

to the drug store near by, had some powders prepared, and on our return were surprised to find the pupils *widely dilated*; it is needless to say no more atropia was administered. The sudden dilatation of the pupils was undoubtedly caused by the paralysis of the nerve centres controlling the iris, and is one of the frequent conditions in the last stages of opium-poisoning and indicative of general muscular paralysis; it is also known as the "dilatation of asphyxia."

Dr. Campbell made the remark: "We can do nothing more now." I agreed with him; but recalling a case of opium poisoning in a Mr. Dyke, which I had lost about a year previous, and my views then entertained, I mentioned to Dr. Campbell my conviction that Mr. Burns' life might be saved by opening the trachea placing a tube in it, and with suitable apparatus keeping up the respirations until the poison could be eliminated. I informed him that I had the apparatus used on dogs in the laboratory of the college at my residence near by. He offered to assist if I would make the experiment. With the aid of a gentleman stopping at the house, I obtained the apparatus. On my way I asked Mr. G. H. McMichael, a medical student, to assist in the operation.

Details of Operation.—The tracheal tube was quickly cleaned with a bi-chloride solution, and the operation of tracheotomy begun at 9 a.m. The hæmorrhage was overcome before incising the trachea. The greatest difficulty was experienced in passing a ligature* about the trachea, to prevent the air from passing up the throat. After this was accomplished we were ready to begin the respirations.

The blood passing from the incision was of a dark coffee color, indicating an extreme venous condition. Having been deeply occupied with the operation, I had not noticed the condition of the patient farther than to be able to state that no respiratory effort had been made for some time, and that the dark blue tinge of the face had materially increased.

We began the forced respirations. The lungs were inflated; not the slightest ex-

* This is now obviated by placing a ring on the tracheotomy tube. The face mask will, however, take the place of tracheotomy or intubation in the great majority of cases.

piratory effort was made, indicating not only paralysis of the muscles of respiration, but loss of elasticity in the lung tissue. No mention has been made of the difficulty encountered after the patient revived and began to move uneasily about. These movements loosened the tube in the trachea, and started hæmorrhage, and as at this time the patient was depending upon the forced respiration for his life, the result was made uncertain. This was the most serious time in the operation. In the house were boarding three soldiers of the U.S. recruiting service, who were quickly summoned, and performed efficient service in restraining the patient. At this time, and before the tracheal tube was inserted, considerable blood passed into the lungs; it was subsequently coughed out at the opening of the valve of the apparatus. At 12 o'clock mid-day, after the forced respirations had been under way two and one-half hours, the ordinary tracheotomy tube was substituted for the tube of the apparatus, and the patient allowed to breathe for himself.

This case (No. 1) was reported in a paper read at the Washington International Medical Congress in 1887, and some two months afterwards Case No. 2 occurred in Vienna. It will be noted that my first case had been fully published previously. communicated with Professor Boehm of the Vienna Hospital, August 14, 1888, requesting an account of the second case of forced respiration. November 11, 1888, I received from him the following account of the case, which coincided with my views previously expressed regarding the value of forced respiration.

CASE II.

Professor Doctor BOEHM, Vienna, Austria.

ALLEGEMEINES KRANKENHAUS,

VIENNA, Oct. 21, 1888.

HONORED CONFRÈRE,

Having just returned to Vienna, I take great pleasure in answering your favor of August 14th, 1888.

There has as yet been no authentic report published of the methods which were employed in rescuing Dr. Langer from death by morphia poisoning, I therefore give briefly the important points of the case.

Dr. Langer took, between the 10th and