

the germs and alveolar process surrounding the teeth to be extracted.

It is not by any means a new discovery, for it has been known and practised for more than a generation, but some difficulties which presented themselves to the first users of cataphoric medication have been overcome within the last few years, and it is now being adopted by those surgeons and dentists who have the welfare and comfort of their patients at heart, and who strive for the true advancement of their profession.

According to Professor Morton, in *Cosmos*, of May, 1896, the principle of cataphoresis was known as early as 1833, when iodine was introduced into the tissue of a Frenchman; but as far as is known Dr. W. B. W. Richardson made the first important investigations in this direction in 1859, since which time until 1886 no record of any work along these lines has been discovered. For the history of Dr. Richardson's experiment I would refer you to the *Dental Cosmos*, of August, page 703.

In 1886 Prof. Wm. J. Morton, of New York, experimented successfully with cocaine cataphoresis, but Dr. Henry W. Gillette, of Newport, has done the most important original work as applied to dentistry.

The latter, in a paper read before the American Dental Association, in August, 1895, stated, "It has enabled me to say to my patients that I can prevent all pain in preparing sensitive cavities," and at the present date it is possible with the improved apparatus to perform all dental operations painlessly except extraction, and in regard to the latter the experiments so far lead us to believe that it will soon be included in the list of painless operations performed by means of cataphoresis. To those of us who are not familiar with electrical terms I would here give a few definitions of those used in speaking of the operation: A volt is such a unit of electro-motive force as will produce a current of one ampere in a circuit whose electrical resistance is one ohm. An ohm is such a unit of electrical resistance as will limit a flow of electricity to a current of one ampere when under an electro-motive force of one volt. An ampere is the rate of flow of current which will pass through a circuit, the resistance of which is one ohm under an electro-motive force of one volt. A milli-ampere is 1-1000 of an ampere.

For a successful operation on sensitive dentine it is rarely necessary to use more than from one-fifth to three-fifths of a milliampere, and the current is generally felt by the patient when the milli-ampere metre registers one-tenth. In the few cases in which I have performed cataphoresis my patients have been pleasantly surprised at the results in the excavation of most sensitive cavities. From a record which I keep, I quote the following cases: