a workman.

He regards it as better to give only about 350 of carbohydrates, and to supply the remainder of the carbon in fat.

Formerly it was erroneously supposed that the more work was done the more muscle was destroyed, and that therefore more albumen was required in the food, proportionately to the work done. Voit has however shown that a man living always on the same dietary does not use up more albumen during the hardest work than in perfect rest, though he does decompose much more fat.

It has been supposed that these conclusions are opposed to the fact that certain classes of workmen who accomplish great tasks consume large quantities of albumen. However the opposition is only apparent. The quantity of albumen decomposed in the case of a certain individual is not correlated to the quantity of work he performs, but the converse is true, viz., the possible amount of his work is proportional to the amount of his albumen decomposition, in so far as a strong and hard-working man has a larger amount of organs (chiefly muscles) rich in albumen to maintain in condition, and therefore needs more albumen in his food. But he would require the same quantity on a day when he did no work. If on Sunday he took less albumen, his organs would lose albumen, and on the next day be unable to do as much work as before. Only powerful muscular men can do heavy labour, and they must consume large quantities of albumen to maintain the mass of muscle; weak-muscle men cannot do the same work however large the quantity of albumen they may consume. Playfair's figures do not prove, as has been often supposed, that more albumen is used up by the same individual at work than at rest. From his compilation it does appear that the amount of muscle determines the amount of work, and that men with large masses of muscle (*i.e.*, those who do large amounts of work) require large quantities of albumen.

A heavy draught horse takes more albumen in his food than a little pony. But no one would therefore conclude that it did so because it worked harder, and that at rest it would only eat the same quantity as the animal with less muscle. Everyone knows that the strong horse must eat more albumen on account of its great masses of muscles, and because it has more work to do with them.