

Appendix to An essay on therapeutical inquiry, containing the application of plans of treatment and suggestions noticed therein to the practice of midwifery / by James Arnott.

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APPENDIX.



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APPENDIX

TO

An Essay

ON

THERAPEUTICAL INQUIRY;

CONTAINING

THE APPLICATION OF PLANS OF TREATMENT AND SUGGESTIONS
NOTICED THEREIN TO THE PRACTICE OF

MIDWIFERY.

BY

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APPENDIX.

IT is difficult to account for the indifference which has been shewn by the medical corporations of this country about every thing connected with midwifery, and the qualifications of persons practising it. The peculiarly interesting condition of those whose safety depends on the skill of the accoucheur, would naturally have produced the contrary feeling; and this should have been strengthened by the generally acknowledged fact, that of no other department of practical medicine are the principles less understood or the rules of practice less established. Of no other, certainly, are the precepts of more importance, nor do they require more presence and firmness of mind for their successful application.

It might perhaps have been supposed, by those ignorant of the subject, that as uneducated persons of the same sex with the patients, were, until a modern period, deemed competent attendants upon them, little skill

could be required for proficiency in the art ; but if this were a sufficient cause of depreciation, it would apply, as well, to the other departments of medicine. Must not the educated and honourable practitioner in these be the competitor of many who are in no respect, either moral or intellectual, superior to the former practitioners in midwifery ?

It has been said in disparagement of this branch of the medical art, that, with a few exceptions, the accoucheur is the mere spectator of a process of nature, of which his interference would cause the disorder ; and, fortunately, this allegation is not far from the truth. He is, or ought to be, in the greater number of cases, little more than a watchful attendant, neither intermeddling himself, nor permitting others to do so. But by his presence he is prepared for every emergency ; and he obviates, where he can with safety, the accidents that might otherwise occur. The very feeling, besides, that she is under the care of a skilful attendant, renders the patient tranquil, which of itself is a preservative from danger. Is there nothing analogous to this in the other departments of medicine ? In the fevers and exanthemata which run their natural courses, should the physician always actively interfere ? Or is his office degraded by his being little more, in many of these cases, than the careful observer of the curative operations of nature, and the preventer of the injurious interposition of others ? The saline draughts which he prescribes, operate very much as the consolations and assurances of the accoucheur do ; but he is prepared with his counter-irritants,

means of depletion, or tonics, just as the latter is, with the operation of turning, his forceps, or crotchet.

When, in Midwifery, it becomes necessary to interfere, the practitioner (if the writer may judge from his own feelings on such occasions) derives a degree of satisfaction from his efforts, greater than that which most of his other professional engagements afford; for in no other department is the advantage of the interference of art more unequivocal, or its exercise more indispensable.

Instead of discouragement, no branch of medicine stands in greater want of the fostering care of the governing bodies of the profession. The records of the practice at public institutions shew the unsettled state of opinion respecting many of the leading points, particularly in operative midwifery; and the frequent reports, in the public press, of proceedings at coroner's inquests—the appalling accounts of bowels being torn out, of the incision of the inverted womb, &c., point out the deplorable ignorance existing amongst persons presuming to practise in this department.*

From the number of applications to midwifery, of practical suggestions adverted to in his lately published *Essay on Therapeutics*, the writer thinks that it may be of advantage to treat of them together in an Appendix to that tract; and as they refer principally to

* “In England and Wales only, there are about five hundred thousand births yearly, and about three thousand women die annually in child-birth!”—*Medical Gazette*, August 29th, 1845.

varieties of dystocia, or difficult labour, the arrangement of these which was adopted in his lectures, by the late Dr. Hamilton, of Edinburgh, may be subjoined as a text for this description of comment. It is extracted from the writer's manuscript notes of these lectures. This arrangement, though far from being perfect or complete, is worth preserving, as proceeding from so justly eminent a teacher; but the principal reason for presenting it here is that it may serve as an illustration of the opinion expressed in the above Essay, that some artificial expedient is required for the ready recollection of important and unconnected facts in various departments of medicine. In his attendance on dangerous cases in midwifery, the writer has never regretted having employed an hour or two in so impressing on his memory a list of the numerous and diversified causes of tedious and difficult labour, of which the following table formed the basis:—

The first stage of labour, or the opening of the os uteri is protracted by

1. The premature escape of the waters.*

* In many cases, those more especially, where, in order to facilitate and render safe the otherwise difficult and dangerous operation of turning, it is of importance to preserve the liquor amnii until the os uteri has become sufficiently dilated, or at least "dilatable;" it might be advisable to support the distended membranes during pains, by the counter pressure of a small bladder of air

2. Rigidity of the parts.*

placed in the vagina. The plan which has been recommended with this view, of keeping the patient in a horizontal posture, can be of very little service.

* Dr. Hamilton is known as the principal advocate for mechanically dilating the os uteri in these cases; and as he never allowed the first stage of labour to be protracted beyond twelve hours (a practice which few of his pupils, I presume, have followed) he did not include them in his class of "laborious labours." Some remarks on the subject of the dilatation of the os uteri, and a suggestion of measures, safer and more analogous to the operations of nature than those now in use for this purpose, are inserted in the appendix to the second edition of the writer's Treatise on Stricture of the Urethra, page 214.

