

are exposed, who are already suffering from wounds, or recovering from operations. In a word, wherever antiseptic properties are necessary, charcoal will subserve a valuable purpose, and well repay the trial.

Once again, in *cancer*, I have used the charcoal in the form of poultice, either with or without yeast or other adjuvants, with great advantage. It prevents the tendency to putrefaction, destroys the offensive and sickening exhalation, especially in *warm* weather, and if it does not *cure* that which is justly considered the "*opprobrium medicorum*," it at least renders the life of the patient endurable to himself, and less disgusting to his friends than it otherwise would be.

Thus much for charcoal. I have given my opinion in relation to its merits candidly, for it is not a "*hobby*" with me; I only desire to give the result of my experience with it to my friends, and my professional brethren. To the student and young practitioner, practical essays of this character are always welcome, and the senior and revered fathers of the profession will take the "*will for the deed*" if I am unable to impart to *them* any *new ideas* from my humble pen.

Roxbury, April, 1852.

TOXICOLOGICAL APPLICATIONS OF NITROUS OXIDE.

BY GEO. J. ZIEGLER, M.D.

[Communicated for the Boston Medical and Surgical Journal.]

THE recent fatal and deplorable accidents from the inhalation of chloroform induces me thus early to give to the profession the results of a series of experiments instituted, and which I am still prosecuting, for the purpose of preventing such disastrous effects, not only from the influence of this, but all other analogous agents, and in fact in all cases of suspended animation from whatever cause, unconnected of course with organic lesion, &c.

The report of these experiments has been deferred till their completion, to render the evidence more conclusive; but as the necessity is so immediate and imperative for some more efficient means for the prevention of such casualties, and the more positive resuscitation, when animation has thus been dangerously suspended, and in the hope that the agent here presented will supply the long-sought desideratum for the purpose, I will give a brief abstract of them so far as I have proceeded, reserving a more detailed account of my observations for a subsequent period.

The subject, however, is one to which I directed attention some time since in a publication entitled *Zoodynamia*, viz., the introduction into the system of that powerfully exhilarant and stimulant agent, nitrous oxide.

To test most rigidly its properties and practically to demonstrate its value, I placed dogs in an extremely dangerous condition by the influence of various well-known, highly-poisonous and destructive agents. Thus in some instances they were so thoroughly overpowered by such influences, and so completely asphyxiated, that respiration and cardiac action

were apparently permanently suspended; whilst in other cases, respiration was deficient and the action of the heart barely perceptible. In others, again, these functions were very much impeded and overwhelmed, and at a very low degree of activity, with of course complete insensibility in all cases, and seemingly death in the former instances; yet notwithstanding such unpromising circumstances, on the injection into the bowels of this agent, in the form of nitrous oxide water (an abundance of which was kindly placed at my disposal by the manufacturers), they were completely and speedily resuscitated. The recovery in some instances, indeed, was so rapid and perfect as to be scarcely credible unless from the direct evidence afforded by ocular inspection.

It will be observed that in most of such conditions the gas could not be introduced through the lungs by inhalation, or the surcharged liquid or any other agent into the stomach by deglutition, these functions being so completely in abeyance.

The agents that I have thus far experimented with are carburetted hydrogen, carbonic acid, chloroform, prussic acid, aconite, and strangulation by hanging; in all of which the most surprising and gratifying, and to my mind conclusive results, were obtained from the revivifying effects of this powerful remedy. It has succeeded in all these cases, with one exception, in perfectly and rapidly restoring the dogs from the conditions above specified to full life and activity in a very brief period. The exception is that with aconite, in which, however, the animal was restored to consciousness three different times, but ultimately relapsed too strongly for recovery.

The above is merely an imperfect generalization of the results obtained in these experiments; but, as before stated, a more detailed account will be presented at a subsequent period, as I anticipate being able to demonstrate still further the valuable properties of this extraordinary agent.

I will also incidentally state that (therapeutically) I have obtained very beneficial effects from the nitrous oxide in this form, in the treatment of various affections, particularly chronic conditions of the pulmonary organs interfering with proper oxygenation of the blood, as in chronic bronchitis, &c.; it seeming, also, to a certain extent, to be a resolvent to the diseased condition. As a general tonic I have found it very efficient, and consider it preferable, in many instances, to some of our standard remedies of that class; in fact, it may become a substitute for some of them, and I will here take the opportunity of bringing it forward as a succedaneum in the place of quinia in the numerous affections in which it is more peculiarly applicable. Also as a diuretic in general dropsy, the nitrous oxide water acted most surprisingly and efficiently in one case—the only one in which I have had an opportunity of testing it. In another case of chronic irritation of the urinary organs, it seemingly proved curative. Indeed it is indicated and applicable in all cases in which its peculiar stimulant and resolvent influences are desired, and its chemical constituents, especially essential to the pulmonary and renal functions, are required, except where incompatible from existing contraindicating complications.

From the results of my toxicological and therapeutical investigations with this agent, I am induced to believe that it will prove to be a remedy of greater and more varied application than almost any that we now possess.

Philadelphia, April 17th, 1852.

SCARLATINA IN THE HORSE.

REPORTED BY CHARLES M. WOOD, VETERINARY SURGEON.

[Communicated for the Boston Medical and Surgical Journal.]

ON Sunday, February 8th, 1852, my attention was called to a horse (at Hale's livery stable), the property of S. J. N., of this city. My subject was a chesnut horse, six years old, and was laboring under the following symptoms. The pulse 70, and full; respiration quick; mouth hot and dry; extremities warm; Schneiderian and conjunctival membranes highly injected; bowels constipated; appetite impaired; and extreme thirst. The owner informed me that, on the previous Friday evening, he observed a slight lameness in the off hind leg; which, after going a few rods, disappeared. He also said that the animal did not then appear in his usual spirits. On Saturday he remained in the stable during the day.

I gave the following medicine: aloes Barb., 3 iij.; hyd. sub. mur., 3 j.; ant. tart. potass, 3 j.; nit. potass, 3 iij., in a ball. Ordered that his diet should consist of bran mash, and to drink infusion of linseed.

2, P.M.—I found my patient standing in the same place, and in the same position in which I left him. He appeared much the same, except that the hind extremities were beginning to swell. There was also swelling and soreness of the throat, with some swelling in the submaxillary space. Stimulate the throat with acetate of cantharides, and give an injection of soap and water per rectum.

8, P.M.—He appeared immoveable; pulse 72; respiration 26; extremities swelling fast; urine scanty and dark colored. Has had an evacuation of the bowels; feces small, hard, and covered with mucus. Gave aloes Barb., 3 j.; verat. alb., 3 ss.; nit. potass, 3 iij., in a ball. Continue diet.

9th, 7, A.M.—Still standing; nor do I think he has moved a foot during the past night. Pulse 66; respiration hurried, but less labored; mouth hot; conjunctivæ unusually red; the Schneiderian membrane, as far up the nostrils as I could see, and inside of the lips, mouth and tongue, was covered with numerous small specks and streaks of a bright scarlet color. All the extremities very much swollen; great anxiety for drink. Soreness in the throat relieved. He drinks better, but eats very little. Gave hyd. sub. mur., 3 ss.; verat. alb., 3 ss.; nit. potass, 3 iij., in ball. There were numerous erect spots of hair on many parts of the body; but little or no elevation of the integument was perceivable.

8, P.M.—Swelling of the extremities increasing; bowels responding to the medicine; the urine high colored, in small quantities, and voided