

**A treatise on midwifery : developing new principles which tend materially to lessen the sufferings of the patient and shorten the duration of labour / by John Power.**

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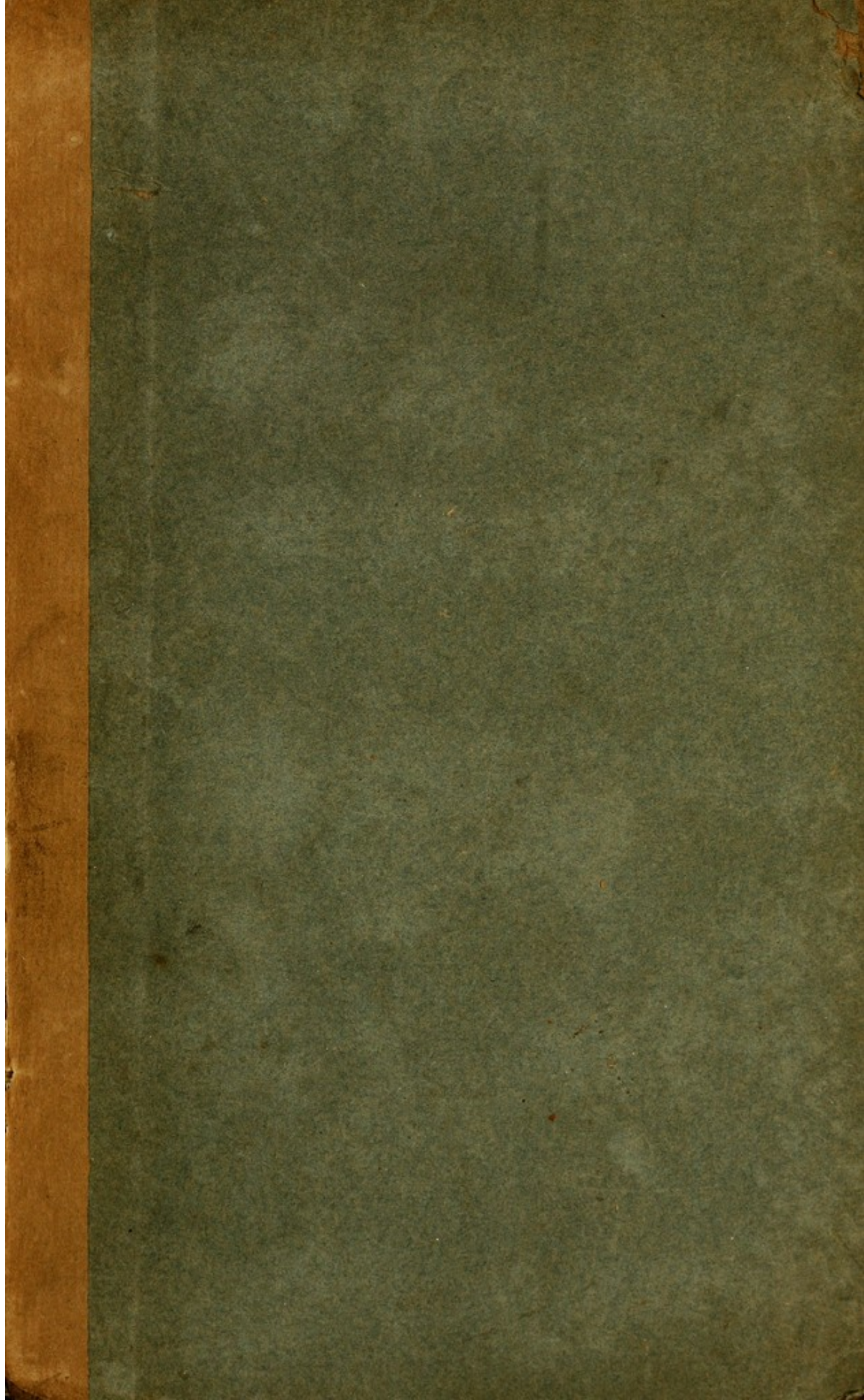
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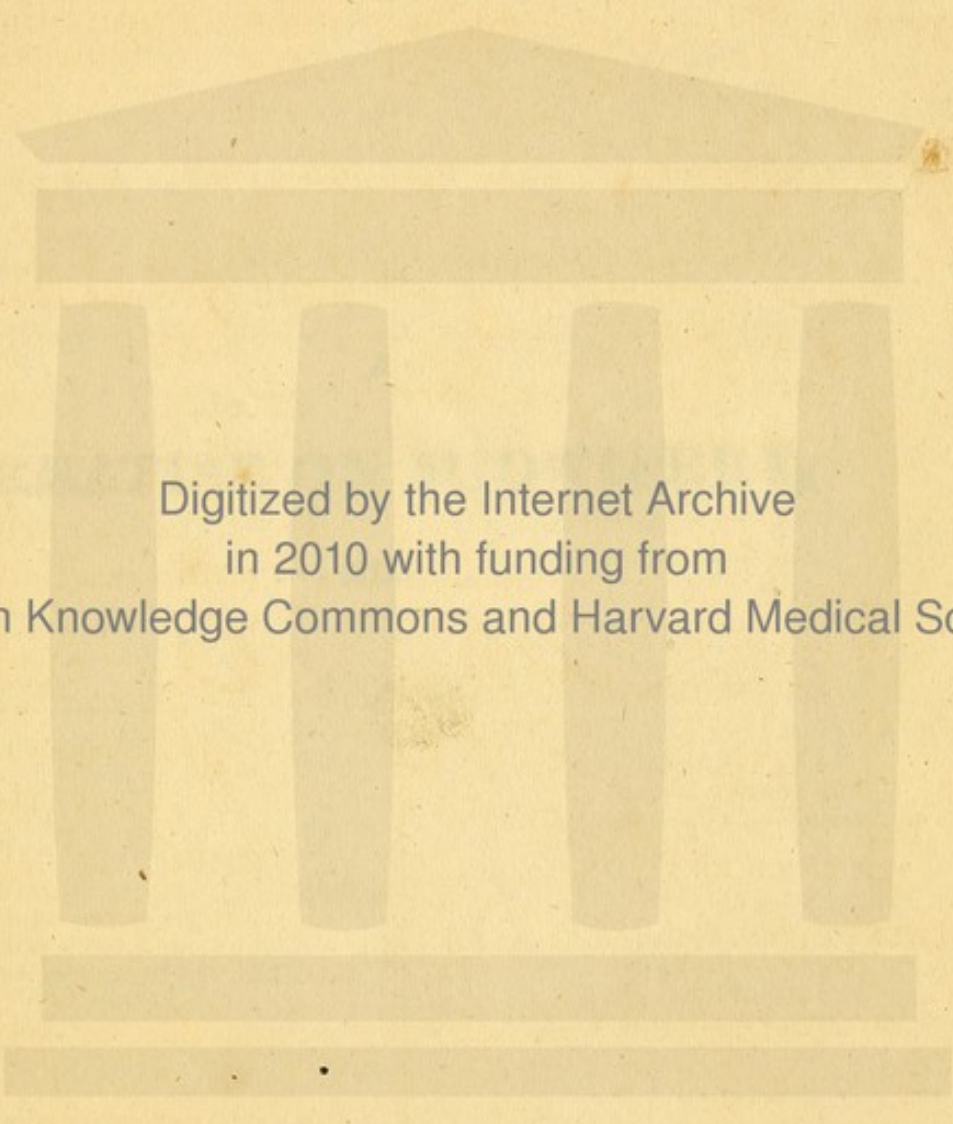


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THEATRE DE L'OPERA

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# **TREATISE ON MIDWIFERY,**

**ETC.**



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G. Woodfall, Printer, Angel Court, Skinner Street, London.