Some years since, it was the duty of the writer, as principal medical officer in one of our colonies, to enquire into the qualifications of the native women employed there as midwives; and he had thus the opportunity of ascertaining that they were generally in the habit of dilating the os uteri in protraction of the first stage of labour. Nevertheless, he could not attribute, in the cases of difficulty to which he was called where these persons had been in attendance, any particular injury to this almost instinctive practice. There can be no doubt, however, that it was much abused in former times. Even a rough or incautious examination of the parts, for the purpose of ascertaining whether rigidity

3. A band of unopened muscular fibres.

exists or not, may, where there is great irritability, cause the very condition which is apprehended, or, at least, a morbid condition very nearly approaching it.

Nor to obstetric surgery alone has such perversion been confined. As another remarkable instance of disease being created by the very attempt to ascertain its existence, the following brief record may be given of a case which lately fell under the writer's notice. It throws a light, besides, on points, which, notwithstanding the assiduity with which they have been investigated, are still far from being determined.

A gentleman had long suffered from irritation of the urinary organs. It was discovered that retention of urine existed to a considerable degree, either in consequence of enlarged prostate or paralysis. As there were, besides, some of the peculiar symptoms of stone, (although several of these were absent) two or three cautious explorations of the bladder were made, but no stone was discovered. While taking the usual remedies for irritation of the bladder, business called him from home, and in his absence he took the opinion of another surgeon. This gentleman, after subjecting him to a protracted and painful searching for stone, pronounced his case to be disease of the kidney. The irritation was much increased by this sounding; and there was soon a copious phosphatic deposit from the urine. He sunk after six months of great suffering. On examination, post mortem, the bladder,

4. Flaccidity of the os uteri; the child's head not pressing upon it.

which, eight months before, contained more than ten ounces of urine, was found so thickened and contracted as to be incapable of holding above two ounces. It contained a phosphatic calculus of about the size of a hazel nut. One of the kidneys (the only one examined) was completely disorganised. Now, supposing that the stone which was found, had existed all along, it is evident that the thickening and contraction of the bladder would at last have brought it within reach of the sound of the most inexpert searcher, after the other surgeons had failed in detecting it; and great has been the triumph of such discoverers under probably similar circumstances. But it is much more likely that its formation followed the irritation and phosphatic deposition caused by the severe operation of sounding; for the stone of larger size extracted by the operation of slow dilatation, (page 25 of the *Essay on Therapeutics*) was formed in nine months on a small fragment of a former stone broken in the operation of lithotomy.

To diminish the danger of sounding, as well as to facilitate, in certain cases, the detection of stone, some improvement is required of the usual methods of exploration. The stone might be more certainly brought within reach of the sound, by inflating a bladder placed in the bowel underneath, than by the means hitherto employed for this purpose; or it might be floated on a quantity of quicksilver injected into the bladder.

Labour in the second stage is rendered "laborious" either by a deficiency of uterine action, or by increased resistance to the passage of the child, or by both together.

The atony may depend upon

1. Debility of the womb lately induced.*
-

Reverting to the means of relaxing the os and cervix uteri, it may be asked, whether any of the plans noticed at page 51, might not be advantageously substituted for the painful, though (as Dr. Ramsbotham has well explained) the somewhat hazardous measure of copious blood letting. Removing a quantity of blood, only temporarily, from the upper cavities, would also, probably, be a safer mode of relief in many cases of puerperal convulsion, than removing the whole quantity required, permanently, by venesection. Dr. Hamilton (MS. notes) seldom, in such cases, directed less than 40 or 50 ounces of blood to be taken at a time. By the use of the means alluded to, half of this, might, perhaps, have been spared. The effectual mode of applying cold to the head, to be described in a subsequent paragraph, will be a valuable auxiliary to the detraction or diversion of blood in the treatment of this disease.

* Pressure on the womb by the hand is often had recourse to for the purpose of renewing uterine contraction suspended by this and other causes. Were this pressure made by a bandage, constructed on the principle of certain life preservers, which could be tightened by inflating it, it would result, that in addition to the direct

2. Passions of the mind.
3. Interrupted circulation.*

stimulus from this measure, the liquor amnii, by being forced, at intervals, against the os uteri, would probably excite the contraction of its fundus by the sympathy or consent of action existing between them — in other words, by the reflex nervous function. Such a bandage, by the equality of its pressure, and the ease with which this could be regulated, would afford a better security against atonic hæmorrhage after labour than that commonly employed. For such a purpose the air may be replaced by cold water; and this could be constantly renewed in the manner which has been explained.

