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OF ANESTHESIOLOGY

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*the Editor of the Medical Review*

ARGUMENTS  
AGAINST THE INDISCRIMINATE USE OF  
CHLOROFORM  
IN MIDWIFERY.

BY

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" ——— plena rugis Experientia  
Ususque Naturam secutus  
Quid faceret moneant in aurem."

EDV. HANNES, M.D.  
ad T. SYDENHAM, M.D.



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# ARGUMENTS

## AGAINST THE INDISCRIMINATE USE OF

### CHLOROFORM IN MIDWIFERY.

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THE discovery of ether, chloroform, &c., and their application to surgery and midwifery, form a very interesting history, but on the present occasion such a narration would be tedious ;—the history is so recent that it must be in the memory of all ;—I shall therefore at once proceed to the immediate subject of this essay—viz., to consider whether Chloroform, taken as the type of anæsthetic agents, is calculated to be useful or injurious, generally, in midwifery.

A great many letters and essays have appeared in the medical periodicals, some giving an account of the benefit derived from the exhibition of chloroform, a few showing that it disturbed the healthy action previously going on, and others deprecating its use as objectionable and improper, but none that I have seen have taken up the subject on sufficiently general principles, the only form of

argument which appears likely to prove efficient in determining the real value of the practice. The writers alluded to mention a few cases, and generalize upon them; arguing thus from individual to general practice, not from general principles, as laid down by experience, to individual cases, in which the general rules may be more or less departed from according to circumstances affecting the individual. My object will therefore be to study first the history of midwifery with reference to the establishment of these general rules; secondly, the nature and properties of the anæsthetic agents; and thirdly, to endeavour to draw from these considerations the rules which should govern the profession in their employment of the agents.

The history of midwifery by the great amount of experience, which it brings to bear upon each method of treatment, proves what its real value is as a means of cure, or alleviation of suffering; and as the process of parturition remains the same in all important particulars in every age of the world, the arguments employed in former times will be found equally available now, *mutatis mutandis*, as they were then.

In the earliest ages of the world, as in savage nations at present,\* childbirth appears to have been in almost every instance easily accomplished; the mother suffers little, and that for a very short time only; she retires into a quiet spot by herself, and presently re-appears, carrying in her arms her infant, which she has been

\* See numerous examples in Dr. Lettsom's Oration on the Origin of Medicine, various narratives of Travels, &c.

able to wash and dress, and at once resumes her ordinary occupations. That difficulties in the birth sometimes occur in this uncivilized state must undoubtedly be granted, but they appear to happen very seldom; the advance of civilization, however, always increases their number. Highly as we may estimate the value of civilization,—and it is right that we should so estimate it,—there is this disadvantage inseparable from it, that in proportion as the civilization becomes more perfect, so the manner of living becomes more artificial, and the human system, in consequence, more disposed to be influenced injuriously by the artificial condition in which mankind is placed. In civilized nations there exist many temptations to transgress or go beyond the simple requirements of nature; the restrictions of fashion, the abundance or deficiency of food, mental anxiety, nervous excitement of various kinds, and other causes, induce forms of delicacy of constitution, which react, mechanically or functionally, upon the process of parturition, and render it more or less difficult. Hence arose the necessity for practitioners in midwifery, the first of whom were females, having very little knowledge or experience to guide them in the treatment of the cases under their charge.

