

of the case are centred in the large doses required to produce the physiological effect of the drug; and the necessity for a long continuance of the remedy before the patient was completely cured.

CASE II. Nov. 15, 1886.—Case I. came under my care a second time. Ten days previous to this date she was in the bloom of health, full face, rosy lips and cheeks, in fact in every way the picture of health. Having had the opportunity of frequently seeing her from October 1885 to September 1886, as it was during that time she was under treatment for the incontinence), I was much surprised to see my old patient profoundly anæmic. No history of hemorrhage of any kind from the bowels, uterus or other organs. Menstruated on the 11th and had just ceased. Her mother stated that the discharge was scanty, watery and almost colorless, and entirely different from any previous menstrual period. She complained of pain and distress in the head. "I feel as if a wheel were going around in my head," she said. The mother said she inhaled vitalized air to prevent pain during the extraction of a tooth and that she never got completely under its influence. Next morning she noticed the pallor, but thought it was probably due to the painful condition of the jaw. After the pain and swelling had subsided, the pallor still remained and the mother brought her to me, just ten days after the administration of the nitrous oxide. My first impression was, that it was possibly the result of the prolonged administration of such large doses of belladonna; but upon referring to my notes, the large doses ceased nearly two months previous. I mentioned to the mother the nitrous oxide as a possible cause. She has been taking various preparations of iron and arsenic ever since, with considerable improvement, but she is by no means well yet. Her menstruation is regular, but quantity and quality are far below the normal.

Five days after (Nov. 20th) I was called to see Eva W—, a housemaid, under almost precisely similar circumstances and with almost the same symptoms. She was a country girl eighteen years of age, and had been with her employer since September, and never complained of any symptoms of weakness. The

house was a four-story one, and she thought nothing of running up the four flights. During the two months previous to this I frequently saw her (not professionally) at the house, and knew that she was anything but anæmic. She said she took vitalized air two weeks ago, and never felt well since the tooth was extracted. There was but little pain or swelling in the jaw afterwards. She complained of being unable to do her work—cannot go up one flight of stairs without producing dizziness, shortness of breath, and palpitation of the heart. She is exceedingly pallid, the lips are devoid of their rosy hue, and the pulse frequent and weak. A marked case of anæmia. My previous suspicions in the first case were now confirmed, and I had no hesitation in charging the nitrous oxide as being the direct cause of the anæmia in both cases. A few days ago I met at Forest Dr. Ovens and Mr. Rosenberry, the resident dentist, to whom I mentioned the cases, and they immediately cited two other cases that had come under their observation, the particulars of which I expect soon to get. In each of these two cases I have reported, the anæmia was so sudden and pronounced, that it might be compared to those rare cases of anæmia, which have been produced by nervous shock, such as sudden fright or overwhelming influence of great grief and where the prime cause was the profound impression made upon the nervous centres, which either results in the immediate destruction of hosts of red corpuscles, or the more or less effectual stoppage of blood formation, or a combination of both. Cases of *sudden anæmia* from nervous shock have been reported, but I am not aware of the report of any case of which nitrous oxide was the cause. It is a well known fact that certain poisons produce anæmia, such as malaria, syphilis, lead, accumulation of waste products in the system, as in gout, lithæmia, etc., but here the change is comparatively slow and probably direct, affecting the vitality of the cell. One may seek for explanation in the manner in which the anæsthesia is brought about by nitrous oxide—rapid venosity of the blood, thereby affecting the nerve cells. The venous condition of the blood counteracts any tendency to stoppage of the heart through the inhibitory action of the