* Irregularity of uterine action has generally been enumerated amongst the causes of dystocia, and it may take its place under the above undefined and general title in Dr. Hamilton's table. But this "irregularity" itself has not been clearly explained. Does it comprehend the case of the detrusion of the child being impeded in consequence of some part of its body being grasped by the circular fibres of the uterus? That such a variety of dystocia exists, there cannot, I think, be any doubt, although it has not been generally admitted. In the beginning of last month I was consulted on a case of preternatural labour of a woman living in Castle Street. The arm presented, and as the liquor amnii had long been discharged, there was unusual difficulty experienced in turning the child. The surgeon in attendance, and who had treated the case with great skill, was almost ex-

The increased resistance may proceed from

1. Rigidity of the membranes.
 2. The pendulous abdomen.
-

hausted by the attempt. After the action of the womb had remitted under the influence of a large dose of opium, the attempt was renewed, and by drawing down the foot by means of a fillet, while I raised the shoulder, the operation was at last completed. But the difficulty was not yet terminated; the head would not pass the brim of the pelvis. The arms were brought down, the position of the head was altered, and the lower jaw depressed; but all in vain. At last, after the exhibition of a second large opiate, the head was suddenly released as if by the relaxation of spasm. The child did not survive the long continued pressure; but the mother perfectly recovered. Now, doubtless, in vertex presentations, the same opposition from muscular contraction must occasionally occur, and would yield to the same remedial measures. It occurs, as respects the placenta, in what is called "hour glass" contraction.

In such cases, as that just related, of extreme difficulty in turning, and proportionate danger both to the mother and child, might not the liquor amnii be replaced, as it were, by the gradual injection of warm water; the flexible tube leading from a syringe or raised vessel past the arm of the accoucheur, and the escape of the water being prevented by surrounding the arm with an inflatable membranous sheath?

3. Unfavourable position of the child's head.
 4. Rigidity of the external parts.*
-

* This, I am persuaded, is often the cause of the difficulty attributed to narrowness of the pelvis. The remedies used in rigidity of the os uteri are applicable to the same condition of the outward parts. Artificial dilatation by a fluid is indicated by the distension which, in many cases, is made to a great extent by the liquor amnii in the uterine membranes. In the construction of the simple apparatus required for dilatation by fluid pressure in midwifery, there is no necessity for attending to various minute points essential to the utility of the fluid pressure dilators used in strictures of the narrower canals; unless perhaps where a greater nicety is desirable, as in opening the uterus for the extraction of the secundines in hæmorrhagy from abortion; but in applying fluid pressure to the vagina, either for the purpose of dilatation or for checking hæmorrhagy by distending the passage, it must be recollected that while that part of the bladder which is outside continues more distended than the inner part, it will, unless resisted, draw this out—furnishing another illustration of the plan which I have proposed (Essay, page 38) of withdrawing the imprisoned intestine from the sac in strangulated hernia. To obviate this, it might be convenient, in certain cases, to use a succession of covered bladders of different sizes, or to have different sizes enclosed one within the other, as recommended for another purpose in my paper on Lithectacy, in the *Lancet* for July, 1843, page 652.

5. Shortness of the umbilical chord.
6. Anchylosis of the coccyx.

The two last mentioned causes were included by Dr. Hamilton more in accordance with common opinion than from his own conviction of their existence. Where the former was supposed to happen, he thought the real cause of difficulty was rigidity of the external parts.

7. The increased size of the child.
 - a.* The head being naturally large.
 - b.* Head incompressible from ossification.
 - c.* Increased size from disease or monstrosity.
 8. Locked head.
 9. One or both arms coming down with the head.
-

Having referred to the subject of strangulated hernia, I may, as an appendix to my preceding observations, take this opportunity of stating, that about a fortnight ago, I directed two large injections to be used, for the purpose alluded to, in the case of an aged person, a patient of the Dispensary, residing in Brunswick Street, who had been affected with obstinate constipation and vomiting for upwards of a week. The strongest cathartics, the application of galvanism, and other usual measures had been ineffectual, and the injections proved equally so. By examination, post mortem, it appeared that the obstruction was of a kind incurable by this or any other known means. Half of the colon was enormously distended; the other half was empty. Where

10. Disease of soft passages, as scirrhus of the os uteri or polypus.

11. Enlargement of the ovarium, stretching into the pelvis.

these portions joined, and close to the gall bladder, which was completely filled by a large biliary calculus, the intestine was constricted to less than a fourth of its natural diameter. The gut was also twisted at this part, and its distended portion was probably paralyzed; for although some of its gaseous contents had escaped through a small ulcerated opening near the stricture, (just as the urine at length escapes from the long distended urinary bladder) none of the fæces protruded through this until pressure was applied. The enema must have passed upwards through the obstruction; but, judging from the small portion subsequently ejected, none of it appeared to have passed in a contrary direction. There were several patches of inflammation on the ileum, which was distended with flatus to a size greater than that of the natural colon.

It would appear from Dr. Rokitansky's memoir on the subject, (British and Foreign Medical Review, Vol. III. page 495) that internal strangulation generally proceeds from nooses of intestine entering openings formed by morbid adhesions, adventitious membranes, or rents in the mesentery or omentum; and obstructions of this description may probably be remedied in the manner I have proposed. The natural action of the bowel must, doubtless, in this way often release these

12. Tumour in the back part of the pelvis.
 13. Tumour from feculent accumulation.*
 14. Cicatrix of the vagina.
 15. Malformation of the external parts.
 16. Swelling of the soft parts.
 17. Retention of urine.
-

nooses, just, as in cases of external hernia, the bulging of the gut inside, from an accumulation of its contents, may be supposed to extricate and draw into the abdomen the portion outside the sac; either without assistance, or after the removal of the opposing *external* bulging of the gut by the application of cold, and the pressure to the tumour and untwisting of the gut in the taxis.

