

is evident from the definition of the generic characters themselves. The proposition itself is of some importance, as it furnishes a verification of the completeness of the enumeration of generic characters contained in Table III.

II. "Inquiries into the National Dietary." By Dr. E. SMITH, F.R.S.

Received April 28, 1864.

(Abstract.)

The paper contains an abstract of the scientific results of an inquiry which the author had undertaken for the Government into the exact dietary of large classes of the community, viz. agricultural labourers, cotton operatives, silk-weavers, needlewomen, shoemakers, stocking-weavers, and kid-glovers. The inquiry in reference to the first class was extended to every county in England, to North and South Wales and Anglesea, to the West and North of Ireland, and to the West, North, and part of the South of Scotland, whilst in reference to the other classes it was prosecuted in the towns where they were congregated.

The object of the investigation was to ascertain in the most careful manner the kind and quantity of food which constitutes the ordinary dietary of those populations; and the inquiry was in all cases made at the homes of the operatives.

The number of families included in the inquiry was 691, containing 3016 persons then living and taking food at home. The calculations of the nutritive elements are made upon the basis of an adult, two persons under the age of 10 and one over that age being regarded as an adult, and of the elements, the carbon and nitrogen are calculated in each article of food, whilst the free hydrogen is separately estimated as carbon upon the total quantities.

The author then cites the estimations which in his papers in the *Philosophical Transactions* for 1859 and 1861 he had made of the quantity of carbon and nitrogen emitted by the body under various conditions, and computes on those bases the amounts of those substances which are required as food by various classes of the community. He then proceeds to state the quantities which have been actually found in the dietaries of the persons included in this investigation, and the great variations which the inquiry had brought to light. He also compares the nutriment with the cost of it in the food, and states the proportion which the nitrogen bears to the carbon in each of the classes and in the different localities.

Each article of food is then considered separately, and the frequency with which, as well as the average quantity in which, it was obtained by these populations is stated.