

judge ; but, on the contrary, it could only be exerted to the detriment of the function concerned.

It seems, therefore, unreasonable to infer the existence of spasm at this part, in order to account for the asthmatic paroxysm. To an anatomist it is plain that we may have spasm of the trachea, because the rings are incomplete, forming only about two-thirds of the circle. This provision was intended to allow the trachea to increase and diminish in size with respiration. Asthma is a nervous disease and subject to variations. The suddenness with which the attacks are ushered in is somewhat remarkable. The patient may be sitting quietly, and suddenly be attacked with difficult respiration and marked wheezing, which may continue for several hours. Usually the paroxysm abates after vomiting a copious discharge of sputa ; on examining the chest during the height of an attack we hear distinct bronchial rales, both dry and moist : percussion does not reveal any variation from the normal chest sounds.

The appearance of the patient is very characteristic when the paroxysm is fully developed. He is usually pale, the position is fixed, the shoulders raised, the body bent forward, and the sweat pours off the face, from the violence of the respiratory efforts.

In one of our cases the paroxysm was so intense that the patient had to sit up half the night, and could not lie down without producing symptoms of asphyxia ; at times there was marked lividity of the lips and face, gasping, loud and prolonged wheezing, with congestion of the face and neck. This condition was frequently repeated.

The age at which patients are usually attacked with asthma is such that prompt treatment is imperative.

In the treatment of this disease two things are to be considered : First—to relieve the paroxysm. Second—to prevent its recurrence.

The treatment heretofore has been stramonium ; by first exhausting the air from the lungs, then rapidly inhaling the smoke. Belladonna, chloroform and fumes of nitrate of potash have also been used, each with some degree of success. Dr. Wood has shown in his valuable experiments on animals that nitrite of amyl is almost a universal sedative, acting markedly on the muscular fibre through the motor nerves.

The physiological effects produced in a few sec-

onds after inhaling from five to ten or fifteen drops of the nitrite of amyl, are flushing of both cheeks, suffusion and redness of the eyes, giddiness, numbness and coldness of the hands, seeming loss of power to articulate, increased heat, pulse rapid and small, sometimes nearly doubled.

These effects soon disappear and the pulse falls below its normal condition, the skin which was moist and covered with perspiration becomes dry, the capillaries of the eye contract, the dizziness passing away among the last of the effects. There can be no doubt but that the inhalation of nitrite of amyl causes diminished blood pressure. Sensation or consciousness are not abolished by its use, therefore it cannot be properly called an anæsthetic, as some writers have asserted, and no drowsiness follows. It would seem that the nitrite of amyl reduces blood pressure by its action on the capillaries ; the first symptom we have spoken of, the flushing of the face, shows plainly enough its direct action on the capillary system. After the application of the salt to the web of a frog's foot dilatation of the capillaries is perceptible for a few seconds and contraction immediately follows.

In asthma the benefit derived from nitrite of amyl is due to its paralyzing power over the capillary vessels of the trachea, larynx, &c.

In acute bronchitis we have almost invariably a congestion of the fauces, and the whole respiratory tract, which produces irritation and causes coughing, and nothing can be more annoying both to the patient and his friends. Now if nitrite of amyl acts on the capillary system as described, then its use in this affection must prove advantageous.

In cutting short attacks of spasmodic asthma, and in the treatment of acute bronchitis, we have found nitrite of amyl more efficacious than any of the ordinary medicines heretofore used.

As nitrite of amyl is exceedingly volatile and care is required in its use, it is best applied by dropping it into a small cup sponge, and applying immediately to the nose, the mouth being kept shut.

Our first experiments with less than five drops, were utterly nugatory, being insufficient to make the necessary physiological impression.

We now give a few cases illustrating its effect :

CASE I. Woman, aged fifty, widow. Patient usually had good general health. Has had spasmodic asthma for ten years. The paroxysms usu-