With respect to the disputed point of the possibility of forcing an injection past the valve of the cœcum, I may mention that I have at present a patient under my care who asserts that some months since, while suffering from an attack of ileus, oil of turpentine, that had been administered in an enema, was ejected from the mouth. She was then resident in Croydon, and was attended by Mr. Hubbart of that town, who, in an obliging note in answer to my enquiry on the subject, confirms her statement respecting the feculent vomiting.

* Where there is vaginal hernia, it may be of more importance to prevent any such accumulation. I have attended three labours where this complication existed, but no difficulty or inconvenience arose from it.

18. Resistance from the bones of the pelvis. From the brim or outlet of the pelvis being naturally too small, or from deformity of various kinds in consequence of former disease.*

* The suspension of animation which is caused by the compression of the child's brain in dystocia of this description, has so often yielded to artificial inflation of the lungs, that it has become the rule to apply this remedy assiduously in all such cases. Is it not extraordinary that this success should not have led to a trial of the same means in the analogous condition of the brain in certain cases of apoplexy? See note to page 20 of the Essay. Fatal apoplexy often proceeds from a sudden congestion that leaves no trace to be detected by the pathologist. There would be this advantage in the case of the adult, that recourse could generally be had to the expedient in question immediately on the suspension of animation.

It is still contested whether or not the head of the child is materially compressed by the forceps, and thus made of easier extraction. It is a point of great importance, inasmuch as the determination whether the forceps or crotchet shall be used in particular cases, very much depends upon the opinion which the practitioner may have formed upon the subject. Dr. Rigby objects to the inference which has been drawn from Baude-locque's well known experiments respecting it, because these were made on the dead body, and because the

19. Exostosis of the bones of the pelvis.

pressure used was more sudden than that which should be employed in operating with the forceps.

The experiments of Deschamps on the dilatability of the prostate gland, by suddenly stretching the neck of the bladder in the dead subject, have, in a similar way been adduced as an argument against the operation which I have recommended of removing urinary calculus by slowly dilating instead of cutting the parts — and this, notwithstanding the trials made by myself and others on the living subject, where the neck of the bladder was slowly dilated to the requisite degree, and stones extracted without any bad consequence. The cases are in some respects so similar, that the observations made on one of them may be applied to the other. This objection from Deschamps' experiments would not have been offered by that acute observer himself; although he did not succeed in dilating the neck of the bladder in the dead subject, beyond the degree admitting the insertion of his thumb, he did not infer from this, that, in the living subject, the parts were equally undilatable. "Il est bien essentiel" he observes, in his admirable monograph on stone, "de remarquer qu'il n'en est pas des parties privées de la vie, comme de celles qui en jouissent; ces dernières sont susceptibles d'une extension dont sont incapables les premières, chez lesquelles les sucs stagnans sont coagulés." In these remarks, moreover, Deschamps contemplated the sudden and painful dilatation which is made by a metallic instru-

20. Preternatural labours. When the position of the child differs from that which occurs in natural labour, or when some other part than the head presents, there may be an obstacle to the birth rendering the labour "difficult;" and certain varieties, consequently, of these "preternatural" labours cannot well be excluded from this arrangement.

ment of unequal pressure: the slow, equable, and elastic pressure of a fluid is of a very different character. There is the same difference between them that exists between the dilating pressure of the liquor amnii in opening the os uteri, and that of the two or three metallic diverging rods, which were at one time (as the diverging fingers are now) used as its substitute.

In consequence of such reasoning as the above, in contradiction to actual experience, it happened that the dilatation of the urethra in the female for the extraction of stone, which was often performed towards the end of the 17th century, and was then fully appreciated, fell into complete disuse for upwards of 100 years. Such is the effect of "authority" in medicine!

When it is considered how rarely some of these kinds of dystocia must occur to men engaged in the most extensive practice in large cities, it will be conceded that however excellent the memory of the practitioner may be, in order that he may be prepared for every emergency, there will be an advantage in his having some better remembrancer than any classification which the subject

admits of. And when we reflect that every kind of difficult labour (and several of the numbers in the above table are genera comprehending many species) requires a peculiar or appropriate treatment modified by the constitution of the patient and other circumstances; and that several of the causes enumerated may be conspiring to render the labour difficult; it may well be asked, regarding the treatment of dystocia alone, what other department of the healing art requires more skill, more presence of mind, or more decision? Yet, while the extraction of stone with safety to the patient has been reckoned the glory of surgery; the extraction of a child, with safety both to itself and the parent, has (if we may judge from the conduct of medical colleges or corporations) been deemed, even under circumstances of the greatest difficulty or danger, an operation reflecting no credit upon the art.

