salivary glands, the saliva aids largely in producing the sensation of taste, also in mastication and deglutition. "No substance can produce an impression upon the nerves of taste unless it be in a fluid form and capable of absorption by the mucous membrane. The saliva produces this effect upon the soluble ingredients of the food, and brings them in contact with the papillæ of the tongue in sufficient quantity to produce a gustatory sensation." In addition to taste, mastication and deglutition, in the human being, the salivary secretion assists the movements of the tongue in speech. But in our present state of knowledge we are not warranted in asserting that food undergoes much chemical change from the action of saliva in the mouth. On the contrary, the numerous *artificial* experiments performed, and those experiments, more or less *natural*, upon the lower animals, for instance, the dog, horse, and rabbit, as well as those upon two living men, the one a Canadian, and the other a Frenchman, all tend towards the conclusion that cooked starchy foods undergo, at all events, the greatest amount of change in the duodenum. Though this is true there still remain sufficient reasons why mastication should be very slow and thorough. As the results of recent investigations, M. Defresne has announced that ptyalin converts starch into sugar in the presence of impure gastric juice, as rapidly as it does in the mouth. But pure gastric juice suspends its action. However, when the food reaches the duodenum the saliva that has been conveyed with it regains its activity, and the duty is fully discharged.

AT the recent meeting of the American Association for the Advancement of Science, probably the most valuable contributions were the papers by Professor Cope on the "Origin and Succession of Felidæ;" by Prof. Morse on "Observations on Japanese Brachiopoda;" Prof. Wilder on "The foramina of Monro in man and the domestic cat," and "The *crista fornicis*, a part of the mammalian brain apparently not hitherto described;" Prof. Alex. Agassiz on the "Palæontological and Embryological Development of the Sea-urchin;" and Prof. J. W. Dawson on "The Pulmonates of the Palæozoic period." Prof. Agassiz' address was most elaborate, and presented the results of very careful and lengthened researches. While admitting and demonstrating that evolution to a limited extent does take place, Prof. Agassiz, who is ever clear and pointed, expressed the opinion that the construction of a genealogical tree, as attempted by some, is trifling nonsense, and impossible. Also, in the discussion upon Prof. Cope's paper, the fact was forcibly impressed on the meeting that the genealogical tree, constructed from the study of any single set of animal organs, is either altogether reversed or terribly confused by the study of another set of organs belonging to the same animals. For example, by the comparison of the teeth it *may* be inferred that A has been evolved from B, and the latter from C; but on comparing the structure of the brains, or of the locomotive organs of the same creatures, C may appear to have been evolved from A, or to be the descendant of B. In short, it is when the subject is grasped in its *entirety* that the grand difficulties in the way of the evolutionist present themselves. In his address Dr. Dawson gave detailed accounts of the six species of land-snails from the Devonian and Carboniferous rocks. *Pupa Bigsbii* of the Nova Scotian coal-measures, and *Straphites grandava* of the Devonian formation of New Brunswick, are new species As no similar shells have been discovered in older rocks, and none for some distance above the Devonian, they seem quite isolated. Four of these species occur in New Brunswick and Nova Scotia, and the remaining two in the rocks of Illinois. In 1851 Sir Charles Lyell and Dr. Dawson found the first one, *Pupa vetusta*, in the material filling a hollow Sigillarian trunk. These fossils are all of one family of Pulmonate Gasteropods, and are all intimately related to living forms.