The midwives appear to have called in to their assistance, in difficult cases, the physicians of those days, whose knowledge of midwifery was but little less vague than that of the midwives. The works of ancient medical writers contain a great number of rules to guide practitioners in their treatment of cases of difficult parturition, but from the writers being unacquainted with the wonderful manner

in which Nature adapts every part, connected with generation, to the duty it has to perform, they made innumerable mistakes, and the instruments they employed to assist the labour were very rude and unfit for the purpose, being in many instances more calculated to inflict injury on the delicate structures of the mother and the child, than to preserve them. It is clear that both the physicians and the midwives must have frequently produced difficulties by the very strong idea they held, that it was proper to render as much assistance as possible during the whole process of the labour; hence the incessant use of oils and liniments to anoint with, the hosts of provocatives of labour-pains, whether in the shape of medicines, commonly so called, of highly-seasoned possets, or stimulating drinks, and the injurious attempts at mechanical or manual dilatation. These very improper customs arose from ignorance of the true position of the fœtus in utero, and how much that position renders the birth comparatively easy. Far from recognising the simplicity of Nature's designs, they entertained most preposterous and incorrect ideas about the posture of the fœtus previously to the labour, and the changes it undergoes during that process; and the present success in midwifery is mainly due to the refutation and exposure of these absurdities, and the trusting almost entirely to nature to accomplish this truly natural function.

I believe that to Sir Fielding Ould, who was master of the Lying-in Hospital in Dublin, and published a work on midwifery in 1742, is due the credit of first calling attention to the true position of the fœtus in utero, and the manner in which it passes through the pelvis. His views

were adopted and enlarged upon by Smellie, and still further carried out by Drs. William Hunter, Orme, Denman, Osborn, &c., and thus was obtained a true knowledge of the wonderful and mutual adaptation of the head and shoulders of the infant to the pelvis of the mother; of the effective pressure of the uterine contractions, and the gradual dilatation of the parts by these successive throes, till sufficient space is obtained for the birth. It was thus slowly and clearly demonstrated that the first duty of the practitioner is to let Nature pursue uninterruptedly her own course, and that if she deviates from this course, or is unequal to her task, his next duty is still to respect her laws, and to follow them as closely as possible, in whatever means he is called upon to employ.

The midwifery forceps, though an ancient invention, and attributed to Avicenna, were first brought into use in modern times by Dr. Chamberlen, about the year 1650. They are still employed, with slight modifications, and are found invaluable on many occasions; but have frequently failed to accomplish the delivery, because had recourse to before the labour had made sufficient progress. Even in recent times, the forceps have been employed on many occasions to complete a tedious labour, and release all parties from the anxiety and pain attendant upon the delay, though there has been no deficiency in the powers of nature eventually to accomplish the delivery. The reason adduced for using the forceps thus early appears plausible, and the temptation to do so increases very much, when, as often happens, the head of the child has descended so low as to be easily within reach of the instruments, but,

from absence or inefficiency of the pains, makes slow progress for the world; yet it has been found that the hastening the birth by means of the forceps, whether the gain in time be trifling or considerable, is calculated to, and occasionally does, prove injurious to the mother's health: it is an interference with Nature, which she is sometimes unable to overcome, and the consequence may be the refusal of the uterus to contract kindly, and all the other dangers to life which arise from this condition. It has therefore become a principle of instruction with teachers of midwifery, to inculcate the necessity of waiting patiently until the powers of Nature are clearly about to become exhausted, and then promptly to interfere, and either at once finish the labour artificially, or advance it so much, that Nature can accomplish its further progress without difficulty. Experience continually adds to the value of this practice of waiting upon Nature, both as regards the use of instruments, and the exhibition of the next substance I wish to speak of—viz., Ergot of Rye.

This, as is well known, is the grain of the rye in a peculiar state of disease, and has been found to exert considerable influence over the contractions of the uterus, increasing them sometimes very much, and thereby promoting the birth. In consequence of this power, the ergot obtained great reputation as an obstetric remedy, and is still very much employed; but a careful watching of its effects has shown its inappropriateness in a large proportion of cases in which it has appeared to be serviceable: for as the contractions of the uterus under its influence may propel the fœtus through the pelvis with great force, it should not be



used until there is so much dilatation, or at least dilatability, of the parts, that the fœtus may pass with comparative ease. Where this is not attended to, injury will probably be inflicted either on the mother or on the infant, by the destruction of its life. Experience proves, therefore, that but few cases are really benefited by the use of the ergot, a considerable number of those in which it appears to promote the birth being such as patience and the lapse of some further time would conclude with equal satisfaction, and without incurring any danger to the mother or child.