The term midwifery has not been restricted to the subject of labours; it comprehends besides the consideration of the diseases of women and children. It will be necessary to add only a few remarks to what has already been said on the latter subject; and these will have reference principally to the application of cold.

Although from the inefficient mode in which it is generally made, the local application of cold must be considered on many occasions as a mere placebo, or sometimes, even, a dangerous measure from the series of re-actions which it excites, it is, when properly used, a means of

arresting inflammation, only second in efficacy to venesection, without the evils, that, under a variety of circumstances, follow the loss of blood. As an illustration of the different effects of cold from the different modes in which it is applied, its use in inflammatory toothach may be considered. Toothach from *irritation*, caused by the acid secretion of a carious tooth, may be soonest and not best relieved by the application of soda or any other alkaline substance; but that proceeding from *inflammation* requires measures of another character. Cold has been mentioned as one of these, but it has been generally condemned, upon alleged experience of its effects, as being better calculated to increase than to cure the malady; and this is perfectly true if it be employed suddenly, interruptedly, and for too short a period, as it generally has been in this as well as all other inflammations. If it be properly employed, the writer can aver from repeated *personal* experience that, though rather a tedious, it is a most effectual remedy. On a late occasion, he devoted the greater part of a night to the permanent cure of a toothach which had been teasing him for many weeks, but which at last had become intolerable. He made several attempts to leave off the application of the cold water, but found that until the object was completely attained, the reaction had only increased the pain. In other inflammations equally accessible, the same principles of treatment will be equally efficacious.

For the removal of the inflammatory or irritable condition of the parts from which most of the vaginal

discharges or varieties of leucorrhœa originate, the apparatus consisting of two tubes, placed side by side, or one within the other, by which the application of water of an appropriate temperature can be constantly renewed, would appear to be well adapted. No diseases are more obstinate than these under the present modes of cure; and when we reflect that some of them may lead to fatal disorganization, such as the inflammation of the cervix uteri described by Sir C. M. Clarke; and that others, by the continued and profuse discharge may cause local and general weakness of very injurious tendency; there is much inducement to try the effect of a means of carrying out, in their treatment, and to the full extent, principles of cure, the efficacy of which in analogous affections, has been universally admitted. In mere weakness of the parts, accompanied with passive mucous discharge, and perhaps malposition of the uterus, such an interrupted application of cold as will prove tonic by reaction, would probably be preferable to its long continued use.

Where a greater degree of stimulus is required, water of a high temperature may be applied. I have successfully employed this by means of the double tube apparatus in a case of suppressed menses with vicarious hæmoptysis, which had resisted all the usual measures.

The observations which were made (page 52) respecting the necessity of such local remedies being brought in contact with every part of the surface in diseases of the canals, are especially applicable to those of the vagina, which from a neglect of this principle, have

often resisted every attempt at cure. The liquid substance may be allowed to ooze from a bladder under considerable hydrostatic pressure, and which is maintained of the desirable form by some pervious covering. In this way, while the usual means of restoring the general health are employed, the weakened and diseased surface may be subjected to the united influences of cold, some appropriate lotion, and moderate pressure or support.

The distressing affection of falling of the womb is mainly occasioned by laxity of the vagina produced by chronic discharges. For the relief or cure of this the pessary has been invented, and much ingenuity has been exerted in varying its shape and the material of which it is made.* But there is so much imperfection attached to all the hard unyielding pessaries commonly employed, that it is not surprising that Dr. Hamilton should have, during the last years of his life, altogether discarded them from his practice. By the valuable contrivance, however, of the sponge, impregnated with some liquid

* Upwards of twenty years since I proposed a membranous pessary, to be inflated after insertion. "In descent of the uterus, for instance, a short and broad bag dilator, from the facility with which it is introduced and extracted, and its capability of yielding while retained, is preferable to any of the hard irritating pessaries in present use." Arnott on Strictures, &c., first edition, page 173. The injection of a small quantity of thick mucilage into the bag, forms a sort of valve and prevents the annoyance that has generally arisen, in the use of such pessaries, from the escape of the air.

medicament, for which, I believe, we are principally indebted to Dr. Locock, several indications are more or less fulfilled, besides that of supporting the womb, which, though its most obvious quality, is not perhaps the most useful. To the middle of the sponge I have had a small perfectly flexible tube of mackintosh cloth sewed, opening near the upper end of the cylinder, and of sufficient length to hang from the passage. By this tube, and with the assistance of the common double-action enema syringe, an injection can be thrown in at any time, and in sufficient quantity to clean the sponge and the canal in which it lodges. Much trouble and irritation are thereby prevented, and the sponge is kept more fully impregnated with the astringent medicament. Where it is necessary to use a large sponge, it must be passed in a very compressed state; and this may be done by tying a cord spirally round it. If the turns of the cord be made to pass through slits or a series of holes on either side of a metallic tube, they can be afterwards cut by a narrow knife passed along this tube. Squeezing the sponge between two curved blades would also often answer the purpose. If desirable, the sponge, or other bibulous and elastic substance introduced piecemeal, can be made to assume any particular shape by enclosing it in a cover of permeable cloth or net work.

