

"some verily believing it was an *hour*." The body was cold, and apparently lifeless. The stomach was emptied of water by means of a pump, artificial respiration was attempted and persevered in, and friction with hot cloths, and squeezing and kneading the muscles everywhere was simultaneously carried on by resolute and willing hands. Next, by means of a magneto-electric machine, the application of electricity was commenced with in earnest.

"The machine was put at work at greatest power. The metallic electrodes, covered for the time with bits of wet rag, were applied, the positive to the back of the neck, while the other was at first glided along over the shoulder to the side of the neck, over the pectoral, serratus, and other chest-muscles, first on the left side and then on the right; changing back and forth, say every minute, changing the direction of the current occasionally; also changing the site of the electrodes, bringing the upper or positive one to the side of the neck and over the pneumogastric nerve, then to the brachial plexus, then over the trapezius and cervical spine, back and forth, at the same time sweeping the negative along the lower third of the pectorals and about the whole waist. The current was thus used most powerfully one minute as *direct*, and the next minute as *inverse*, and this was continued for one hour."

These efforts were continued with redoubled energy, and with many variations as to the direction of the currents, for half an hour longer.

"At this juncture I resolved to resort to electro-puncture: not primary galvanic, but suitable, or at least admissible, for such a case. Long gold electro-puncture needles, well insulated except their points, four in number, and four inches in length each, were carefully inserted in quick succession, some two or three inches apart, along the front sides of the chest, two in the lower part of each pectoral, plunging them inward and downward between the fifth and sixth ribs, their whole length, thus transfixing the pectoral, intercostal, and diaphragm muscles, embracing the external nerves, also the solar plexus and the phrenic nerve branches. The introduction of the needles made no visible impression, but the instant the electrodes were now removed from the skin and brought only in contact with the ball-heads of the needles, (or the coupling-chain of each two,) so that the electric current actually traversed the diaphragm from the point of one pair of needles on one side to those in the other, there was produced at each contact, *i.e.*, after a delay of some five seconds or so, most manifest respirations, to the infinite delight of all present, for this was the *argumentum ad hominem*."

These efforts were continued, with some variations, for another hour, during which time the sighing gradually became deeper and more like a natural inspiration.

"In the course of the next half hour the heart beats became very apparent, and soon the pulse was found at the wrist. The respirations were now partially self-induced, and occurred even when the electrode was occasionally withheld."

From this time the current was reduced one-half, and the patient was able now to swallow a little hot brandy and water when poured into his mouth. At the end of ten hours, "the man became sensible, could speak, see, and take nourishment."

The points of interest in this case are the length of time the man had been submerged, and the hours longer that the lungs and heart refused to respond to the powerful means employed. It is true that cases have been reported of recovery after submersion for one-half or three-quarters of an hour, but they are not well authenticated—in fact, are believed by the profession to be utterly fabulous. The longest time of submersion, after which recovery has taken place, that is well authenticated, that we now remember, is *fourteen* minutes. The case is reported in the *London Medical Gazette* for December 23d, 1842. In that case restorative means were used for eight hours before respiration was