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Safe Delivery from the Pains of Laboun;

OR

PAINLESS PARTURITION

WITH

FULL MENTAL CONSCIOUSNESS.



(READ BEFORE THE HARVEIAN SOCIETY, MARCH 21, 1867,)

BY

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OF THE MEDICAL SOCIETY, AND OF THE HARVEIAN SOCIETY;

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AUTHOR OF "AUSTRALIA FOR INVALIDS," ETC.

Mith an Appendix on Modified Anasthesia in Dentistry, &c.

LONDON:

H. T. COOK, 64, EDGWARE ROAD.

1867.

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PREFACE.

THE following short brochure was read before the Fellows of the Harveian Society on March 21st of the present year, under the title of "Anæsthetics in Midwifery." It is little altered, except in name, and in the addition of a short appendix on the uses of Chlorætherine in toothdrawing, &c.

My object has been, not to write an elaborate essay on the subject of Anæsthetics, but, with a brief retrospect of their history with reference to midwifery, to point out an easy, uncomplicated, and perfectly safe agent, which shall deprive the patient of pain, without, by causing loss of consciousness, making it capable of incurring risk of life or other dangerous consequences.

14, Cambridge Street, Hyde Park, June, 1867.

PREFACIA

THE States of the Harvier was real below on the States States on the States of the progent year, under the title of "Amended in Make Indicated." It is little stated, except in mane, and in the children of a short appendix on the uses of Chicaesticolon of a short drawing, for

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SAFE DELIVERY FROM THE PAINS OF LABOUR.

IT is not to be wondered at, indeed it would be strange if it had been otherwise, that the discoverer of chloroform, himself professor of midwifery in our great Northern University, should, as soon as he had found means of making insensible pain by the knife, have applied the same great principle to the relief of that pain of which he was so constantly a witness—"the great pain and travail of labour."

Many of us have not, except by tradition, an idea of what pain was before the introduction of anæsthesia, and consequently we are too apt to accept this boon as a matter of course, without considering through how much toil, how much opposition and obloquy, those who succeeded in bringing it to perfection suffered before their efforts were crowned with success. These remarks seem to me the more called for, because one often hears it stated that Sir James Simpson's discovery of the

One gentleman, a friend of Dr. Simpson's, considered that if pain, as is doubtless the case, is, by the exhaustion it produces, of itself liable to induce death, a patient is, by refusing to take an anæsthetic, actually in the state of a person contemplating suicide; and that if from prolonged pain death ensued, such a person would be guilty of felo-de-se.

The professional arguments were really not much more rational than the scriptural; of course the question of pain was considered: many considered it beneficial as an indication of the progress and strength of labour. Dr. Meigs, of Philadelphia, considered "that in chirurgical intervention, and especially in forceps operations, anæsthesia was unadvisable, on the ground that the sensations of the patient afford us our best aid for the introduction of the instrument." Dr. Simpson answered that a man who ventures to use the forceps ought to know his anatomy a thousand-fold better than is here presupposed. It was considered by objectors that the pain of labour is what is called "physiological," and does not render the mother liable to danger either to health or life. But there is, I suppose, no doubt amongst us that pain is, especially if long in duration, "both deleterious and destructive, causing depression of the heart, syncope, and even, when in excess, sometimes producing speedy and sudden death."

Anæsthetics in midwifery do not in any way, as far

as my experience goes, diminish the rapidity of the recovery, or, as was once thought, induce puerperal convulsions; on the contrary, it rather diminishes the liability to these bad after-symptoms. But I venture to protest against the practice of allowing one's patient to sit up to dinner on the *fifth* day after delivery, as one reads in Dr. Townley's volume on this subject. All who have seen anything of the diseases of women must agree that the reason we see so many more cases of prolapse of the womb, bladder, bowel, &c., amongst the poorer than the richer classes, is that the former are forced to get about much too soon after their confinements.

There were other minor objections, hardly in the present day worthy of notice, and which would hardly now be reiterated even by their authors. It may seem, indeed, useless to have alluded to any of these objections, for it is not supposed that there now are any practitioners of medicine who would urge in their former intensity any of these unreasonable objections; but there are not wanting some who do object to the use of chloroform, or any other anæsthetic, in midwifery, on the ground that by such means the strength of the uterine contractions is impeded, and that there is not sufficient risk to life arising from the pains of labour to justify us in administering for their relief an agent itself capable of endangering life.