Ergot is suspected by many practitioners to exert a poisonous influence on the fœtus, depriving it of life. The death of the fœtus is indeed not unfrequently produced, but there is as yet no sufficient evidence that it is owing to a poisonous principle in the ergot itself.

I might refer to other improper customs, but I have mentioned enough to show the occasional value of some well-known remedies, yet their undesirableness in general ; and the great superiority of allowing Nature to conduct the whole process of the birth, the physician merely interfering when he finds morbid action commencing, or when the birth is impracticable without artificial assistance.

The bills of mortality of the seventeenth century, so far as can be reckoned, show an average mortality of women in childbed of about one in fifty cases ; the practice in the eighteenth century improved much on this ; in the first ten years I find the mortality calculated at one in sixty-seven, and it gradually became less, until, in the last ten years, it merely amounted to one in 113. The average at present

is probably less than this, but I have no means of arriving at a correct result, because the births of still-born children are not entered on the public registers.

There are so many circumstances of danger which may occur, that the attendance of an experienced practitioner is essential in all cases of labour, to assist and regulate the process; but the superior knowledge of the present time requires him scrupulously to avoid recourse to those practices which have been found prejudicial, and some of which I have attempted to describe. The benefits of the non-interference system are also seen in the greater number of children born alive now than formerly, so that it becomes doubtful whether any exhibition of supposed remedial agents is calculated to render more safe and certain the birth of a living child, and the preservation of the mother's health, than Nature herself will accomplish in the great majority of births.

From various causes, the period of time occupied by the labour differs very much in different individuals: a very few hours may suffice for the whole process, or several days may be required. As usual, I consider *that* labour alone to be natural, which is accomplished by the ordinary pains within the period of twenty-four hours; but there are many cases equally natural, though for practical purposes classed otherwise, which occupy a much longer time, even to double the period named, or more. These latter cases require the anxious attentions of the physician to avoid the onset of disease; but usually no further interference than this is necessary. Nature, restrained by medical experience within her due limits,

is, in general, fully equal to her task, and none can perform it more efficiently. It is a most wonderful ordinance of Providence, that the recurrence for many hours of labour-pains hardly ever by itself produces danger to life;\* with careful management, the state of the health which the patient enjoyed at the commencement of her labour, is very little broken by the continuance of the pains, and after some days of complete rest, a perfect recovery may be anticipated.

We ought not to be content, however, with this limited view of natural labours, as they usually occur; for by far the greater number of deliveries are completed within a few hours, and therefore the danger to life which I have just spoken of is materially lessened. It is principally with first children that a lengthened period is required to accomplish the birth, and it is usual, in consequence, to class such labours separately, as is done in the following table:†

Out of 500 Labours in Private Practice :

206, of which 5 were first labours, terminated within 6 hours.

192,	„	27	„	„	„	12	„
74,	„	31	„	„	„	18	„
28,	„	10	„	„	„	24	„

Though two-thirds of these first labours required more than twelve hours for their completion, yet, if we consider the whole 500 indiscriminately, a very large majority can have occupied a few hours only—a period of time very insuffi-

\* πολλακις ὠδίνουσι καὶ οὐ θνήσκουσι γυναῖκες.

Coluthus, Ἑλένης Ἀρπάγη.

† Merriman's Synopsis of Difficult Parturition.

cient to excite real danger of life, either to the mother or the child, from the effect of the pains alone.

The "Medical Gazette" of May 29, 1848, gives a Table from the Dublin Lying-in-Hospital, very valuable for our present consideration, being the periods of time occupied by 5852 cases of natural labour, including 1752 first children :—

3882, of which 716 were first labours, terminated within 6 hours.

