

There is no difficulty for anyone in admitting that the fat of the body *may* be derived from the ready formed fat absorbed as food. But is that the only source of fat?

In 1742 Beccaria, in Bologna, advanced the idea that animals take the substances which form their tissues ready made from the vegetable kingdom. This theory was supported by many prominent men, amongst whom may be mentioned Prout, in England, and Dumas, in France. The chief point of the theory was that animal fat is derived from the fat of plants. This appeared so simple and probable, that for a long time nobody questioned its truth. Liebig was the first (in 1848) to dispute this deep seated belief of over one century old. He observed that if by lack of exercise or otherwise, respiration is hindered in Herbivora, fat deposits in greater quantity and thence he argued that as there was no more fat absorbed in the food than previously, that greater deposition must be due to the formation of new fat from the fat free substance of the food. Hindering respiration he thought diminished the combustion of the carbohydrates and the protein, the unburnt carbon was retained in the body and used up in the formation of fat.

As a natural consequence Dumas and Liebig entered into an active controversy, and this set them and their supporters at work experimenting to discover additional proofs to uphold their respective pretensions. Milne Edwards sided with Dumas.

It is not my intention to give you an account of all the experiments undertaken. A few will suffice to make the results and the conclusions drawn therefrom clear to your mind.

Upon instituting experiments it occurred to Voit that fat might possibly be formed from protein. He had noticed that adipocere is often formed from nitrogenous tissue, muscles, etc., when portions of the animal body are kept under water. Wishing to ascertain whether really albumin could be changed into fat, he kept glass tubes, containing pieces of meat, in a water bath at a constant temperature of 40°C. for 3½ months. At the end of this time he found a small increase in the fat content of the substance. The increase was small, but nevertheless the fact was established that fat *could* be formed from protein substances. Further investi-