The first objection I shall hope to prove equally untenable with those already quoted, by the relation of cases in my own practice; and to the second, I shall best give an answer by bringing under notice an anæsthetic agent which is, under ordinary circumstances, incapable of producing total unconsciousness, and so reduces the risk of loss of life from its influence to positively nil. Happily, however, not one death has yet been recorded from chloroform when administered to a parturient patient.

I shall now proceed briefly to notice the various agents which have from time to time been introduced for the purpose which we are considering.

The first anæsthetic—æther—introduced to the profession, hailed from America, and was for a long time used both in surgery and midwifery; it is even used to this day, almost to the exclusion of chloroform, in the New World, but unalloyed is not much in favour in this country. The large quantity required, and consequently its unportability, renders it inconvenient to the accoucheur; and setting aside various therapeutical disadvantages which æther has, its very disagreeable smell is peculiarly objectionable to the lying-in room.

It may not be travelling out of our way, if, en passant, I remark that this latter objection is a most serious one against local anæsthesia by the æther

spray; the patient may be locally anæsthetized, but the surgeon and assistants have a fair chance of being æthereally narcotized under this process. I can say for myself that I suffer severely from any mode of administering anæsthetics which allows the vapour to be distributed through the room, and in the cases where local anæsthesia has been employed in my presence, I have found the large amount of vapour so inhaled peculiarly oppressive.

The æther spray is, however, capable of proving largely beneficial as a means of arresting post-partum hæmorrhage, by applying it externally over the region of the uterus.*

Chloroform, when discovered by Professor Simpson, speedily superseded æther. It is, I believe, still used by him and his pupils in its purity as a midwifery anæsthetic, and it is only of late years that it has undergone dilution. Passing over as quite inapplicable to the purpose, and by no means comparable with chloroform, all other proposed agents—as chloride of hydrocarbon or Dutch liquid, nitrate of oxide of ethyle, benzin, aldehyde, bisulphuret of carbon, &c.—we shall proceed at once to consider what are the best means of diluting chloroform so as to ensure the greatest insensibility to pain with the least possible risk to the well-being of our patient.

^{*} Vide case by Dr. Broadbent, of Manchester, in British Medical Journal, June 8, 1867.

Dr. Sansom—next to Dr. Snow, without doubt, the English physician to whom we are most indebted for original and truly valuable knowledge of the action of chloroform—has thus stated the grounds on which we must start when we consider this subject:—"Æther and alcohol, in the narcosis which they produce, do not necessarily depress the power of the heart. Chloroform has a certain effect in depressing the heart's action."* He previously stated his view that the means to be adopted to diminish and nearly abolish the danger of chloroform are (1) free dilution, (2) gradual administration. There were three mixtures recommended by the committee on chloroform of the Royal Medico-Chirurgical Society:—

Mixture A—Alcohol, 1 part.

Chloroform, 2 parts.

Æther, 3 parts.

Mixture B—Chloroform, 1 part.
Æther, 4 parts.

Mixture C—Chloroform, 1 part.
Æther, 2 parts.

The first of these has been for many years used by Dr. Harley, the second and third originated and are in use in America. The first and third mixtures were very similar in their action, the proportion of chloro-

^{* &}quot;Chloroform; its Action and Administration." By A. Ernest Sansom, M.D., Lond. Churchill, 1865.

form in each being as 1 in 3. The second, B, has an action very similar to æther, which it will be observed largely preponderates. Of the three, A and C, in the opinion of the committee, had the preference, on account of the more equable blending of the æther and chloroform when combined with alcohol, and the alcohol which it contains was considered probably to stimulate and sustain the action of the heart. A and C were tried, at the request of the committee, in about seventy cases in various London hospitals, the evidence being that they were safe, but they took a much longer time than chloroform to procure anæsthesia, or, as Dr. Sansom would more properly say, narcosis.

Sir James Simpson considers that "air is a thousand fold better as a diluent than any other medium, as alcohol, æther, &e;" but in this he is hardly supported by the experience of others, at least, in midwifery; for when a woman is seized with pain, she breathes eagerly anything that will relieve it; and it is then a very different case from the administration of a vapour for nullifying sensibility to a pain not yet felt, as before a surgical operation. The accoucheur should not be placed in the position of having to give divided attention to his patient; and if he have at his command an agent in which he believes there is no risk, he can without anxiety attend to the more particular duty for which he is called, that of assisting the birth of the infant.

