CHAPTER III.

ANIMAL NUTRITION IN GENERAL.

§ 1. Food of Animals.

NUTRITION constitutes no less important a part of the animal, than of the vegetable economy. Endowed with more energetic powers, and enjoying a wider range of action, animals, compared with plants, require a considerably larger supply of nutritive materials for their sustenance, and for the exercise of their various and higher faculties. The materials of animal nutrition must, in all cases, have previously been combined in a peculiar mode; which combination the powers of organization alone can effect. In the conversion of vegetable into animal matter, the principal changes in chemical composition which the former undergoes, are, first, the abstraction of a certain proportion of carbon; and secondly, the addition of nitrogen.* Other changes, however, less easily appreciable, though perhaps as important as the former, take place to a great extent, with regard to the proportions of saline earthy, and metallic ingredients; all of which, and more especially iron, exist in greater quantity in animal than in vegetable bodies. The former also contain a larger proportion of sulphur and phosphorus than the latter.

• The recent researches of Messrs. Macaire and Marcet tend to establish the important fact that both the chyle and the blood of herbivorous and of carnivorous quadrupeds are identical in their chemical composition, in as far, at least, as concerns their ultimate analysis. They found, in particular, the same proportion of nitrogen in the chyle, whatever kind of food the animal habitually consumed; and it was also the same in the blood, whether of carnivorous or herbivorous animals; although this last fluid contains more nitrogen than the chyle. (Mémoires de la Société de Physique et d'Histoire Naturelle de Genève, v. 389.)