

attended such efforts has not been encouraging, yet we would fain hope that the time is not far distant when they may be more so. Dr. Charles Kidd, of London, an able authority on this subject, has recently published a most important paper on chloroform accidents. He states that he has made a great many experiments on animals with chloroform, and that he has come to the conclusion that death is not the result of "cardiac syncope," or "paralysis of the heart," but rather to narcotism, or paralysis of the voluntary respiratory nerves and muscles, which, in a secondary manner, induced, as a *post mortem* result, this so-called state of cardiac syncope. Dr. Kidd calls this new state muscular apnoea. Reasoning from various facts, he leans to the belief, that under chloroform, the heart itself is never attacked with sudden paralysis. At *post mortem* examinations, in deaths from chloroform, the right heart is generally found gorged with blood. Dr. Kidd claims that this is a secondary condition, the primary one being the inability of the lungs—owing to paralysis of the voluntary muscles—to receive it, hence the accumulation in the heart, which has been vainly trying to send it forward. To prove his case, he states that patients under chloroform generally struggle violently as if suffocating, and that when the alarm of an accident occurs, the patient's limbs are rubbed in the course of the veins, all tending powerfully to engorge the right side of the heart.

"It is against the analogy of the action of chloroform, so peculiarly confined to muscles of the voluntary kind, that it should act on the heart. It is contrary to all clinical observation of the pulse and action of the heart in thousands of hospital cases deeply narcotized, the pulse being almost always increased in volume and strength. Again, before taking chloroform, the pulse is often almost imperceptible and slow, with an equally feeble heart, but both improve in force and number of beats, as the narcotism of the chloroform becomes more and more advanced."

Having, as he believes, demonstrated that it is the lungs and not the heart that are at fault, he recommends that electricity be applied to the diaphragm, respiratory muscles, phrenic nerves, &c., so as to assist or originate the only true form of artificial respiration so desirable. In animals this acts like magic, and is applied as follows: "An intermittent but gentle current, is passed through the phrenic nerve—where the omo-hyoid muscle lies *in the neck*, at the outer edge of the sterno-mastoid—by means of a wetted sponge, the other pole—sponge, also—applied somewhere about the floating rib nearest to the diaphragm, or, still better, one or two acupuncture needles stuck at once into the latter muscle, so as to excite alternate action of the current from the neck to the respiratory muscle, and imitate normal respiration."