It was about 1862 that Dr. Townley introduced his anodyne mixture to the notice of the public. The evidence of its value given by the author is contained in a series of anonymous letters from grateful patients, which occupy forty-one pages of a book which has besides only twelve more of subject-matter. The prescription of his mixture is most vague, and, I am sorry to say, proved in my hands, as well as in those of other professional friends, most unsatisfactory. I am informed that if the mixture be procured from Dr. Townley's own chemist, the result will be different. I have, however, alluded to it because it was after the failure of Dr. Townley's mixture that I set about trying to discover one more efficacious and agreeable.

I commenced my experiments in March, 1865. My first object was to find a diluent of chloroform which should annul the pains of labour without depressing the heart's action, and, at the same time, without depriving the patient of consciousness. The former object I consider necessary, because it is by depression of the heart's action that long-continued labour-pain has its injurious effect; and it is also one of the properties of chloroform, pur et simple, to produce this depression. The latter I consider a great desideratum, as we all know the great voluntary muscular power the patient has of assisting the involuntary uterine contractions. The late Dr. Rigby, writing to Dr. Simpson, did indeed

say, and many, I know, agree with him, that "in almost all private patients you can draw the line between loss of pain and loss of consciousness." It is this word "almost" that makes a dilution of chloroform necessary. Nor can I agree with Sir James Simpson when he lays it down as one of his axioms, "that the reflex assistant contractions of the abdominal muscles, &c., were apparently more easily called into action by artificial irritation and pressure, &c., when the patient was in an anæsthetic state." My experience, of course very limited in comparison to his, leads me to the belief that if one gets a patient to the full stage of narcosis, both the reflex irritation and the uterine contractions are lessened, but that with a moderate dilution the rapidity of the labour is rather increased than diminished by anæsthetics.

At once deciding to ignore æther, on account of its bulk and disagreeable odour, I selected alcohol as the diluent most desirable for my purpose; but, to make the mixture still more gently stimulating, and at the same time agreeable in its odour as it evaporated, it occurred to me to add to the alcohol the essence of eau-de-cologne. I therefore instructed my chemist to make some of this scent, not as in the ordinary way, with one-half or one-third water, and the rest spirit, but with absolute alcohol. This rectified eau-de-cologne was then added, in varying proportions, to chloroform.

The most convenient proportion I found was, one of the rectified eau-de-cologne with two of chloroform. The result is a clear, colourless, and highly agreeable liquid, having a specific gravity of 1.152. This mixture must not be confounded with a mixture of chloroform and ordinary eau-de-cologne, which is, I believe, used by some practitioners. Such a mixture is most impracticable, because the chloroform is at once precipitated by the water, and does not evaporate until the water is dried. Nor must the mixture be made by mixing the chloroform with a spirituous eau-de-cologne, in which the essential oils have been simply shaken up with the alcohol. In this case, although efficacious, it is very offensive, as the residuum of the essential oils is left to accumulate on the inhaler, and instead of being agreeable is nauseating.

I must confess to having chosen eau-de-cologne as the basis of the scent simply because it is the most popular and agreeable, and with no idea of its possessing any properties which would aid in the gradual evaporation of the mixture; but my friend Dr. De Wees, of New York, has suggested to me that the atoms of oil contained but perfectly diffused through the mixture, may aid in preventing the too rapid evaporation of the anæsthetic. Certain it is that a dilution of chloroform with simple alcohol, in the same or even larger proportions, does not so effectually attain the desired object.

I was unaware at the time of preparing this fluid, to which I have given the name of Chlorætherine, that I had any high authority for preferring alcohol; but I have been gratified since that time to read Dr. Sansom's remarks on the subject,* in his work already referred to, and which was published May, 1865, two months later than the date of my first making the mixture.

"In my own experiments," says he, "I have found that alcohol had the greatest effect in sustaining the heart's action during the influence of chloroform. I can particularly remember one instance in which alcohol having been administered in vapour to a frog, it was impossible to cause death by any strength of chloroform vapour. I certainly think that a dilution of chloroform with alcohol is advisable in many instances; and I am quite sure that the administration by the stomach of a little alcholic stimulant acts beneficially."