A  
TREATISE ON MIDWIFERY;

DEVELOPING

NEW PRINCIPLES,

WHICH TEND MATERIALLY

TO LESSEN THE SUFFERINGS OF THE PATIENT,

AND

SHORTEN THE DURATION OF LABOUR.

---

*The Second Edition,*

CONSIDERABLY IMPROVED, AND ILLUSTRATED WITH NUMEROUS  
CASES;

COMPRISING, ALSO,

ADDITIONAL OBSERVATIONS ON PREMATURE EXPULSION OF THE  
OVUM, AND RETENTION OF THE PLACENTA.

---

*BY JOHN POWER, M.D.*

PHYSICIAN ACCOUCHEUR TO THE NEW WESTMINSTER LYING-IN CHARITY, AND TO  
THE DORCAS SOCIETY, MEMBER OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH,  
AND LECTURER ON MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN,  
ETC. ETC.

---

"Juno Lucina fer opem!"

TER. ADELPH.

"Τῶν δ' ὡς λόγου μόνου ζυμπεραινομένων μὴ εἴη ἱπαύρασθαι, τῶν δὲ ὡς ἔργου ἐνδείξιος."

"It is not possible to derive advantage from those conclusions which are drawn  
from reasoning only, but from those which are demonstrated by practice."

HIPPOCRAT. PRECEPT.

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LONDON:

PRINTED FOR W. SIMPKIN AND R. MARSHALL, STATIONERS'-HALL  
COURT, LUDGATE STREET.

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1823.



# THEATRE ON MIDWINTER

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# INTRODUCTION

TO

THE SECOND EDITION.

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It cannot but be deemed singular that, hitherto, the physiological and pathological researches into the nature of parturition, should have gone little further than to ascertain that the parturient efforts consist of contractions of fibres supposed to be muscular ; without any attempts having been made to trace the various deviations or modifications to which such physical powers are liable ; or, at least, to refer to them, in a marked manner, the differences or difficulties which the process of labour is so constantly making manifest.

The importance of a more perfect know-



ledge of the parturient principle, and its manner of operating, did not indeed escape the penetrating mind of the late Dr. Denman; he expressly states, that it would probably be of infinite use in practice; he divides the causes of uterine action into three kinds, the genuine, the adventitious, and the sympathetic; and considers the two last as frequent sources of deviation from the ordinary course of labour. He then refers the difficulties attendant upon parturition to either the imperfect action of the uterus, or the resistance made to that action; and concludes by inculcating that the chief objects of midwifery were, to assist that action, and remove the impediments to its effects\*.

An attentive consideration of Dr. Denman's work will, notwithstanding, render it fully evident that he did not, in any efficient manner, prosecute an inquiry into the pathological indications which had thus presented them-

\* Denman, Chap. VI., Sect. xi., 5th edit. 4to.



selves. On the contrary, neglecting the investigation of those genuine, adventitious, and sympathetic causes and their effects, he proceeds upon the favourite and popular, but, as the author hopes to demonstrate, fallacious opinion, that pain is an essential and constituent part of labour, synonymous, or nearly so, with uterine action, and that no pain depending on labour is without its effect in promoting the accomplishment of the process\*.

The author of the present Treatise is induced to state the circumstances which originally led him to regard the above generally received principles of midwifery as unsatisfactory, and to attempt what he hopes will be deemed improvements in the theory and practice of the art.

Having concluded his medical studies in the schools of London, and at the University of Edinburgh, he entered, in the year 1807,

\* Denman, Chap. IX., Sect. iii., 5th edit. 4to.



into general practice, under circumstances which submitted to his care or observation, a majority of the more important cases of midwifery which occurred within a considerable district.

