AN INAUGURAL DISSERTATION ON

ANAESTHETICS

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BY

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Paul B. Buc, Prof of Surgery in
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By the Author.
Anaesthetics

At a single glance at the records of the past centuries, we see that no class of agents known to the medical profession has elicited for a few years past more attention than the one under consideration. In whatever estimation anaesthetics have been held by the profession, there have not been wanting those who would degrade them from their proper position, as instruments of good to suffering humanity. Though its advocates were true to their convictions, they gallantly and nobly defended them as a sacred gift from God. Medical Philosophers more than a half century ago dreamed of these or similar agents. Dr. Rush conceived that future discoveries would give to the world
some agent endowed with all the properties that chloroform actually possesses; an agent that would assist nature in overcoming the agonizing pains attending surgical operations and childbearing. Bergelius also speculated on this subject. He attempted to demonstrate the manner in which this great agent could be obtained; however, his theory was not entirely correct, but sufficiently conclusive to inspire us with the belief that had his life been prolonged a few years, his mature thoughts would have furnished the world with the great discovery.
Notwithstanding the views of these gigantic minds more than half a century ago, no direct discovery was made until at comparatively a recent period. A little more than ten years have elapsed since the introduction of anaesthesia into medicine and surgery, though a few months only were necessary to diffuse a knowledge of their powerful effects throughout the entire civilized world.

General effects of Anaesthesia. The first effect is stimulating; deafness, ringing in the ears, confusion, restlessness and numbness at the limits of the limbs ensue, then deep sleep more or less profound. Follows, consciousness is partially lost, and the sensibility hamstrung.
Such follows muscular relaxation. The patient becomes entirely unconscious of everything around him, and insensible to pain. His breathing becomes stertorous and finally his respiration is interrupted; his pulse weak and fluttering, and if this stage is not arrested respiration will cease, and death follows.

Modus Operandi of Anæsthetics.—That they are absorbed is beyond doubt, they have been found in the blood in very many cases. Being then conveyed by the blood to the great nervous centres there in succession lose their power.

First, the cerebral lobes lose their power and intellect is impaired; then the cerebellum is affected and the power of regulating locomotion...
is lost; afterwards the spinal marrow, and sensory and motor are gone; lastly, the medulla oblongata, the motor power of respiration, breathing ceases, and death is the sequel. The above are the views of Florence as given by Beck.

Sulphuric Ether was the first used to any considerable extent. Its properties were discovered in October 1846 by Dr. Morton, surgeon dentist of Boston, who after successfully using it in extracting teeth and experimenting on himself, recommended it to the profession of that city. Several surgeons immediately took it into consideration and experimented upon themselves, thus an surgical operation all of
whom met with the most satisfactory results. From this false light it sprung as it were into full grown manhood in a day. For some time sulphuric ether took entire possession of the medical world, and continued in favor with a few. It was supposed to possess advantages over any other anaesthetic. First its power of stimulating was supposed to produce the double effect of stimulating and bracing the system while anaesthesia was being produced. This last argument in its favor has degenerated into an objection. The second advantage urged in its favor, is that it is slow in its action, making it a safe remedy. Ten deaths have been traced directly to the inhalation
of ether. One serious objection to it is that it has a remarkably disagreeable odor, excites coughing, not infrequently severe headache. Although ether has been almost entirely abandoned, the following reported cases are conclusive evidence that it is an efficacious remedy. A case of mania was related by The Boston Medical and Surgical Journal, that was treated with ether inhalation. The patient was in a state of immovable and had to be held by assistants. Ether was administered, natural sleep came on in twenty-five minutes, from which he awoke, from and a half hours afterwards, perfectly rational. A similar case is reported.
in the New York Annualist. The disease resisted for several days, all the usual remedies at length. Ether was given which quieted the patient in five minutes. After several successive applications she was entirely cured. The London Lancet reports several cases of mania chronic and acute which were treated successfully with ether inhalation. The surgeon to a hospital at Swansea caused a patient laboring under traumatic tetanus to inhale the vapor of ether, the contractions were immediately overcome, the symptoms recurred, and were again subdued. The London Lancet also reports a case of traumatic tetanus by J.C. Lansdown successfully.
treated with ether inhalation. He could
enumerate many other cases similar to the above, but we think it unnecc-

essary.