There are other methods which have been suggested, such as that of Mr. Ellis, of anæsthesia by mixed vapours. Scientifically he has been answered, and I need not refer to his plan further than to say, that I consider a method which requires an apparatus with three chambers, various valves, &c., and three different fluids to be administered, one far too complicated to be of general service, and as only likely to distract the accoucheur

from his more immediate duties. These remarks only apply to Mr. Ellis's method in the lying-in chamber. It may be, and doubtless is, useful in the operating room, though for my own part I confess to preferring, when perfect narcosis is wished, the apparatus of Mr. Clover or Dr. Sansom, which simply dilutes the chloroform with air in the proportions required.

I need hardly state, my object being to do away with all unnecessary complications, that I use no inhaler for the administration of chlorætherine. Nevertheless, it can be given in any ordinary chloroform inhaler.

My practice is, as soon as I enter the lying-in room to ask for a napkin, and fold it into a cone, leaving the apex somewhat open, and securing the folds firmly with pins. Occasionally I place a small piece of sponge at the end, saturated with eau-de-cologne, or sprinkle the interior of the cone with eau-de-cologne, so that the scent is inhaled with the very first breath of chlorætherine. The object of doing this is simply, as poets say, for the sake of elegance; there is no real use in it; but otherwise the eau-de-cologne in the mixture would not be smelt until the chloroform of the first portion of the chlorætherine were evaporated. Into the cone, then, whether first sprinkled or not with scent, I pour about a drachm of chlorætherine and give it to the patient, who is usually lying on her left side; the cone is placed on the pillow beside her, and she is directed at the

approach of a pain to inhale freely, burying her face in the cone; when the pain, or rather the uterine contraction, is passed, she simply removes the cone to the pillow and places her hand flat on it so as to prevent evaporation. The fluid will, in the ordinary course of events, require to be renewed every two or three pains. I do not administer it until after the first stage is well nigh completed, but in cases of what is graphically called whipcord rigidity of the os, I find that a few inhalations have a wonderful effect in softening and relaxing the parts. In the second stage of labour, chlorætherine has great power, not only in allaying the pains, but in relaxing the perineum and vagina. In first cases this will be strikingly exemplified by the comparatively very short time that the head rests on the perineum before delivery. Chlorætherine has therefore a use as a safeguard against rupture of these parts, an accident so common in primiparæ, however carefully the accoucheur may try to prevent it. In the last efforts of the second stage it is necessary to increase the quantity, and, in fact, keep the patient under its influence in a sort of dreamy state, not, indeed, in full narcosis, in "the sleep of mandragora," but in that happy half consciousness where

No danger in what show of sleep it makes,
More than the locking up the spirits for a time,
To be more fresh, reviving."

The child being born, I never as a rule would give anæsthetics for the expulsion of the placenta, though one is often requested to do so, so severe does the patient consider the placental birth, without chlorætherine, if she have felt no pain during the expulsion of the infant. My reasons for this are sufficiently obvious.

A few words as to the mode in which chlorætherine should be taken by the patient.

The inspirations should be natural, but perhaps rather prolonged. Few practitioners would agree with a writer on this subject, that the process is so important that it is necessary for the patient to practise with the inhaler for some days before the expected event, nor is it necessary to tell her to "breathe only six or eight times (the inspirations and expirations being equal) only with the diaphragm and abdominal muscles, the chest being kept a fixture all the time." The direction should be, as all chloroformists recommend to patients when administering the more powerful anæsthetic, natural, and in no way constrained or even exaggerated breathing.

I have never seen sickness caused by my mixture, nor have I, as Dr. Townley states with his mixture, ever witnessed "sudden pallor of the face," or found it necessary to give "teaspoonfuls of brandy," nor do I feel it very necessary to pay much attention to the countenance, keep a full light on the face, &c., &c.

The only way to make these things useful is to divest

those who read of them from anything like an idea that they can only be administered by those who have had special training.

It is too much the practice for authors of papers to raise difficulties in the way of others carrying out their views, either by stating as requisite such a number of expensive instruments that the reader is at once deterred from adopting them on account of the expense, or there are so many directions to learn, without which success is said to be impossible, that the novice at once despairs of ever becoming such an adept as the author. The latter, therefore, instead of teaching what he knows, rather endeavours to show his audience how little they know; and it is believed that in proportion as he so impresses them does his paper pay.

It has been my endeavour to make this paper eminently practical. To conclude, I have only to relate a few typical cases in illustration of the advantages of what I believe to be as simple, efficacious, and agreeable a method of relieving "that pleasing punishment which woman is born to bear" as is yet known to the profession.