1398,	"	640	"	"	"	12	"
426,	"	283	"	"	"	18	"
146,	"	113	"	"	"	24	"

It would be difficult to find a stronger proof of the short duration of the majority of natural labours.

With this idea of the proportion of quick labours to the whole number of natural cases, let us inquire what proportion the natural labours, strictly so called, bear to the whole number of deliveries. One account before me, out of 1897 women delivered, describes 1792 as having natural labours not attended with any particular accidents; leaving only 105 as the number who had preternatural or laborious deliveries, or suffered in some other way during the month; and this statement is given from the experience of Dr. Bland, at the Westminster General Dispensary, in Gerrard-street, Soho, among a population exposed, from various causes, to many casualties, and to great privations.

Another account shows, that out of 2947 labours, 2810 were presentations of the head, in one or other of the positions of Baudelocque; and of this whole number only 128 lasted more than twenty-four hours, being an average of only one in twenty-two, though some of these presenta-

tions, from malposition of the head, must necessarily have caused tedious parturition. Again, of 10,199 women delivered at the Lying-in Hospital of Dublin, during the mastership of Joseph Clarke, M.D., 9746 had ordinary labours terminating within twenty-four hours.

These calculations show convincingly that the births effected with comparative ease, and absence of danger, comprise a very large proportion of the total number of deliveries, and form a firm basis on which to doubt the propriety of administering chloroform as a general rule.

We come now to consider the nature of the anæsthetic agents, as far as our present knowledge will permit.

It was a very great discovery to ascertain that the vapour of ether, chloroform, &c., could be breathed freely when mixed with common air, but we must not conceal from ourselves the fact, that with this apparently innocuous character, the substances used possess most deleterious properties, rapidly destroying life when taken in too large a dose, by paralyzing, in some unknown manner, the nervous energy. The vapour inhaled into the lungs passes readily through the thin membrane, which separates the blood from the external air, and appears to be conveyed in the blood to all parts of the body, exerting everywhere its depressing influence upon the nerves. This effect is most perceivable upon the nervous centres; but according to recent observation, the effect is produced upon every part of the nerve.

The condition in which these substances are administered—namely, that of vapour—allows an equally free exit

from the blood of the particles absorbed, so that their effect passes off rapidly: the person who administers them has them therefore completely under control. He can increase the anæsthetic effect at pleasure, by increasing the proportion of vapour in the air to be breathed; or by prolonging the inhalation, the proportions of air and vapour remaining the same; and he can as readily diminish the effect by lessening that proportion, and restore the patient to sensibility by removing the apparatus altogether from his mouth and nose. It must, however, be carefully remembered that there is a tendency in these vapours to produce an increased effect for a short time after the inhalation has ceased. This arises probably from those particles which have been absorbed into the blood not having had sufficient time to produce their whole effect. At whatever time the inhalation ceases, there must be a portion of the vapour within the lungs ready to exert its action, so soon as it arrives at the peculiar structure it affects, and this vapour it is impossible to get rid of until it is expired, after circulating through the body.

Under the skilful hands of a person, accustomed to administer the vapour, this tendency to an augmentation of the depressing effects of chloroform will be of slight moment; but if extreme care be not taken it may prove highly injurious, by suppressing altogether the powers of life.

The employment of poisonous substances in medicine is by no means novel, for in all times some of the remedies best calculated to relieve pain and sickness have been deleterious in certain doses, though in smaller quantities



eminently useful as medicine ; but it is a perfectly new mode of proceeding when these anæsthetic agents are administered in such quantities as to suppress almost entirely, the vital properties of the living system ; the idea of so acting upon our fellow-creatures is pregnant with alarm ; yet it has been satisfactorily proved that great benefit results from this use of the agents, not only in surgery, but also in operative midwifery. Surgical operations are constantly performed now without any suffering on the part of the patient, and it appears undeniable that in many cases he stands a better chance of recovering his health, than if the operation had been performed without the employment of an anæsthetic.

