

found in the young or in persons under middle age. Its diagnosis is the most difficult. It often is easy enough, but not unfrequently requires a good deal of care. The visible efforts of the patient and outward distension of the pharynx, in the efforts to pass on what is swallowed, are often very striking when the neck is looked at, for these strictures are often narrowest of all, and will admit only a fine probe or even a filiform bougie. The action of the pharynx, however, is not unlike what occurs in diphtheritic paralysis. The probang here may often mislead, since there is normally an obstacle, and a very decided one, to its passing the larynx, and it is possible to mistake the natural for an abnormal resistance, or *vice versa*.

Hamburger mentions the rapidity of the passage of the food along the gullet as being valuable as a diagnostic sign, but he does not enter into particulars regarding it. Yet, I have, I think, found it most valuable.

A healthy person requires about four seconds for food to pass from the mouth to the stomach. The moment of its leaving the mouth can be told by placing the finger on the pomum adami. The instant it is felt to rise the fluid is passed from the pharynx into the œsophagus. If the ear is placed behind the left thorax, three inches below the angle of the scapula, the moment of entrance into the stomach can nearly always be told by a distinct amphoric gurgle or amphoric rushing sound. Even when this fails to be audible once it seldom does so at a second attempt.

The watch in one hand and the finger of the other on the pomum adami, serve to record the exact time. The patient retains the water or other fluid in his mouth till he receives the order to swallow.

Stricture impedes the passage of food. It does so even when the food is fluid and the stricture not narrow. The same thing is observed in strictures elsewhere—e.g., in the urethra where even a stricture that would not be called narrow causes straining and a delayed escape of urine. When auscultation and a measurement of the time needed for a liquid to traverse the whole length of the gullet are employed in a case of œsophageal stricture, it will generally be found to require 14 or 16 seconds.

A number of individuals without stricture were tested as to the time required for liquid to traverse

the œsophagus. The numbers were 11, 3, 4, 5, 8, 6, 3, 5, 8, 3, and 2½ seconds. When the patient is sitting or standing upright, and is in sound health, four seconds is the usual time. This symptom may be inapplicable or mislead occasionally, I do not doubt; but I have found it a very useful and reliable one, and am inclined to place a good deal of value upon it.—*Medical Chronicle*.

THERAPEUTICS.

Electro-Therapeutics.

The first experimental observations on *static electricity* were obtained by the friction of a piece of amber. This substance, on being rubbed, became endowed with the power of attracting to itself such light substances as feathers, pieces of paper, etc. It was not long before it was noticed that, on friction, other substances, such as glass, sealing wax, etc., developed similar qualities, and following on this an examination of the properties of this peculiar power showed that it was of two kinds. This is easily illustrated. Heat a piece of sealing wax and draw it out to a thread about the thickness of a knitting needle and eight or ten inches long. To one end of this fasten a paper disk about an inch in diameter and suspend the whole, so that it balances freely, from a glass rod by means of a few fibres of unspun silk. Now, if we rub a stick of sealing wax with a piece of flannel and bring it near to the paper disk, the disk will be at first attracted and then repelled by the wax. If, while in this state of repulsion, we bring near to it a warm glass rod which has been rubbed with a piece of silk the disk will be immediately attracted by the glass and then in an instant repelled. If, while the disk is in this condition of repulsion from the glass, we again bring near to it the excited sealing wax it will be attracted by the latter. Thus we see that a body which is electrified or charged by the same kind of electricity as is obtained from the wax is repelled when a piece of electrically excited wax is brought near to it, but is attracted by the glass rod and *vice versa*. To indicate these opposite kinds of electricity, that developed on friction of glass is termed *vitreous or positive* electricity, while that from the wax is termed *resinous or negative* electricity. These terms are comparative only and indicate that there are two kinds; they might be used interchangeably. Whenever two bodies