Case I. was that of the Hon. Mrs. ——, in her fifth confinement, to whom I administered it May, 1865. In all previous confinements she had been delivered under chloroform; in this instance the presentation was a face one. She was in hard labour at least five hours, during

which time she was under the influence of chlorætherine. It was ultimately necessary to deliver by forceps; but during the whole time the lady felt no pain. On one occasion I was going to add some more chlorætherine, thinking by her groaning that she was sensible of pain; but she told me it was unnecessary. "The groaning," she said "is not pain; it is only the evidence of muscular effort." This intelligent remark convinced me that we must not be guided by the amount of noise as to the amount of pain. During this lady's labour, she frequently partook of refreshing drinks, experienced no sickness, and said that it was infinitely more agreeable than chloroform (of which she had had large experience), and, as an anæsthetic, quite as efficacious.

Case II.—Mrs. ——, æt. 27, delivered by me at Acton, August 1, 1865. This lady had been the subject of ovariotomy, October 20, 1858. The operation was performed by Mr. Baker Brown, and was the first in which he employed the callipers to secure the pedicle. It was not then known how short a time is necessary to secure the vessels, and the instrument was left on for a week; consequently, of course, there was a certain extent of adhesion of the pedicle to the parietes. After the operation, at each menstrual epoch, the skin over where the pedicle had been secured broke out, and there ensued a catamenial discharge, which continued during

the whole of the period, simultaneous with the uterine flow. As soon as the period was passed, the wound healed over. When labour occurred, severe pain of a peculiarly dragging character was felt in the abdomen at each uterine contraction, the second stage having been fully established. Her husband was rather adverse to the administration of any anæsthetic; but, at my request, permitted me to give very small quantities of chlorætherine. This, although it did not have the effect of altogether nullifying the uterine pains, entirely relieved the pain in the region of the pedicle, and enabled my patient, to use her own words, "to help herself by bearing down," which previously, so great had been the pain, she was quite unable to do, but, on the contrary, had rather drawn in the pains. On giving a further dose of chlorætherine, the full anæsthetic effect was manifested. This lady had been once before confined since the operation. On that occasion the child had been stillborn. I had the satisfaction this time of delivering her of a fine living girl.

Case III.—Mrs. W., the wife of a clergyman, residing at Highgate, attended by me, August 27, 1865. This was a first confinement; the presentation natural. I arrived at the house about ten o'clock in the morning, and found the os uteri fully dilated. I ruptured the membranes, and at once administered the chlorætherine. The fact that anæsthetics

do not impede labour was here proved, inasmuch as in an hour and a half after my arrival labour was completed.

Case IV.—Mrs. H., residing at Notting Hill, had been married eight years without having been pregnant. She was attended by my friend, Dr. Abud, and I was requested to administer chlorætherine. The time from the commencement of the second stage to delivery was between four and five hours—not a long time for a first case, under the circumstances. The anæsthetic effect was complete, and in this opinion I am authorised by Dr. Abud to say that he fully concurs.

Case V.—Mrs. M., residing in St. John's Wood, was delivered May 31, by my friend and neighbour, Mr. Philip Harper. I administered chlorætherine; the labour was the fifth or sixth. She was under the anæsthetic influence for about three-quarters of an hour, Mr. Harper being with her altogether about an hour and a half. Although conscious of all around, and able to answer questions, the lady stated that as far as the pain of delivery was concerned, she was in a pleasant dream. Mr. Harper kindly authorises me to state that he considers the anæsthetic was perfectly successful in rendering the patient totally insensible of pain, without in the slightest degree making her mentally unconscious.

CASE VI.-Mrs. F., æt. 21, attended by me at the

request of my friend, Mr. Nunn, August, 1866. The labour was a second one, and of great difficulty, as it was deemed expedient to bring it on prematurely. Of course the process was tedious, but labour being fully established, all went smoothly, and a living child was born. The pain was entirely relieved by chlorætherine. The patient was seriously ill afterwards, having first a very severe attack of cholera, and, quickly supervening, one of diptheria. She ultimately recovered, and is now quite well.

No object would be gained by relating more cases, nor do I intend to follow the example of others, by publishing letters from patients. I shall, however, quote one or two communications I have received from members of the medical profession, who have tried the effects of chlorætherine. These, in addition to the testimony I have already given from those for whom I have myself administered it, will, it is hoped, satisfy my readers that chlorætherine has the properties which I claim for it.