To understand fully the nature and action of chloroform, &c., let us pause for a moment to consider the progress of its effect upon the system. My esteemed friend Dr. Snow has divided this progress into five stages, after a very close investigation into the subject. Here I can only enumerate the different stages ; but Dr. Snow's papers on the use of anæsthetic vapours should be studied by all who propose to employ them medicinally.

The first stage is described as one of exhilaration of the mind. This is produced by a slight absorption of the vapour. Its continued administration develops gradually the other stages, each passing insensibly into the other.

The second stage shows some affection of the mental faculties, by the induction of a dreamy state. The mind in this state acts irregularly, but there is no want of consciousness to pain. If pain be inflicted it is felt perfectly, and, reacting upon the brain, would restore it quickly to

its natural condition, were no more of the chloroform inhaled.

In the third stage the powers of the mind are gone, but there is not perfect insensibility to pain. Surgical operations cannot be performed in this stage, as no relief to the pain inflicted would be secured; it might be forgotten, but it would have been felt. This stage, however, is believed to be sufficient to relieve some of the pains of parturition; and certainly, except at the moment of actual delivery, I should wish not to go beyond this stage in any case in which I might use the chloroform.

The fourth stage is one of complete unconsciousness; no sensation exists of pain, even the most acute; but the involuntary muscles still continue their action. The fœtus, therefore, may be expelled by the natural pains in this stage, although it is doubtful whether there is not an actual loss of power, by the withdrawal of all action from the abdominal muscles, which in ordinary labours assist so much in the last struggles of childbirth. But the activity of the involuntary muscles is partially affected, even in the fourth stage, as it passes by insensible degrees into the fifth.

This, the last stage, shows a cessation of action in the muscles of the uterus, then in those of respiration, and finally of the heart itself.

We have thus traced the administration of the chloroform up to the production of actual death; for although the heart's action continuing longest of all affords some hopes that artificial respiration might restore a person whose life is so nearly extinct, the influence of the chloro-

form is so great as to render that revivification extremely doubtful. Several deaths have now occurred from the inhalation of chloroform, but no instances have yet been recorded in which recovery took place after the cessation of respiration.

We see, therefore, that to produce the full effects of the anæsthetic employed, we must reduce the patient to a point very little separated from death itself, and this does seem to me to be an interference with nature of immense importance, and justifiable only under very peculiar circumstances. We have found that other practices have necessarily been abandoned, because they occasionally produced irremediable consequences, yet they apparently interfered less with nature's processes than does the chloroform. The exhibition of chloroform is very much under control, but its paralyzing effects are so great in these latter stages that a very slight increase in them may be decisive in destroying life, and this increase, at present, seems on some occasions unavoidable.

I have alluded to a sufficiently sedative effect for purposes of midwifery being sometimes produced in the third stage; this may induce sleep on some occasions of excitement, and irregular pains, perhaps better than preparations of opium, but it will not be sufficient to prevent the occurrence of suffering in acute pain, and the continual administration of the chloroform will be very likely to bring on the fourth stage, unless very great care be taken in its administration. In practice, also, there will always be fear of impurities in the chloroform. Where an article requiring very nice manipulation is made in large quan-

tities, persons must be employed who cannot exercise the same watchful vigilance over the processes, as the chemist would in making small quantities for his own use. It is therefore necessary, in considering the question, whether it is right to employ chloroform generally in midwifery, to recollect the probability of adulterations. I am not aware that there have been many instances known of injury from adulteration of chloroform, whether intentional or accidental, but the consequences of administering such mixtures might be very serious. The method of administering the anæsthetics is one eminently calculated to injure the delicate structures of the body, unless the vapours employed are quite pure. They are presented to an absorbing surface in a form calculated to pass into the blood with the greatest facility; if, therefore, there be contained in the vapour any deleterious adulterations, (chlorine, or alcohol, for instance,) great injury may result to the patient, and its further administration necessarily be at once omitted. Chloroform and ether both produce convulsive twitchings in some people; other anæsthetics produce them so strongly that they cannot be employed in medicine; may not this, therefore, be the consequence of using chloroform or ether, which has been adulterated? That such accidents may be rare is my hope and fervent prayer, but it would be contrary to every experience to suppose that they will not occur.