We desire next to take up chloroform. This article was discovered in the year 1831, by Guthrie of New York, and about the same time, Dombinin of France and Liebig of Germany. Chloroform is by far the most powerful anaesthetic known and rapidly manifests its influence. Besides it seldom fails to produce unconsciousness and insensibility. That this article is daily gaining favor as a therapeutic remedy no one will doubt, but the profession is not so blinded by its flattering exterior as not to observe its occasional
ill effects. By their assiduity these they think to obviate. Like all other poisonous medicines this has occasionally produced fatal effects. These horrors bear a very small proportion to the number of cases in which it has been administered with good results. There appear to be important differences in the mode of administering chloroform, as adopted by different surgeons. But our limited reading convinces us that the proper and more safe plan is the governed by the symptoms regardless of the quantity given. It would be irrational to administer the same amount to every patient, seeing the greater susceptibility of some persons than others.
to its influence. Chloroform should be given with a free admixture of air and continued until the breathing becomes stertorous. Plenty of air and plenty of chloroform, (Nashville Journal). It is of great importance that the tongue be closely observed during chloroformication. If respiration cease or become difficult, the tongue should be seized and pulled well forward. By thus doing the air is freely admitted to the lungs and respiration is resumed. The mode of administering chloroform is quite simple; no other apparatus is necessary. Take a napkin folded so as to form a hollow cone into which pour the chloroform, then apply over the mouth and nose
not near enough to touch. We presume the following reports will not be out of place. Surgeon Regaud of Paris relieved a little boy of painful phimosis by the use of chloroform. It was administered with the view of an operation but ended its influence. The bladder was enabled to throw off its contents and thereby obviated the necessity of using the knife. Twenty-four hours afterwards the symptoms returned, when chloroform relieved him again, without the necessity of an operation. A policeman swallowed strong mixture from grains of strychnine, Dr. R. being near at hand administered too large emetics in quick succession which failed to produce
emesis. The patient was convulsed, his jaws were locked, and his body drawn in the form of an arch. The approach of anything toward the mouth caused a recurrence of the spasms. At this stage chloroform was administered which relieved the spasms in a few minutes. A third emetic was then given which, together with the constant use of chloroform produced vomiting. The stomach was thus cleared of the poison and the patient finally recovered. We have before us the reports of various authors and from different quarters of the globe showing the successful treatment of many of the diseases which the flesh is heir to, but we forbear to quote more of them.
save the statistics of the year.

The Surgeons of London reported seventy-three cases of amputation of the thigh and leg under the influence of Chloroform; fourteen died giving a mortality of nineteen per cent. Of one hundred and thirty-five without anaesthetic fifty-five died, being a mortality of forty-one per cent. In the French hospital two thousand eleven cases, show a diminished mortality. Dr. Bennett of Massachusetts used Chloroform in two hundred cases of labor without an unpleasant symptom. In the Massachusetts General Hospital one hundred fifty-four, New York Hospital...
Thirty-seven, Clinic of the University of Pennsylvania, Thirty-four, Clinic of the Jefferson College forty-five, Cincinnati hospital six four, operations where ether or chloroform was employed and without a single death.

Besides the anaesthetics already mentioned generally others are in use, though they are of minor importance and scarce worthy a passing notice. Chloric ethyl has been used as an anaesthetic. It is simply the dilution of chloroform with alcohol. This agent is but little used at the present time.

Cold appears to be a more available remedy.
than the latter, ice sounded up with equal proportions of salt constitutes a very good ana-

thetice for minor operations. From the world of evidence around us we can but be

favorably impressed with anaesthetics. We have been taught by our worthy

Professor of Surgery to almost reverence them. His confidence in them

as a means of overcoming the severe pains attending operations are

unbounded. Though he has never failed to admonish his classes

that while they were useful and safe when not abused, they are

nevertheless fraught with evil consequences, and should be used

with care and discrimination.