Protein is the only nitrogenous and therefore the only flesh-forming food, and is the most essential food factor, especially in young children, and in acute wasting diseases, such as tuberculosis and fevers, and to help build up the nervous and convalescent patient. It must, however, be given in its most easily digested form.

Animal Protein has a much higher food value than Vegetable Protein, and may be given in the form of eggs, milk, and meat extracts.

Fats are an important source of heat and energy to the body, and their absence leads to wasting.

Animal fats as Cream and Butter being rich in Vitamin A are very valuable, as is also Cod Liver Oil; but fat is difficult to give to some patients and must, therefore, be given in microscopic quantities frequently without the patient being aware of it. Vegetable fats, such as Olive Oil, are lacking in Vitamin power, except perhaps nuts, which are valuable, but very indigestible unless eaten with carbohydrate in the form of raisins.

Lecithin, valuable fat in milk, builds nerve sheaths.

Carbohydrate gives heat and energy, and is of much more value to the body than is generally recognised. In fevers, when the temperature is far above normal, more and more fuel is needed to combat this heat loss, and carbohydrate supplies the need. Lactose can be substituted for cane sugar without giving a sweet sickly taste, and gives practically no work to the body, as it is ready for absorption. All carbohydrate is digested very quickly, therefore one feels hungry immediately after, so that a carbohydrate meal should be supplemented by protein to prevent undue hunger.

Honey is the most important animal carbohydrate, and is very easily assimilated and is palatable.

Liver is now recognised as such, but can only be taken in varied ways.

Salts necessary to the body are :--Sodium for juices, especially blood and digestion. Potassium, for heart (muscle). Calcium for teeth and bones. Phosphate for nervous tissue. Magnesium for blood. Iron for Hæmaglobin.

Sulphur, Iodine and Chlorine are represented in the body, and also in the every day dietary with milk, eggs, fruit, and vegetables in it. Vegetarians require much more sodium chloride than meat eaters, as the balance of potassium is heavy in vegetables and needs sodium chloride to equalise it; nature gives its own signal, e.g., men sweating hard take much salt with food.

## Vitamins.

These microscopic food accessories essential for health and growth are found in most foods the sun shines on, therefore the more fresh foods given the higher will be the Vitamin Content. "Food, Health and Vitamins," by Plimmer, gives an excellent Vitamin chart, worth a place in every schoolroom.

Vitamin "A" and "D" are associated and are fat soluble, therefore are present in practically all animal fats especially butter and cod liver oil.

Absence of these Vitamins, based upon research work on animals, produces loss of weight, low body resistance to disease, and an inflammatory corneal infection known as Xerophthalmia, leading to blindness.

Vitamin "D" is metabolised in the body by ultra violet  $B^1$  rays.

Vitamin "B" or "B<sub>1</sub>," is found in cereals, eggs and internal organs of animals, absence of which produces Beri-Beri, a disease especially of the East.

Vitamin "C." The anti-scorbutic Vitamin is found in all fresh fruits and vegetables and absence produces scurvy.

Vitamin " $B^2$ " is in yeast and meats chiefly, and lack of which produces Pellagra, a disease characterised by digestive disturbances, skin and mental symptoms.

Vitamin "E" is present in some types of animal fat, and has a definite relationship to the productive function in animals of both sexes.

Water forms 60 per cent. of body substance, it forms 90 per cent. of the blood and even as much as 85 per cent. of some digestive juices.

It is lost daily from the body in various forms.

Urine 50 ozs.

Sweat 60-80 ozs. is produced, but probably up to six times as much in excessive sweating.

All air breathed out contains moisture and much water is excreted by the bowel.

Water up to 5 pints is required daily as a necessity to :---4. Maintain Blood Volume.

r. Aid digestion.

5. Carry nourishment.

2. Dissolve food. 6. Remove waste. 3. Manufacture juices.

And yet water is least given in hospitals, and patients usually on more concentrated diets require much more, apart from the diseases causing excess loss, as in Fevers, Vomiting and Diarrhœal cases. One never sees a bottle of water on a patient's locker for her to help herself ad lib. except in a maternity ward.

Water must be clean; contaminated water may immediately set up acute symptoms, as it is frequently drunk with the stomach in a state of quiescence, no Hydrochloric acid being present to kill bacteria, and it is then absorbed directly through the walls of the stomach or intestine with dire results.

Roughage, or indigestible cellulose of fruits, vegetables, etc., is very valuable in stimulating peristalsic movement, and preventing stasis and poisoning by bacteria in the bowel.

## Feeding from a Psychological Point of View.

Worry, emotion or excitement will counteract the secretion of gastric and other juices. Who has not felt the result after receiving sudden news in the middle of a meal which was being enjoyed ? One pushes aside the plate, feeling it is impossible to partake of any more, and if compelled to eat, what a load of undigested food lies in the stomach, because the gastric juices ceased secreting when the psychological factor of the news entered the mind. Food eaten under these conditions is harmful, and useless as food.

Fatigue spells indigestion also, if the blood is in the muscles it cannot possibly be manufacturing secretion, therefore rest should precede a meal for all patients convalescing.

## Preparation of Foods for Serving to Patients.

I. Prevent smells penetrating before meal is served.

2. Prepare patient, give bedpan, wash, and clean the mouth.

3. Give punctually.

4. Correct temperature-serve hot if to be hot, cold if to be cold.

5. Serve daintily. Everything clean and in small quantities.

6. If patient dislikes a particular form of food necessary to his disease, it should be well camouflaged as to make it enjoyable.

7. Enjoyment spells good and efficient digestion.

8. Clear all away immediately patient has finished and encourage relaxation to assist digestion. In certain diseases it is essential not to encourage the patient's appetite. In typhoid convalescence and in gastric cases on milk diet the patient should receive his food before the smell of more. appetising foods has the opportunity of gastric stimulation