This subject introduces naturally a point to be observed in administering chloroform—viz., that a sufficiently large proportion of the vapour be introduced into the lungs at each inspiration. Dr. Snow has shown by his experiments that attention to this is necessary, or the anæsthetic effect

will not be produced; it will simply intoxicate, without rendering the patient insensible. Now all these items of importance in the administration of chloroform, necessitate so many precautions, that it should never be used without due care; its frequent administration appears therefore impossible; yet if chloroform is to be employed generally in midwifery, it must be in daily and hourly use, besides that its administration must frequently extend through several hours at a time; all which circumstances must prevent proper care being taken. Practitioners would know that caution must be exercised in giving chloroform, but in practice much must be left to chance, and thus, after the lapse of some short time, accidents would occur.

We now approach the third part of this essay, or the rules by which the accoucheur is to be guided in employing chloroform in parturition. And first, the objections raised against the use of chloroform on religious grounds, as contrary to the decree of the Almighty, that pain shall accompany the birth of every child, appear to require notice. They have been already answered by Dr. Simpson and by Dr. Conquest, with great ingenuity and research, and to the arguments of these physicians I beg to refer my readers, merely adding to them my own feelings on the subject—viz., that every substance formed by nature, or which can only be obtained by chemical manipulations, is given to man for his use. It is his proud attribute that he is gifted with a mind capable of considering the properties of matter, of whatever kind, in regard to his temporal and his eternal welfare. The great majority of

substances he finds adapted to his daily food and protection ; some he has discovered to be eminently poisonous, but of this latter class many are useful as medicinal agents, and are given to man for that express purpose. Though some substances are deleterious in certain doses, benefit from their use is found from smaller quantities ; many of our most valuable medicines are poisonous in over doses, yet when administered carefully, under the regulations imposed by the researches of " Mind," they are most serviceable. The power of reasoning on the medical properties of substances is one of the talents entrusted to the members of the medical profession : they are bound to exercise it incessantly, and must therefore necessarily be permitted to employ any medicinal agent which reason or experience shows to be calculated to relieve or avert either pain or disease, without inducing any morbid action of sufficient intensity to injure the patient, or any person connected with him, either immediately or remotely. Far from any necessity, on religious grounds, to avoid the use of any supposed remedial agent, the medical practitioner is called upon by every law, both divine and human, to exert his utmost endeavours to relieve pain and disease, by whatever remedies are most efficacious, and at the same time least injurious. If injury follow the use of a remedy, that, and that only, is a valid reason against its further employment ; yet if the injury be small and the benefit great, the physician is at liberty to employ such remedy whenever its superior properties are needed, ordinary medicines being unequal to effect the object desired. I can see no difference in principle between



giving chloroform in midwifery, if it is clear that more benefit will follow its employment, than in using instruments or other means to effect the delivery, when the labour-pains have ceased, or some deformity or other cause hinders the birth, and where, consequently, the infant's life must be sacrificed, if means of hastening the delivery be not employed.