At this time he entertained the prevalent opinion that the most essential characteristic of labour was pain ; that the whole of what are usually termed "*labour pains*," consisted of, or were more immediately connected with, uterine action ; that the effects of these, in promoting the progress of the case, were proportionate to their violence, and the distress with which they were accompanied ; and that, as Dr. Denman expresses it, "no person in labour ever had a pain which was in vain, —but every pain must have its use."\*

He was, however, soon led to notice that the most violent pains were frequently unattended by any *contraction* of the uterus ; a point which he inferred from finding that

\* Denman, Chap. IX., Sect. iii., 5th edit. 4to.



organ entirely relaxed on placing his hand upon the abdomen of the patient ; and, what was remarkable, he found that the more severe and acute these paroxysms were, the more unfavourable was the state of uterine action, and the less propitious the progress of the case.

Having thus acquired what appeared to him new and highly interesting views of the nature of a variety of cases of difficult and protracted labour, it became a point of importance to ascertain the practical advantages which might be derived from them. He was convinced that many, at least of the more violent pains which accompany the process of labour, were extra-uterine, and did not contribute either directly or indirectly to the dilatation of parts, or expulsion of the child, and that they consisted of painful affections, generally of a spasmodic nature, without the least necessary connection with the contracting fibres of the uterus.

The obvious practical inferences were,



that their removal would be attended with advantage, as well with reference to the comfort of the patient, as to the establishment of the proper actions of the uterus ; and that these objects would be best secured by treating such pains upon the general principle of relieving pain and spasmodic action under other circumstances.

The result exceeded his most sanguine expectations ; protracted cases of labour, and that dread of meeting with them, which had been implanted in his mind by the expectation that their occurrence would constitute the most disagreeable and perplexing part of his professional duties, have vanished under his practice. He has known the most acute sufferings alleviated with a certainty and simplicity previously unthought of in midwifery, and the pain, in many instances, rendered comparatively trivial, or entirely removed ; while the case, which previously had been advancing slowly or not at all, has terminated



with a rapidity almost miraculous. In addition, it may be stated, that after this treatment, the recovery of the patient has been unusually quick ; and in no instance, has any material puerperal illness succeeded, insomuch that, with the exception of an opiate, or an aperient, medical attention has been almost unnecessary.

Under a full conviction of the importance of his observations, the Author felt it a matter of duty to make them known to the world. The very flattering notice which was instantly taken of them by the more eminent periodical publications of the day\*, appeared to confirm his sanguine expectations, that he had conferred an essential benefit on society; at all events, he did not doubt but that the attention of the Profession would thereby be directed into a new channel of investigation, leading eventually to happy results. So far

\* Vide Med. Phys. Journ., Apr. and May, 1819. Med. Repos., May, 1819. Med. Chir. Journ., Oct., 1819.



his conviction remains unaltered, and he anticipates that the time will arrive when we shall be able to controul and regulate the actions of labour, with as much certainty as we can influence any other animal function.

A second Edition of the present Work has, in great measure, been rendered necessary by the sale of the original impression. The Author has further been induced to commit it again to the press, that it might serve as a text book to his lectures ; and he also hopes, that in an improved and more perfect form, it will not be unacceptable to the Profession generally. In many respects, it will be found to differ materially from the previous edition, both with respect to its matter and arrangement. Superfluities have been ejected ; the more important theoretical and doctrinal points revised and enlarged upon ; and the whole is illustrated by numerous additional cases, several of which having been furnished by professional friends,



will serve as confirmations of the correctness of the peculiar views which are inculcated.

It remains for the Author to express his consciousness of the numerous imperfections with which his Work abounds, and to entreat for it the candid and liberal indulgence of his professional readers. For obtruding it upon their notice, he trusts that he shall have credit given him for having been actuated by the purest motives: he likewise hopes he may be allowed to anticipate, that although his attempt will be far, indeed, from raising the obstetric art to a state of perfection, it will nevertheless be deemed to have contributed something to its improvement, and, consequently, not to deserve the fate prescribed by the Horatian rule,

“ Si paulum a summo decessit, vergit ad imum.”