No one who has had much practical acquaintance with these cases, and who must consequently have often witnessed the disappointment and impatience caused by imperfections in the apparatus employed or difficulties in applying it, will consider the time ill employed that has

been spent in endeavouring to remove these imperfections and difficulties. How many women have fallen a prey to diseases which their debilitated constitutions could not resist, in consequence of the insufficiency of the means which they employed to repress vaginal discharges and support the womb, or their insufficiency, at least, to effect this speedily and in time to shield them against such attacks!

I have already noticed the application of cold to the lower part of the body in flooding after labour. The advantage in other kinds of uterine hæmorrhage of the simple apparatus by which cold water can be kept constantly passing through a bladder applied to the part, or by which the temperature can be regulated according to circumstances, will be obvious to those who have observed the usual modes of proceeding in such cases.*

In cases of alarming uterine hæmorrhage, the prevention of immediate death must not be our only object. As its more remote but not unfrequently fatal consequences are to be guarded against, that plan of treatment is to be preferred by which the greatest good, or in other words, the greatest saving of blood, can be secured, though at the expence of a little trouble to the practitioner. In all the principal varieties of flooding connected with

* "After placing cloths dipped in cold vinegar and water to the pubes, they (the nurses or attendants) often cover up the patient with bed-clothes, *warm* and *comfortable*, soon converting the wet linen into a hot and reeking fomentation." Dr. Locock, Cyclopædia of Practical Medicine, Vol. III.

gestation, however different the treatment of each must be in other respects, the application of cold is of use—whether the hæmorrhage proceed from the accidental separation of the placenta from the fundus, or its inevitable separation from the cervix uteri; whether from retention of the placenta, or from atony or irritation of the uterus after the expulsion of this.

In the Essay on Therapeutics, (page 52) a proposal was made of a means to be employed where there is immediate danger from hæmorrhage. Dr. Hamilton was of opinion that opium acts beneficially in such cases, principally by accumulating the blood in the large vessels. But this could be more certainly and safely accomplished by pressing the blood thither out of the extremities. A larger quantity of blood could thus be sent towards the heart and brain than has generally been done by transfusion, and without the delay and hazard that are inseparable from that operation.

This theory of Dr. Hamilton respecting the action of opium, applies only to the effects of hæmorrhage; a very different theory of its action in relation to the causes of floodings, has, excepting under these extreme circumstances, prevented its general use in their treatment. The propriety of its administration remains, at least, and principally on this account, one of the many important unsettled points in midwifery adverted to in the prefatory remarks. For theory, in the absence of adequate experience, has generally been permitted to regulate medical practice.

Opiates, we are told, paralyse muscular energy, and

consequently must prevent the contraction of the womb upon which the cessation of most kinds of uterine hæmorrhage depends. But in reply to this it may be said, that although opium may diminish the morbid muscular energy which causes or constitutes spasm, it will not, unless exhibited in poisonous doses, impede the natural and healthy action of the muscles of the uterus: on the contrary, by removing their susceptibility of morbid irritation it may very much facilitate this. Again; the hæmorrhage after delivery, though generally attributed to atony of the muscular tissue of the womb, may perhaps occasionally arise from irritation affecting its blood vessels, and opium may check it by allaying this. I have met with instances (and one only two days ago, in the case of a woman whom I was called to see at 21, Cross Street) where, on extracting the placenta, hæmorrhage has ceased notwithstanding the failure of the means employed to produce contraction of the womb; and I have, in consequence, been disposed to think that a great degree of muscular contraction is not absolutely required for that degree of contraction of the vessels, which in the absence of irritation may be sufficient to obviate hæmorrhage.

These remarks are thrown out, not in opposition to the present practice, but merely to shew the necessity of settling the point in dispute by extended and correct observation. As far as theory is concerned, there appears to be quite as much to be said in favour of the administration of opiates in uterine hæmorrhage as there is against it.

The following facts may throw some light on the subject of the action of opium in repressing morbid discharges. I am led to refer to them on account of their very recent occurrence.

On the 18th instant, I visited the child of a poor woman living at 3, Spring Gardens, which had been affected some days with severe diarrhœa. I prescribed a mixture containing chalk and opium, with fomentation of the abdomen. On the evening of the second day of my attendance, as the child was screaming from pain, its mother was induced to administer a large dose of "Godfrey's cordial." Next morning I found the child in a state of coma, which, until this history of the cordial was reluctantly given, I attributed to that state of the brain which so often, after excessive serous or sanguineous discharges, simulates hydrocephalus. It was with some difficulty that the child was roused from this comatose condition, but, on being so, there was absolutely no disease. Not a vestige of the intestinal irritation remained. It had been at once extinguished by the large quantity of opium contained in the nostrum.

Three days after this occurrence I was requested to see another child which was in nearly the same condition. The discharges from the bowels were still more profuse, and already that condition of the brain was approaching which I had suspected in the other case. The practitioner who had first been consulted, had prescribed a laxative, and afterwards anodynes and absorbents; but without any check to the violence of the disease. There was a necessity for prompt and decided measures; and

not forgetting what I had so lately witnessed, I ordered an injection containing a larger quantity of laudanum than I might otherwise have ventured upon. The stupor that followed alarmed the parents; but the irritation of the bowels immediately ceased, and the recovery was as rapid as in the former instance.