But the objection that it is improper to use chloroform in midwifery, from fear of injurious consequences, is very different from that just discussed, and can only be resolved by experience. Chloroform does not appear to possess any peculiar property, rendering it useful in midwifery, except by removing the sensation of pain. Different accounts of its employment certainly ascribe other properties to it, but they are so contradictory, and opposed to each other, that other and different reasons must be sought for to explain the occurrences described ; proofs of a much more decided nature must be accumulated before we can properly attribute these various properties to chloroform ; it must first be shown that the results in question are not identical with some one or more of the variety of actions observed in ordinary labours, for it is by no means unusual to find the pains suddenly increase or diminish in strength, without our being able to trace the cause of the alteration. Recent investigations have shown how great the supply of nerves to the uterus is, which appears to account for the extraordinary changes in the progress of the labour, so often noticed ; but the way in which the nervous action is excited is hidden from us. We confidently believe that the nerves conduct power to the muscular fibres, but the

most elaborate dissections have utterly failed to trace the sources of this power. We call its effects "sympathy," and so describe the occurrence sufficiently for ordinary purposes, but we have no knowledge whatever of what the power exerted really consists.

If, then, chloroform is to be used solely as an assuager of pain, it becomes necessary to inquire whether the pain endured, or the remedy administered to assuage it, is calculated to produce the most injury to the patient. Now we have ample evidence that the ordinary sufferings in labour, nay, even extreme sufferings, do not, in the vast majority of births, produce any permanent injury to the mother, but we have yet to learn that chloroform is equally exempt from such a tendency. We do not yet understand the way in which it acts upon the living system, but we do know that its action, when not limited by care in its administration, or when given in certain diseased conditions of the chest or brain, has a tendency to destroy life very rapidly ; a property which requires extreme attention in using it at any time, and is sufficient to warrant abstinence from it altogether, except under peculiar circumstances. Given in proper doses, chloroform possesses most valuable properties as a sedative ; hence its value in surgical and in obstetrical operations, to lessen the pain inseparable from the use of preternatural means to accomplish the delivery, and to prevent the patient's struggles.

Chloroform has also been given, in general practice, in cases of excitement from various causes, with very good effect ; for example, where a patient has laboured under want of sleep, which ordinary means have failed to pro-

cure, chloroform has quieted the nervous irritability, and brought on quiet and natural repose. With this object it has been administered with advantage in midwifery, to alleviate the extreme restlessness in tedious labours from anxiety and want of sleep; it is the peculiar property of this class of medicines that they prevent the sensation of pain, but do not, in moderate doses, prevent the continuance of those actions which cause the pain; hence the chloroform may be given in doses sufficient to suppress some of the agonizing pain inseparable from parturition, while it still allows the recurrence of the actions of the uterus, and thus does not stop the progress of labour, as might be feared: indeed, it has been supposed to have hastened the birth on some occasions—a result which appears not improbable, for the sedative action of the vapour may have removed altogether the exhaustion previously felt by the uterine nerves, and have rapidly restored to them their pristine energy; on the contrary, it is equally conceivable that, under other circumstances, it may not have restored the nervous irritability, but rather have depressed it, and so, as asserted by some practitioners, have prolonged the labour, by lessening the contractile powers of the uterus.

Whatever may be the real effect of the chloroform on the actions of the uterus, there appears no doubt that it possesses, in the majority of cases, the power of abating materially the excitement of the nervous system; that it thus conduces to sleep, which, under favourable circumstances, becomes natural, and thus invigorates the system more than artificial sleep can do, and that it lessens the

shock to the nerves from the lengthened continuance or intensity of pain, and thus renders recovery more easy. In parturition, consequently, where the position of the fœtus in the womb, and the bony structures of the mother, might be expected to offer no unusual impediment to the birth, still, should the condition of the woman be such as to cause great fears that she cannot endure the pain of the birth without suffering material injury, chloroform may be administered with propriety. I have, however, shown above, that such cases can be very few, and scarcely come under the limits within which interference with nature can be allowed with impunity. The reasons, therefore, actuating the physician to allow the inhalation of chloroform in these simple cases must be exceedingly strong, or he will violate the law of non-interference with nature, founded on the experience of so many physicians of celebrity during a succession of years; and although he may not notice any immediate ill consequences, he must expect to find some sooner or later.

