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ELECTROLYSIS IN PRACTICE.*

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This is a subject which is claiming much attention from the medical profession at the present time. Heretofore we have been rather slow to accord proper recognition to electricity as a remedial agent, and there have been many good reasons for this; among others, the haphazard fashion in which it has been employed by regular practitioners, on the one hand, and the mysticism with which charlatans have sought to surround it, on the other hand; but, happily, all this is rapidly being changed, and now that we possess instruments of precision to regulate the dosage, and understand the laws that govern this force, much good work is being done, and yet we are only upon the threshold.

It will be impossible, in the time at our disposal, to consider the early history of electricity, or discuss the various theories that have been propounded from time to time to explain its manifestations in nature, or in its applied forms in the arts, science, or medicine. It will likewise be impossible to enumerate all the diseases in which it may be used with more or less benefit. The object of this paper is to take up a few of the applications of electrolysis which are of interest to the general practitioner.

*Read before the Huron Medical Association at Seaforth, July 19th, 1892.

In an article written a few years ago, I said: "Electricity is not the simple, harmless panacea that many of its advocates would have us believe, but, on the contrary, requires in its successful application rare tact, judgment, and skill, combined with a mature acquaintance with all its fundamental laws, such as is to be gained only by plodding, earnest, patient study of it in all its forms, and by experiment in which common sense and physiology have a hearing"; and I have seen no reason since to modify my views. I can very readily understand why electricity is almost invariably successful when employed by some, while in the hands of otherwise skilful men it proves a most lamentable failure, frequently doing great damage.

Electricity is one of the forces of nature, a form of motion among the molecules of matter, choosing for its path the best conductor and most direct course available. When this course is organic tissue, and the force sufficient, decomposition of the salts of the tissue takes place. Tissue thus acted upon is termed an "electrolyte," and the process "electrolysis." Around the positive pole, at which the current enters the tissue, oxygen gas and the acid portion of the salts collect, while at the negative pole, by which the current leaves the tissue, hydrogen and the base or alkaline portion of the salts are found; thus, in electrolysis of muscle, sulphuric, nitric, phosphoric, and hydrochloric acids develop at the positive, while soda, potassa, and ammonia gather at the negative pole. This is a crude and very incomplete description of what