

## XV. DEFENSES AGAINST ENVIRONMENTAL DEFICIENCIES AND EXCESSES

The earlier part of this course has concerned itself with a consideration of the mechanical, physical, chemical, and micro-organismal causes of ill health. Science has also demonstrated that we have another great group of causes: sickness, inefficiency, and death. They may be broadly classified as environmental excesses and deficiencies.

These excesses and deficiencies play an important part in our levels of health. One might consider them from a chronological point of view on account of their peculiar effects on every age group.

- |                            |              |
|----------------------------|--------------|
| (a) Pre-natal              | (d) Maturity |
| (b) Infancy and pre-school | (e) Old age  |
| (c) School or college      |              |

The time at our disposal will permit only a consideration of the principles involved in the health effects of excesses and deficiencies.

### Food Excesses and Deficiencies

No argument is needed to establish the fact that food is one of the prime essentials of life. The difficulty is to convince the average individual that we have sufficient scientific knowledge to prove that more than instinct, taste and the subjective sensation of satisfaction of hunger are necessary to insure the individual an adequate diet and to protect him against food excesses and insure him against food deficiencies.

### Food Deficiencies

From our studies of normal nutrition, we learned that the amount of food taken in by the individual should be adapted to his age, body weight, and degree of activity. Further, that this intake should be distributed properly among proteins, fats, and carbohydrates with an insurance of securing sufficient vitamins and inorganic salts.

If we are to plan successful defensive hygiene of foods, we must know the correct amounts and distribution of food elements and understand the signs of deficiency of each group.

- |             |                   |                     |
|-------------|-------------------|---------------------|
| (a) Protein | (c) Carbohydrates | (e) Water           |
| (b) Fats    | (d) Vitamins      | (f) Inorganic salts |

### Food Excesses

It is impossible to judge exactly whether an individual is taking food in excess without a careful study and expert examination. It is doubtful wisdom to take the unreliable testimony of the feelings and the scales. It seems almost unnecessary to mention that we should be able to recognize the signs of excesses of:

- |              |                   |                     |
|--------------|-------------------|---------------------|
| (a) Water    | (c) Fats          | (e) Inorganic salts |
| (b) Proteins | (d) Carbohydrates |                     |