Where the labour is more tedious, extending to twenty-four hours or more, or if the patient has, from the occurrence of false pains, previously to the commencement of her true labour, or from other causes, been deprived of her rest, and thereby rendered unequal to bear with impunity a recurrence of pains for many hours, chloroform may not improbably become a fit medicine to administer, to obtain that repose which other measures have failed to procure; but these other measures ought invariably to be tried first. Gentle reasoning is very powerful in restraining anxiety, and this power increases in proportion to the confidence

of the patient in her accoucheur. Attention to the natural functions of the body is very important. Irritation is frequently set up by costiveness, which should therefore be obviated by such aperients or other appliances as are suited to the exigencies of the case, and not be quieted by the overpowering influence of chloroform. The secretion of the kidneys must be attended to, for distention of the bladder may prove a mechanical impediment to the birth, and is to be guarded against, or removed by proper means, if it has occurred. Change of position, the omission of endeavours to assist the efforts of nature by voluntary exertions, cooling medicines to obviate feverishness, especially if produced by improper food or drinks, and many other small details well known to the accoucheur, are of great service occasionally in tedious labours.

The possibility of one or more of these occurrences should therefore always be considered, and appropriate treatment be adopted to remove them if present or impending ; but if neither of these conditions be present, or if the nervous excitement, or exhaustion from want of rest, continue unabated after the employment of these plans of treatment, recourse may be had to the chloroform : it should be given in small doses, just previously to the onset of a pain, and may be intermitted between the pains, or continued until the patient is fully under its influence, as may be judged most appropriate ; if one exhibition of it is not enough, it may be repeated. A convenient plan is to administer the chloroform as each pain begins ; this will lessen the suffering, and only render the patient insensible for a moment. Every case, however, must be studied by

itself; no rigid laws can be laid down for the administration of medicines of any kind; for in every instance the power any remedy exerts upon the patient must be carefully noted, and the dose regulated accordingly. In the administration of every medical agent, the duty of the physician is to imitate Nature as far as possible, to watch her methods of acting, how she occasionally, by leaving her ordinary path, and acting irregularly, produces disease, and how she returns from her diseased to her healthy action. The more medical men study the minutiae of these several actions, the better are they able to follow Nature's steps, or to direct them when wandering.

No treatment can be really good which does not act upon this principle; experience every day proves the truth of this, and perhaps in no branch of the profession is it more clearly shown than in the practice of midwifery. The more the powers of nature are studied in the act of childbirth, the less necessity will be found for the use of medical applications to relieve the suffering; so that I firmly believe that the administration of chloroform will be confined eventually to instrumental or very tedious labours. When the presentation of the fœtus is such as to require manual assistance before the birth can be effected, or where, from failure of the pains, or malformation of the pelvis, the pains are unable to accomplish their task, chloroform will frequently be found of great service; and if the patient's health be sufficiently good, the accoucheur will do well to recommend the inhalation. But even here he will not unfrequently find the artificial completion of the labour so easy, that inhalation seems superfluous;



in some instances it would complicate, in appearance, a simple operation, and ought therefore to be avoided. A recent author has supposed that chloroform on some occasions has been recommended by the practitioner, as a means of making himself of more importance as an assistant in the labour. If such has ever happened, it is very much to be regretted. The medical profession in this country is ever looked up to as composed of men of the highest probity, who would scorn to descend to such meanness; the same care will therefore be expected of them, that they should not, in their own practice, or by their writings, induce others to resort unnecessarily to any practices capable of producing serious injury, if misapplied, or incautiously employed.

With the best intentions, our exertions will occasionally be insufficient to prevent a fatal consequence; they may even appear to have hastened it. If, then, a practice has been resorted to, the employment of which was not imperatively called for, and death ensues, whether arising directly from the treatment, or from other causes, how awful is the reflection that we have in even the slightest degree hastened the termination of life. Let us bear incessantly in mind, that ordinary cases require only ordinary means of relief, and that extraordinary remedies can only be properly employed in extraordinary cases, where ordinary means are inapplicable or insufficient.