The first is from Dr. Sansom to the chemists who first prepared the anæsthetic for me:—

"29, Duncan Terrace, N., "Dec. 10, 1865.

"Gentlemen,

"Your chlorætherine is, in my opinion, far preferable to chloroform in ordinary cases of midwifery. It is much more pleasant to the patient, and induces perfect freedom from pain, though not absolute unconsciousness.

"I am, Gentlemen,

"Yours very truly,

"A. Ernest Sansom (M.B. Lond.), &c., "Author of 'Chloroform, its Action and Administration."

The next is from Mr. Roberts, of Hull. This gentleman wrote to me asking how he might obtain chlorætherine, and some weeks later kindly volunteered his opinion:—

"42, Charlotte Street, Hull, "26th Jan., 1867.

"Dear Sir,

"Since I had the pleasure of corresponding with you on the subject of chlorætherine, I have used it in six cases, two of which were first cases. I fully believe that it has the power of relaxing the os, and often seems materially to assist in bringing on the uterine contractions rather than in retarding them. I have used the preparation in Mr. Ellis's inhaler, but I think a napkin, as you recommend, is the more convenient form of the two. I shall persevere in its use, and will again write to you on the subject, but from my very limited experience of the drug at present, I am perhaps hardly entitled to give an opinion; if, however, I may be allowed to do so, I beg to state that I consider chlorætherine a most valuable and almost indispensable adjunct to the lying-in chamber.

"Yours very truly,

"E. S. ROBERTS,

"Honorary Surgeon to the Hull Lying-in Infirmary.

"I. Brown, Esq."

APPENDIX.

CHLORÆTHERINE FOR DENTISTRY, NEU-RALGIA, AND OTHER PAINFUL AFFECTIONS.

SHAKSPEARE has said, in his play which bears the somewhat appropriate title of "Much Ado about Nothing," that

> "There was never yet philosopher That could endure the toothache patiently."

There are many, however, who will rather endure toothache than submit to tooth-extraction. Perhaps there is no operation of such momentary duration that causes such acute pain, and consequently such dread. Narcotics and anæsthetics have been used and abused, as Dr. Sansom most justly says, from time immemorial, to relieve this pain. It is, however, a lamentable fact, that of all deaths from chloroform, by far the majority have arisen from its administration for the relief of pain of tooth-drawing and other minor operations; to wit, especially extraction of a nail, an operation quite as, and possibly more, acutely painful than tooth-extraction. In these operations there is no risk to life from the shock, as in amputation and many operations which were never attempted before the introduction of chloroform, because the mere shock was considered as sufficiently dangerous to prevent their performance. It seems to me, then, a fearful thing to administer to patients such a potent agent as chloroform, free and undiluted, for the mitigation of a momentary pain; it

is difficult to say how it is that death has so often been caused by chloroform in these minor operations, unless it be that the nervous system is already well-nigh exhausted by long-continued pain, and the heart is unable to bear the depression which chloroform inevitably induces. As many as twelve fatal cases were reported by the Medico-Chirurgical Committee; there have probably been many more, and in addition there have not been wanting those fearful cases of which one reads occasionally, of death from self-administration of chloroform or æther for the relief of the pain of tooth-ache or tic-doloureux.

It is in these cases, then, that a dilution of chloroform seems eminently called for, and I have found chlorætherine answer most perfectly in many cases of dentistry in which I have administered it. In these cases (about a dozen) the results have been perfectly satisfactory. In but one case has there been the slightest pain felt, and in that I believe the patient had not a sufficient quantity of the anæsthetic; but even here there was a great diminution of the pain. The patient was one of extreme nervous temperament. In no cases has it been followed by the nausea or headache so common after chloroform. It is well in all these cases to remember what Dr. Sansom has said, "That some apparent expressions of pain may escape the patient, and yet he will subsequently assure us that he has experienced scarcely any disagreeable sensation."*

Chlorætherine seems peculiarly useful in tooth-extraction from the fact that the alcohol contained therein has the power of elevating the heart's action, and so preventing the danger to which allusion has been made, that chloroform has of depressing it. There is one other advantage:

^{*} Vide case I., page 23.

I agree most entirely with those who are of opinion that anæsthetics should never be given, except in the presence of a third person: in the case of chloroform, the third person should be a professional man, on account of the possible danger to life: with chlorætherine, however, this latter precaution is not needed.

