

20th of September 1887 (nearly two months after Dr. Fell's first operation), six decigrammes (8.24 grains) of morphia dissolved in water. As his servant's attempt to awaken him in the morning was fruitless, a physician from the hospital was immediately called in, and he diagnosed morphia narcotism.

The pulse was very small and intermittent, respiration had nearly ceased, the number about five per minute. The pupils were contracted to the size of a pin's head and insensible to light; corneal reflex absent; deep coma; briefly, a typical case of narcotism by morphia.

The attempts to save the patient's life were now made.

The stomach was emptied of its contents and rinsed out with black coffee. This was followed by injections of ether, both of which were followed by apparent good results. After the respirations had increased to seven per minute, the patient was removed to the Royal Hospital, at which place artificial respiration was kept up from 8 a.m. until 12.30 p.m. As it was now apparent that artificial respiration was not sufficient to restore normal breathing, tracheotomy was performed. A canula connected with a bellows was introduced, and "forced respiration" (künstlich Luft eingeblasen) kept up for three or four hours. At 5 p.m. the use of the bellows could be dispensed with, and our attention entirely devoted to watching the natural respiration.

The attempts which the patient made to breathe for himself continued to increase in number, and the next morning he became conscious. Our subsequent treatment consisted in simply caring for the wound and in elevating and enlivening the much depressed spirits of the patient.

CASE III.—Dr. FELL.

Mr. J. A. V., aged 43, took two ounces of laudanum and some chloral about 9 or 10 p.m., Saturday, December 10, 1887. About midnight his wife heard him breathing heavily, and tried unsuccessfully to arouse him, and sent for a physician. Dr. Lawrence G. Hanley, of the Emergency Hospital, was the first to respond to the call, and was shortly thereafter followed by Dr. Jacob Goldberg.* The condition of the patient

at this time, 1.15 a.m., indicated that a large dose of some powerful narcotic had been taken. Breathing was stertorous; pulse, 128; respirations, 6 per min.; and pupils contracted. At 1.40 a.m., Saturday morning, I was called, and found that the physicians were employing Sylvester's method of artificial respiration. Assuming, at their request, entire charge of the case, I had the patient placed upon a mattress on the dining-room table.

2.20 a.m.—The natural respirations ceased, or would last but a short time without the aid of the artificial respirations. Pulse, 72 to 84, indicating satisfactory oxygenation of the blood; however, the notes taken at the time show that the natural respiratory efforts were so irregular and deficient that it was difficult to count them.†

The inefficient character of the natural respirations, even when supplemented with the artificial method of Sylvester, was evidenced by the gradually marked increase of cyanosis. Previous to this, when noticing the first good results of the artificial respiration in this case, I informed the physicians that this would be a good time to effectually answer those who believe that artificial respiration would accomplish as much as forced respiration in cases of deep narcosis from poisons which act upon the respiratory centres. I informed them that if the life of the patient could be saved by artificial respiration, or by any other known means, my apparatus adapted to man should not be used. It was evident that the artificial respirations were doing little good, growing less and less efficient.

2.30 a.m.—Natural respirations, seven per minute. 2.40 a.m.—Natural respirations, stertorous, twelve per minute, but so "shallow" that little good was effected by them. 3.25 a.m.—Respirations failed. Owing to evident signs of heart failure, it was considered by all the physicians present that the life of the patient demanded the application of forced respiration. Time was given to demonstrate beyond question the

†This case is reported from full notes taken during its progress by the different physicians present.

*This was the first case in which Dr. Fell's apparatus for use on man was used. Respiration was kept up for 14½ hours, which could not have been done under conditions existing with apparatus used in first case.

*Dr. Samuel Goldberg was present later in the case; also a number of medical students.