

with a specific gravity as high as 1.480.\* It is not inflammable. It evaporates readily, and boils at 141°. It possesses an agreeable fragrant fruit-like odour, and a saccharine pleasant taste.

As an inhaled anæsthetic agent it possesses, I believe, all the advantages of sulphuric ether without its disadvantages.

1. A greatly less quantity of Chloroform than of ether is requisite to produce the anæsthetic effect; usually from a hundred to a hundred and twenty drops of Chloroform only being sufficient, and with some patients much less. I have seen a strong person rendered completely anæsthetic by seven inspirations of 30 drops only of the liquid.

2. Its action is much more rapid and complete, and generally more persistent. I have almost always seen from ten to twenty inspirations suffice; sometimes fewer. Hence the time of the surgeon is saved, and that preliminary stage of excitement which pertains to all narcotizing agents, being curtailed, or, indeed, practically abolished, the patient has not the same degree of tendency to exhilaration and talking.

3. Most of those who know from previous experience the sensations produced by ether inhalation, and who have subsequently breathed the Chloroform, have strongly declared the inhalation and influence of Chloroform to be far more agreeable and pleasant than those of ether.

4. I believe, that considering the small quantity requisite, as compared with ether, the use of Chloroform will be less expensive than that of ether, more especially as there is every prospect that the means of forming it may be simplified and cheapened.

5. Its perfume is not unpleasant, but the reverse; and the odour of it does not remain for any length of time attached to the clothes of the attendant, or exhaling in a disagreeable form from the lungs of the patient, as so generally happens with the sulphuric ether.

6. Being required in much less quantity, it is much more portable and transmissible than sulphuric ether.

7. No special kind of inhaler or instrument is at all necessary for its exhibition. A little of the liquid diffused upon a piece of sponge, or a pocket-handkerchief, and held over the mouth and nostrils, so as to be fully inhaled, generally suffices in about a minute or two to produce the desired effect.

I have had an opportunity of using and seeing used Chloroform with perfect success in several surgical operations (removal of tumors, of necrosed bone, partial amputation of foot, excision of the elbow-joint, &c.), and in tooth-drawing; opening of abscesses, for annulling the pain of dysmenorrhœa and of neuralgia, in two or three cases where I was using deep and otherwise very painful galvano-punc-

ture for the treatment of ovarian dropsy, and in removing a very large fibrous tumor from the posterior wall of the uterus by enucleation, &c.†

*Case 1.* A child of ten weeks old had a very large naevus behind the ear. Dr. Duncan destroyed its internal organization by passing large red-hot needles in different directions through it. While the tumour was hissing and decomposing under their action, the infant lay quietly and placidly asleep on my knee, under the influence of Chloroform. This is the youngest subject to whom I have given it. 2. A boy, of four or five, had a necrosed radius cut down upon and removed by Mr. Miller. He slept soundly during the operation; and, without moving, he was carried out of the operation theatre of the hospital still fast asleep. When visited some time afterwards he was found in bed awake, with a bright merry eye, as if just out of a refreshing sleep: no pain even then. 3. A nervous woman, a patient of Professor Miller's, was to undergo partial amputation of the foot in the hospital—afraid both of the operation, and of being carried in before a crowd of medical men for the purpose. I apathized her with the Chloroform in the consulting-room of the hospital, had her carried into the operation-room in that state, and did not allow her to awake till the amputation was performed, and she was removed back again to bed. She was thus entirely spared both the moral shock and physical pain which she dreaded. 4. A boy had his elbow-joint excised by Mr. Syme. The operation, which is always a very painful one, was prolonged in consequence of the very diseased state of the parts operated on. He slept soundly, and remained perfectly and passively still during the whole operation, &c. &c.

I have employed it also in obstetric practice with entire success.

*Cases.*—1. The lady to whom it was first exhibited had been previously delivered in the country by craniotomy after a very long labour. Her second confinement took place a fortnight before the full time. Chloroform was begun to be inhaled when the os uteri was becoming well expanded, and the pains very severe. In twenty-five minutes the child was born. The mother did not awake till after the placenta was removed, and was perfectly unaware that her child was born and alive. She stated her sensations to be those of awaking from "a very comfortable sleep." 2. I exhibited it, with Mr. Carmichael, to a patient who had, at her preceding confinement, been in severe labour for twenty hours, followed by flooding. She began the inhalation when the dilatation of the os uteri was well advanced; the child was born in fifty minutes afterwards. She was kept under its influence for a quarter of an hour longer till the placenta was removed, and the binder, body, and bed-clothes, all adjusted. On awakening, she declared she had been sleeping refreshingly, and was quite unaware that the child was born. No flooding. An hour afterwards declared that she felt perfectly unfatigued, and not as if she had borne a child at all. 3. The patient in the Maternity Hospital had twins—the first presenting by the breech, the second by the head and hand. It was her first labour. The Chloroform was exhibited when the os uteri was nearly fully dilated. In a few pains the first child was born, assisted by severe traction. I broke the membranes of the second, and pushed up the hand. Three pains expelled the child. The mother was then bound up, her clothes changed, and lifted into another bed. During all this time she slept soundly on, and for a full hour afterwards; the Chloroform acting in this, as in other cases, as a soporific. Dr. Christison was present to see the effects of the Chloroform, &c.

\* Of course to produce the full effects described, the liquid must be of the proper specific gravity and strength.

† A young dentist, who has himself had two teeth extracted lately—one under the influence of ether, and the other under the influence of chloroform—writes me the following statement of the results:—"About six months ago, I had an upper molar tooth extracted whilst under the influence of ether, by Mr. Imlach. The inhalation was continued for several minutes before I presented the usual appearance of complete etherization. The tooth was then extracted; and although I did not feel the least pain, yet I was conscious of the operation being performed, and was quite aware when the crash took place. Some days ago I required another molar extracted on account of toothache, and this operation was again performed by the same gentleman. I inhaled the vapour of chloroform, half a drachm being poured upon a handkerchief for that purpose, and held to my nose and mouth. Insensibility took place in a few seconds; but I was so completely dead this time that I was not in the very slightest degree aware of anything that took place. The subsequent stupefying effects of chloroform went off more rapidly than those of the ether; and I was perfectly well and able again for my work in a few minutes."

† I have now exhibited the chloroform to above eighty individuals, and in not one has the slightest bad effect of any kind resulted.