That but a very modified degree of anæstheria is required for the extraction of a tooth, is proved by Mr. Coleman, who tells how he extracted his own tooth without any pain whilst partially under the influence of chloroform.

Mr. Lubbock * relates how he held a handkerchief in his hand, which he dropped when he considered sensation abolished. The dentist removed the tooth and no pain was felt. A lady, to whom I administered chlorætherine, proposed that she should pinch her left hand, and that when sensation became numbed, she should hold up her right as a signal to the dentist to operate. This was done with perfect success.

It will naturally suggest itself that chlorætherine may be of advantage in relieving many other acutely nervous pains; and such indeed is the case. I have myself inhaled it with success, to relieve the pain of tic-doloureux, and have administered it to patients for the same purpose. Mr. Davies, of Fulham, lately informed me of a case of a lady who, unable to take chloroform, had derived entire relief from the pain of facial neuralgia by inhaling chlorætherine.

In all examinations of the pelvic organs, male or female, it is believed, from the limited trial which I have yet given it, that chlorætherine will be found most useful. It is also of benefit in cases of painful menstruation, in the passage

^{*} British Medical Journal, March 8, 1862.

of gallstones, &c., and indeed in all cases where pain is to be relieved, but actual insensibility is not required.

I feel confident that if the profession will give this preparation a more extended trial than it has yet received, its field of usefulness will be found to proportionately increase. I shall be obliged to any gentleman who has cases in which he has administered it, if he will kindly communicate the result to me.

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"We have read Mr. Brown's book through, from beginning to end, with the greatest satisfaction, although written ostensibly for the non-medical reader, and a model of what a book of the kind should be—unpretending, intelligible, and full of sound practical advice it may be perused with considerable advantage by his brother practitioners, who will find in it a great deal of useful information on the subject of the climatic characteristics of our Australian colonies. But it is to the emigrant to Australia that its utility will be most un-Australian colonies. But it is to the emigrant to Australia that its utility will be most unquestionable; and we have no hesitation in recommending all such, whether their object in migrating be the search of occupation or of health, to make it an item of their library, however compendious they wish that element of their outfit to be. We have delayed thus long over Mr. Brown's interesting and agreeably-written little work, because, as we have before stated, it is one of the most impartial and trustworthy accounts of Australasian climates with which we have met. . . . To the practitioner who may be consulted by one of his patients on the advisability either of a temporary visit or of a permanent retreat there; to the invalid who may propose to go there for the benefit of his health; and to the robust who may contemplate resorting thither for the sake of occupation, we cannot recommend a more useful, and, in every respect, unobjectionable work than the present."

The Dublin Quarterly Journal of Medical Science, May, 1866.

"We are convinced Mr. Brown's little work will prove useful. Having had some experience in such matters ourselves, we can say that the invalid bound for Australia will find in his work many valuable hints, by attention to which the comfort and good effects of the voyage will be much increased. His observations on Australian prospects may be read with advantage by others."

Medical Times and Gazette, January 13th, 1866.

"Mr. Brown has published his experience of Australasian climates, in a volume that will reflect credit on the service to which he belonged. Mr. Brown has wisely appended an excellent map of Australia, for, doubtless, a knowledge of Australian geography is anything but universal. Chapter XI. is especially interesting, and we should say invaluable to the intending traveller. It contains advice on the choice of a ship and cabin, furniture and outfit, exercise, diet, and amusement during the passage. The practical character of the author is shown by the minuteness with which he has gone into details, which might at first sight be insignificant, but which in reality, in a most important degree, affect the comfort of the passenger. . . . Mr. Brown has contrived to make a pleasant readable book, on what might be supposed to be a not very enticing subject."

British Medical Journal, March 3rd, 1866.

"The book is written for the laity, and seems likely to be of service to them; but the author believes also, and rightly, that it may be found useful by professional men."

London Medical Press and Circular, January 31st, 1866.

"Mr. Brown, who, in his capacity of Surgeon-Superintendent in the Emigration Service, has more than once visited Anstralia, brings before the notice of the profession, and public generally, the eminent suitability of what he graphically calls England's Golden Child, as a generally, the eminent suitability of what he graphically calls England's 'Golden Child,' as a residence where a man can, if he have money, put it out to good interest; and having found health, will be able to find scope for his restored energies in any trade or profession to which he may have been educated To come to the more immediately medical portion of the book, we find Mr. Brown well able to speak from personal experience of the various Australian climates." climates.'

