A SUCCESSFUL CASE OF TRANSFUSION OF BLOOD.

The following case, which exhibits in a marked degree the beneficial effects of transfusion of blood when performed in cases of impending death from hemorrhage, is reported in the New York *Medical Journal*, for August, 1880, by Joseph W. Howe, M.D.:

Mrs. B., aged twenty-two years, was delivered of a three months' fœtus, November 7, 1879. From that date until November 11, she had repeated and profuse hemorrhages from the uterus. On the 10th the bleeding was continuous. Drs. Reynolds and Comstock, who were first called in, succeeded in controlling the hemorrhage, but not before the patient had reached the stage of collapse. They remained with her all night, endeavoring, with the ordinary means of stimulation, to rouse her, but without avail. She continued to sink in spite of everything.

On the morning of the 11th I was sent for. The patient was then completely pulseless and partially unconscious. The extremities were cold and clammy, and it was evident that unless some fresh blood were introduced death would soon supervene. She was so far gone that I made up my mind not to spend any time in defibrinating the blood. I opened the median basilic vein in the right arm of the patient and introduced the closed cannula of Colin's instrument, and after passing some warm water through the cylinder of the instrument, attached it to the cannula in the patient's arm. The median cephalic vein in the right arm of the donor was then opened, and the blood was allowed to flow directly into the cylinder without defibrination. When a sufficient quantity had been obtained, and while the blood was still flowing, I injected, without any difficulty, between seven and eight ounces. The whole operation did not occupy more than five minutes in its performance.

Within half an hour the pulse returned at the wrist, the voice became clear and distinct, and she asked for something to eat, saying that she felt stronger and better in every way. One of the medical gentlemen who had been with her all night assisting in the attempts at resuscitation, and who left in the morning, believing that there was no hope of her recovery, came in an hour after the operation, and said it was "a perfect transformation scene"—that he had no idea that a few ounces of blood could restore lost vitality so rapidly.

From that time on the patient continued to improve, and when I last heard from her she was in the enjoyment of good health and attending to her household duties without any discomfort whatever.

NOTHING REMAINS AT REST.

It is a fallacy to suppose that there is any such thing as rest to matter. There is not a particle in the universe which is not on the move, and not a drop of fluid on the globe that is perfectly quiescent, not a fibre in the vegetable kingdom in a state of inactivity. In animal bodies, from monads to the complicated organism of man, every part and parcel, even in the solids, are incessantly moving among themselves, and their component elements never cease to act in accordance with that universal law till death stops the machinery. Even then a new series of movements commences at that culminating point. Chemical dissolution of organic structures is but a liberation of molecules, the aggregation of which was necessary for a corporeal beginning and subsequent growth; and then they disperse to enter into new relations and new forms, and thus one never-ending circle of activity characterizes the material universe.

Death is a dissolution of the union that existed for a limited period of what is called life with organized matter. How that union commenced is as much a mystery as their separation. They are distinct in nature and character, although one cannot manifest itself without the brain and nerves of the other.

Astronomy reveals the astounding intelligence that there are no fixed or stationary bodies in the unsurveyed regions of celestial space. Even the fixed stars, as they were once considered, permanent landmarks in the heavens, are coursing with undefined rapidity in the train of countless globes of shining glory, on a circuit too distant to be followed even by human imagination, in the boundless realms of space.

Everything, therefore, is moving. When motion ceases there will be a wreck of worlds and a crash of an entire universe. Life is motion; inertia, to our finite minds, is death. Nature, however, neither modifies nor repeals a law, and consequently, those now in force will operate with unerring certainty through the endless cycles of eternity.

RECENT experiments by Piazzoli appear to establish the fact that the tenacity of iron increases on magnetization.

THE POSSIBILITIES OF THE ELECTRIC RAILWAY.

The highly interesting practical experiments of Dr. Werner Siemens, of Berlin, and of Mr. Edison, in constructing and operating a railway with electrical motors, have attracted universal attention by reason of the novelty of the idea to the present generation, and the apparent success of the experiments; and much speculation has been indulged in as to the possible future utility of this latest application of electricity. From the results that have been reached in the preliminary experiments of both the inventors above named, we risk very little in advancing the opinion that the practical success of the new method of propulsion has been demonstrated both from a technical and economical standpoint, and we may reasonably expect to see the system extensively introduced in the near future for mining and agricultural purposes, and in our cities for the transfer of passengers and goods. For the purpose above named, and doubtless for others that do not on the instant occur to us, the advantages of electricity as a motive power over steam and animals, is too pronounced to admit of question, and the economy of the new method having been once established (which we think may safely be assumed), the general introduction of the electric method of propulsion for the hauling of ores and minerals, for plowing and other agricultural work, and in cities for the transport of passengers and goods, and for postal and freight service, is simply a question of time. We anticipate that the electric railway will grow speedily into popularity on the strength of its introduction in a few prominent localities where its advantages over steam and horses in the absence of noise, freedom from liability to many forms of accident now unavoidable, and from the annoyances of flying sparks, cinders, grease and other dangerous and offensive accompaniments of our present elevated steam roads, would strikingly demonstrate themselves. And should the anticipations of the advocates of the electric railway for our cities, as a substitute for the surface passenger roads, and for the transaction of much of the package and freight traffic over thoroughfares now thronged with vehicles, be realized, the single advantage that would be gained in the improvement of the sanitary condition of our cities in ridding us of the vast bodies of filth with which our streets are daily littered, can hardly be overestimated.

The history of the electrical railway resembles that of the majority of important and revolutionary inventions, in that several abortive attempts at its realization are recorded before its actual success was assured. Nearly forty years ago, the idea occurred to Prof. Page, one of the pioneers of electrical invention, and some years later Mr. Silby and Dr. Colton essayed the problem. But these early experimenters lacked the means for the economical generation of electricity with which our inventors of to-day are provided, on which account they failed. The only source of electricity available at that time, was the galvanic battery, the inconvenience, uncertainty and costliness of which was an insuperable obstacle. The development of the dynamo-electric machine within the past few years, however, has removed this serious difficulty from the path of the inventors, and has given them what before was lacking, namely, a comparatively cheap means of generating and maintaining powerful electrical currents by the direct conversion of mechanical energy (no matter how generated, whether by steam, wind or water-fall) into electricity. In this form we can send our power to great distances over metallic conductors with comparatively little loss, drive electric locomotives or electric engines located at distant points, to do the work of the steam engine in our factories and workshops, or furnish light to towns and cities. Upon the development of the dynamo-electric machine, the electric railway has been made a possibility of the near future, and unless the signs of the times are most deceptive, we look for the most extensive adoption of the system in the course of the next decade.

Dr. Werner Siemens, of Berlin, whose name we mention at the outset of this article, is entitled to the credit of having revived in practical shape the forgotten efforts of Page and others of the past generation, by constructing and operating an experimental electrical railway in the grounds attached to the Berlin Exhibition of 1879. As this ingenious invention promises at no distant day to have an historical interest, we present herewith illustrations and a description of his apparatus and plans, together with some practical suggestions of the inventor that have grown out of the same.

The electric railway requires, first, a dynamo-electric machine at the terminus of the road, which is actuated by some source of power—say a stationary engine. The machine is placed in electric connection by metallic conductors with a second dynamo-electric machine, which, properly mounted on a vehicle, the