to decide what form that legislation shall take, and to what body the future control of the Nursing profession shall be entrusted.

Lectures on Elementary Physiology in relation to Medical Nursing.

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LECTURE III.—DIGESTION AND INDIGESTION.

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THE part which is played, in the process of digestion, by the Teeth is not only most important, but is frequently overlooked.

In the adult, there are thirty-two teeth; sixteen in the upper, and sixteen in the lower jaw; the eight on the one side corresponding to the eight on the other. The four teeth in the middle of each jaw present a single fang which is of a chisel shape; and these are called *incisors* because of their cutting edge. Next to the two incisors in each half of the jaw, is a tooth which resembles the long pointed fang of a dog, and is therefore called the *canine* tooth. Next to this, are two teeth having a broader crown divided into two, from which they are called the *bicuspids;* and next to these again are three teeth with large broad crowns, and two or three fangs, and which are called the *molars*, or grinders. Now, it has been well said that the shape of these teeth proves that Nature intended human beings to live upon a mixed diet, that is to say, upon both animal and vegetable substances. The incisors and canine teeth are unnecessary, and would be useless if the diet consisted only of soft vegetable matter, because their usefulness consists in tearing and separating the fibres of animal tissue, or meat. Again, the bicuspids and molar teeth corresponding to the teeth of animals which live on vegetable matters, are useful for grinding or chewing softer tissues but would be of little use in separating the fibres of meat.

MASTICATION, then, is the separation of the tissues of the food by the teeth. And it has two important results. In the first place, the food is thereby softened and divided into so fine a condition that the *saliva*, or secretion formed by the glands of the mouth, becomes thoroughly mixed with every particle, and when the food reaches the stomach a similar complete mixture of the food with the secretions of that organ is rendered possible. The importance, therefore, of the work of mastication becomes evident; and the most frequent cause of indigestion arises when solid food has been either "bolted," unmasticated, or when it is not sufficiently mixed with the secretions of the mouth before being swallowed. This fact is most important for the Nurse to remember, in the care of the sick, because, when illness occurs, the digestion, like all the other functions, becomes considerably impaired. It is, therefore, essential in the case of invalids that they should be encouraged to eat slowly and to masticate thoroughly, all that they take. And in the case of patients who have lost their teeth, or in those who are suffering from some disease of the mouth which prevents proper mastication, the Nurse should always remember that all solid food should be minced or pounded, so as to obviate as far as possible the extra tendency to indigestion. One great reason, indeed, why invalid foods and fluid preparations are so popular and acceptable, is because they supply in a finely divided, and therefore most digestible, form, the most nutritious diet. The importance of the action of the saliva depends very largely upon the fact that it possesses a powerful chemical action upon all the starchy materials of the food and converts these, which are most difficult of digestion, into sugar, a substance which is easily dissolved and taken up by the blood. Another great cause of indigestion, therefore, exists in those persons in whom the quality or quantity of the saliva is deficient in this power of altering starch.

SWALLOWING is a process which is purely mechanical; the food is collected by the movements of the tongue, which is almost entirely a muscular organ, and of the cheeks, into a mass or bolus, and thus is thrust to the back of the mouth. The soft palate and the sides of the fauces then contract, the epiglottis falls back over the opening of the windpipe, and the mass slides over this into the œsophagus or gullet—a tube which is composed entirely of rings of muscle. Each ring in its turn, by contracting on the bolus of food presses it downwards, when it is squeezed onwards by the next ring of muscle, and so is carried always forwards until it reaches the stomach. This muscular process explains the facts that a horse can drink with his head hanging lower than his body, and that acrobats can drink whilst standing on their heads.

(*To be continued.*)

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