The serous evacuations, in these cases, it may be said, were not passive, as the hæmorrhage is supposed to be after labour. That this hæmorrhage may not always be so, I have endeavoured to shew, and in corroboration of this opinion I may refer to the remarks on uterine hæmorrhage in Dr. Gooch's work "On the most important diseases of women."

Much of the danger of internal hæmorrhage arises from the difficulty of detecting it. Might not this be obviated in certain cases by keeping a wide elastic tube in the uterus through which the blood could escape? Would the irritation caused by such a tube be useful, according to the common opinion, in stimulating the womb to contraction, or, on the contrary, would the utility of it as an indicator of hæmorrhage be lessened by its tendency to increase this by irritation? It is better that the blood should escape on another account: though the distension by the retained effusion may occasionally prove a stimulus, and thus eventually cause contraction of the womb, it is more likely to increase the hæmorrhage by irritating the bleeding vessels, and enlarging their apertures.

A bladder attached to the end of such a tube, or distended with a current of iced water by means of smaller

tubes passing through it, would, like the introduction of the hand, give the stimulus of distension, while it would diminish the space to be filled, and afford a better means than any hitherto employed of applying cold directly to the part. In certain cases, too, this bladder would act as a tampon to the uterus, provided effectual compression were made at the same time externally by such a bandage as has been described. The steady pressure of cold water, without any intervening bladder, made on the principle of the means adverted to in page 10, and of force sufficient to prevent the effusion of blood, would probably, with the same external counter-pressure, act in the same way, and from the closeness and completeness of its application, still more effectually. Such expedients as these would, indeed, be rather complex, and their successful application would require a little more familiarity with the management of such apparatus than is generally possessed; but complexity and trouble, where simpler means are unavailing, will not deter the conscientious practitioner. He will listen to any suggestion which promises an addition to the very imperfect means he at present possesses of suppressing hæmorrhage—the principal source of danger in childbirth.

After these remarks on the application of cold, and before the conclusion of this tract, let me again entreat the reader's attention to the valuable remedy, in an extensive class of diseases, which is constituted by the union of cold, constantly applied, with the equable pressure of a fluid. A brief notice of a case in which I

have employed this combination of powerful means, since writing the remarks upon it in the preceding Essay, and in which I employed the same simple apparatus there described, will perhaps better illustrate its advantages than that formerly related. It was a severe injury of the elbow joint of a lady aged 67, residing in Russell Square. Notwithstanding the repeated application of leeches, warm fomentations, and subsequently (as giving more ease) cold saturnine lotions, the inflammation was extending, and disorganization of the joint was threatened. The membranous sleeve, consisting of two large bladders, one within the other, and covered with oiled silk, was now drawn over the arm, and water was admitted between its coats. Immediate ease was afforded to the patient; and in less than 30 hours, under a pressure of a column of water one foot high, and with a temperature between 65 and 70, a check was given to the inflammation, and the swelling was so much reduced as for the first time to admit of an accurate examination of the joint. The usual measures were now substituted as being more convenient, and a persistence in their use would probably have been sufficient, but in accordance with the patient's wish, who experienced more relief from this than the other means, the fluid pressure was twice again resumed for short periods during the cure.

The importance of this subject will be sufficient apology for again adverting to it. Every practitioner has seen enough of the effect of cold, to know that when *properly* applied it is a valuable preventive and

remedy of disease; he is equally conversant with the beneficial effects of pressure when *properly* applied; and he knows the mischief which so frequently proceeds, or the uselessness, at least, from the improper application of both the one and the other. He will therefore be prepared to admit that, could these two remedies be made perfect and be united in their operation, the medical art is probably not susceptible of many greater improvements, so extensive is the class of diseases to which they would, in this combination, be applicable. The plan which I have described, is offered as an approximation to this very desirable object.

There will be no impediment from the complexity of the apparatus to its general use: a simple though perishable form, affording the advantage of moisture, with the cold and pressure, has been described; the same kind of apparatus made of thin mackintosh cloth, and with collars for the attachment of the membranous sleeve of a size sufficient to pass over the larger joints, would serve for many cases in succession. Only one long tube is requisite; the waste pipe may be little more than a small stop-cock or plug, permitting the heated water gradually to escape from the upper part of the bladder. A wide tube, allowing a descending and an ascending current of water might, perhaps, alone answer in certain cases. If the object be to apply cold and pressure to only a small surface, a bladder of the appropriate dimensions tied to the end of a pewter syphon and confined to this surface by a bandage, or piece of cloth pinned loosely

round the body or limb, will answer the purpose, and constitute an apparatus which may be constructed by the surgeon himself in a few minutes.

In the first case in which this method was used, a case of diseased ankle, the bladder was kept closely applied by a light iron cage, which, fitting the limb above and below, so as to keep the joint immovable* was wider than the limb in the intervening space. This frame was made to fit accurately by means of a plaster cast of the limb.—When fluid pressure is made on the upper part of limbs, it will generally be proper to apply at the same time a common bandage to the lower part. In applying cold, care must be taken to avoid a sudden transition of temperature, both at the beginning and at the end of the process. The reason of these directions is obvious.