The Medical Mirror, April, 1866.

"Although this book is written rather for the guidance of invalids than for that of medical men, it is full of valuable information upon the important subject of the value of change of climate in the arrest and cure of pulmonary disease. Mr. Brown gives a faithful and comprehensive account of all that is useful to the intending voyager to Australia. He not only describes Australia and its climatic advantages, but he shows the invalid how he can best get there. He takes him to the docks, selects the best cabin for him, advises him as to his outfit, tells him what to eat and drink, and how to occupy himself on board ship; and having reached the colony, does not leave him until he is settled in comfortable quarters."

The Australian Medical Journal, May, 1866.

"The author of this pleasant, chatty, and, in many respects, useful little book, paid a visit to these colonies some eighteen months ago, and it is evident that he employed his powers of observation at that time to good purpose. Indeed, considering the comparatively short period he was here, it is evident that he possesses in more than average measure, the intuitive capacity for noting peculiarities of climate and social characteristics."

Athenœum, January 20th, 1866.
"As a Surgeon-Superintendent in Her Majesty's Emigration Service, Mr. Brown visited the various Colonies of Australia, and he now publishes the record of his observations respecting their natural and social features. He has done well in calling the attention of uninformed invalids to the many and great diversities of climate in that vast land, of which thousands of nominally educated English people know scarcely anything."

Popular Science Review, January, 1866.

"This is a cleverly-written little volume, from the pen of one who speaks from practical experience of the country, whose climate he treats of. It contains some very important hints in relation to the voyage out to, and life in Australia. The various types of phthisis are considered in relation to the alternation of their expertences by change of air.

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London Review, December 23rd, 1865.

"All who contemplate emigrating to Australia should consult Mr. Brown's little volume which is full of information of a sanitary nature.

Civil Service Gazette, December 23rd, 1865.

"That change of scene, climate, and occupation is the best general remedy, not only for persons suffering under consumptive diseases and those allied to it, but for all complaints arising from impaired vigour—mental and physical, is the one point admitted by all doctors, however they may differ on other points. The author stoutly stands up for Australia, and contends that the long voyage thither, the scenes and climates, and change of occupation to be found there in its various chosen localities, afford the greatest chance for the recovery of invalids, and their permanent restoration to health. . . . Full advice and information, founded invalids, and their permanent restoration to health Full advice and information, founded invalids, and their permanent restoration to health. Full advice and information, founded on experience, are given by the author with respect to the choice of vessels, preparation, and conduct, and many interesting particulars are interspersed."

Morning Star, December 18th, 1865.

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Court Journal, April 7th, 1866.

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Bayswater Chronicle, February 3rd, 1866.

"Mr. Brown has done good service by publishing the result of his observations on Australian climates, because he is able to draw the invalid's attention to a country where labour in all its numerous branches is much required, and where in certain portions the climate is all that can be desired. The information our author gives concerning the resources, society, and amusements of our vast southern colony, is exceedingly instructive and useful to all who contemplate emigrating. There are also interspersed many anecdotes and pieces of advice calculated to disabuse Englishmen of the false notion so many have of affairs in the antipodes.

Liverpool Mail, November 17th, 1866.

"This book is one of peculiar interest to Englishmen-all of whom have reason to dread that fell scourge, consumption—but is for many reasons well worthy of perusal by Liverpool readers, the majority of whom are by some ties connected with our Australian colonies. Being now settled in regular practice in the metropolis, the author's remarks are therefore free from the bias of medical men who praise localities where they themselves practise. 'Australia for Invalids' is brimful of information to intending emigrants and invalids, and written in a light, cheerful, easy style."

Liverpool Daily Courier, December 3rd, 1866.

"The author's long experience in Her Majesty's Emigration service enables him to give many useful directions to emigrants as to their comfort during the voyage out and home.

Worcester Journal, May 11th, 1867.

"Mr. Brown gives us some very reliable evidence in favour of a voyage to Australia, and a settlement there. He enters into details as to climate, occupation, and other matters essential to the subject, with professional skill and literary carefulness; and offers sufficiently convincing argument in favour of Australia for the invalid, to make the work one of great importance to thousands of persons who might find restored health and lucrative employment in a new land. The work is to be highly commended as the independent opinion of a gentleman who has no personal interest whatever to serve in attracting invalids to the colony, being himself a practitioner in London.'

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