

maintained that sometimes caries began upon the surface of a tooth, and the inflammatory theory then partook of a dual nature, and caries was described as being of either external or internal origin. Not until the year 1830, or almost in recent times, was this theory questioned; and almost simultaneously Harris of America, Robertson of England, and Regnard of France, proved by experiment and clinical experience that it no longer was tenable. A few years later Robertson published a "Treatise on the Human Teeth," showing causes of their decay and means of preservation, in which he advanced the theory that caries was the result of chemical disintegration of the tooth substance, and denied the agency of inflammation. This destruction was accomplished, he contended, by the action of an acid which was generated by decomposition of alimentary particles, or of fluids of the mouth suffered to lodge about the teeth. Three years later Regnard published a somewhat similar work, in which he contended that caries was accomplished by an acid generated by decomposition taking place at the very point where its effects were shown.

We must bear in mind that at the time these authors wrote the best of human thought and intelligence, as well as the deductions from all observations except their own, were diametrically opposed to their theory (a theory which all the labor of intervening years up to the present time has hardly been able to demonstrate). And their writings appear the more remarkable since, at that time, the laws of fermentation were very little known, and they had not means of confirming their suppositions by experiments made either by themselves or by others.

It was curious to notice that once the chemical theory was advanced, how prone many men were to run to the opposite extreme, and assert that if acids caused decay they would necessarily, from their general distribution, act upon all parts of the teeth, instead of attacking only particular parts. Black in his writings, which were founded upon his own experimental results, says: "I may say that the acidity or alkalinity of the general fluids of the mouth or of the food plays but a small part in the case, provided these reactions be not in such degree as to modify materially the act of fermentation taking place in the out-of-the-way points about the teeth. The teeth may decay when the fluids of the mouth are habitually acid, or when they are habitually alkaline. The condition governing the beginning and progress of decay is neither of these, but is dependent directly on the lodgment of substances at particular points and their fermentation with the production of an acid. It is in this manner that caries has its beginning, and its progress is maintained by the continuance of this act of fermentation."

Perhaps no one person has thrown as much light on the pro-