The class of diseases to which cold and pressure, either separately or in combination are applicable, is too well known to require a detailed enumeration. The following may, however, be noticed.

I have just mentioned their employment in a case of diseased joint. Although the worst prognosis had been given by practitioners of great experience in the treatment of these affections in the large London Hospitals, the recovery was complete. The gratification which I experienced from the success of the first trial of these combined means, was much increased by the circumstance of the patient being my own son. It was while

* "Optimum medicamentum quies est."—CELSUS. Lib. V. cap. xxvi

anxiously considering the measures which appeared most conducive to his recovery, that the ideas of reducing the temperature of a part by a confined current of water, and of combining this with equal pressure, occurred to me. Perfect quietude, equal pressure, and the regulation of temperature, are three great requisites in the local treatment of chronic diseases of the joints, whether they originate from the synovial membrane, the cartilages, or the extremities of the bones.

The great improvement, of late years, in the treatment of diseased joints has proceeded principally, as was proved by the success of Mr. Scott's method, from the endeavour that has been made to keep the joint in a state of absolute rest—a point that was well secured in the above case by the light frame of wire-work enclosing the limb, which, by opening on hinges, permitted the sores to be dressed without the slightest motion of the part. If the other requisite points adverted to, were also secured, as they might be by the use of the means which I have recommended, and the measures adopted which are essential for improving the general health, there would, I am persuaded, be a still greater saving not only of limbs, but also of lives, which are now lost, either from vain attempts to save the limb or in consequence of its amputation; while such cases as recover under the present treatment would be cured more speedily and with less suffering to the patient. Abstraction of heat should often supersede the abstraction of blood, or counter-irritation, particularly in scrofulous cases; but in supporting the parts in the more advanced stages, the

pressure of air may, unless acute inflammation should recur, be advantageously substituted for that of water.

As a preventive of inflammation as well as a cure, after injuries of the joints or fractures, or after contusions or wounds, these measures are obviously applicable.

I have used them in various cases of inflamed glands with equal satisfaction. The employment of fluid pressure in scirrhus tumours of the breast, has already been mentioned.

In ophthalmia, continued cold is generally the most grateful application. In a case lately under my care, after employing cold in this manner for some time as a sedative, I applied it in an interrupted manner, so as to stimulate and give tone by reaction; for cold, according to the manner in which it is used, will fulfil both of these purposes. We have a familiar illustration of this in the common practice of pouring cold water on joints recovering from inflammation caused by a sprain.

These measures singly or in combination are applicable to external inflammation generally; to burns, either with or without some intervening application; and to irritable or inflammatory ulcers.

Cold has long been employed in congestion and inflammation of the brain or its membranes; but in no instance has the mode of applying it been more imperfect. Considering how frequently fevers of all descriptions prove fatal in consequence of affections of the brain, it is extraordinary that, after the universal consent to the soundness of the indication, so little care should have been taken to carry it into effect. It might have been

expected that those, at least, who think that fever is essentially cerebral inflammation would have made a study of this. A bladder or thin bag of macintosh cloth, covering the head like a double nightcap, and having two tubes inserted in its outer part for the constant admission and escape of the refrigerating water, constitutes the most convenient apparatus which I have employed. In order to be kept close to the head, the bladder may be tied to a narrow band of metal large enough to slip over the head. This skull-cap can be turned when the patient alters his position in bed, so as to keep the opening by which the water escapes at its upper part; and care must be taken, that it may escape more freely than it enters, in order to prevent the bladder from becoming distended.

Cold has not been so frequently employed as it might have been with benefit, in other kinds of internal inflammation, even in the imperfect mode in which it has hitherto been used. As respects the diseases of the chest, some favourable reports have lately been given of its use in allaying the inflammation which co-exists with other morbid conditions in tubercular consumption;* and I have, myself, witnessed considerable relief from cautiously reducing the temperature in these cases. In the

* See papers on the application of a cold lotion in phtthisis and other chronic affections of the chest, by Dr. Marshall Hall, in the Medical Gazette. Vols. V. and XIII. In these a reference is made to the beneficial use which Dr. Sutton (see his Essays on Delirium Tremens, &c.) appears to have made of the cold lotion in inflammatory affections of the larger cavities, but particularly

earlier stages of the disease it may produce more permanent advantage.—Cold has been more frequently applied to the stomach by French practitioners than it has in this country, from their opinion of the frequent occurrence and important character of inflammatory conditions of the gastro-intestinal mucous membrane.

Other applications which I have made of these measures were adverted to in the preceding essay. The practitioner will find that, by improving the modes of applying cold and pressure, by rendering them more efficient and avoiding their dangers, he will considerably enlarge their several spheres of utility; and that, by combining the improved modes in the manner which I have proposed, many diseases will yield to their united agency which would resist either when employed alone.

of the abdomen. Had the numerous cases which he details in proof of this been reported as I have recommended in the preceding Essay, more attention would probably have been given to the subject.

THE END.