1, *Little George Street, Westminster,*  
23rd September, 1823.





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• TREATISE ON MIDWIFERY.

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“ Quamvis enim iter novum et arduum sit, naturam scrutando potiùs ex rebus istis, quàm libros evolvendo ex philosophorum placitis erudiri; illud tamen ad naturalis philosophiæ arcana apertiùs, minùsque in fraudem ducens agnoscendum est—Natura ipsa adeunda est, et semita, quam nobis monstrat, insistendum.”

*Harveii de Generat. Animal. Præfat.*

“ Notwithstanding it may prove a novel and arduous undertaking to investigate nature by a developement of the facts she presents, rather than by grounding our knowledge upon the opinions advanced in the writings of philosophers; yet it must be admitted that such method is less liable to error, and more likely to disclose the secrets of natural philosophy—Nature herself must be penetrated into, and the path which she indicates, pursued.

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# ERRATA.

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Page 1, line 6, *dele to.*

17, — 1, *for diameter, read diameters.*

34, — 17, *for unpropitious, read unpropitious.*

55, — 9, *for homogenous, read homogeneous.*

219, note <sup>e</sup>, *for acutaè, read acutè.*

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# TREATISE ON MIDWIFERY,

ETC.

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## CHAPTER I.

### THE PHYSIOLOGY OF PARTURITION.

PARTURITION comprises that series of actions by which the contents of the impregnated uterus are expelled.

It takes place naturally when the fœtus is sufficiently matured to be capable of existing independent of to the maternal system. This maturity is found at the end of about forty weeks from the time of conception.

The expulsion of the fœtus is regulated by fixed principles or laws, which, when they operate without perversion or interruption, produce that series of phenomena which may be termed natural labour. Into the nature of these principles, it is proposed to institute an attentive investigation.

B



## SECTION I.

## ON THE ACTIONS PREPARATORY TO LABOUR.

BEFORE natural labour commences, important changes are found to take place in the uterine system, which are to be considered as preparatory to it.

In the first place, the cervix uteri undergoes a remarkable alteration. Before the end of the fifth month of pregnancy this part has experienced little change in consequence of impregnation. The matter of growth, indeed, does not appear to have been derived from the cervix, but from the body of the uterus, and it is probable that it continues to be thence derived throughout the whole period of maturation of the foetus. After the fifth month, however, the length of the cervix gradually and progressively diminishes, until, before labour comes on, it is entirely obliterated and lost.

This obliteration of the cervix depends upon some law with which we are unacquainted. It does not arise from the distention of foetal growth going on within the uterine cavity, since it has been ascertained that distention at no time exists, the uterus being never full of its contents, except, indeed, in undergoing contraction, but lying in a relaxed state around them, like a bladder partially filled with water.



The following is the ratio which the decrement of the cervix observes :

At the end of the fifth month, this part is nearly in its original state ; at the end of the sixth month, it is a fourth part diminished ; at the end of the seventh month, it is half gone ; in another month it has lost three-fourths of its length ; and at the end of the ninth month, it is wholly obliterated. The womb now forms a regular oval body ; the os uteri, or orifice of the womb, constitutes its lower or more depending portion ; and the presenting part of its contents, which previously had been kept at a determinate distance from that orifice, by the intervention of the cervix, is admitted into close approximation with it.

Another remarkable preparatory action is, that for some days before labour takes place, the gravid womb lessens in its general bulk, and sinks lower in the abdomen, so as to occupy nearly the same position as it had done a month or six weeks previously. When this takes place, the tumor itself is found more compact, and the motions of the child are restrained, so as to be less sensibly felt by the mother.

This diminution in the bulk of the uterus arises from a state of contraction going forward in its fibres, by which they are brought to close upon and lessen the uterine cavity, and to embrace more firmly its contents ; the tension thus given is some-



times sufficient to rupture the membranes and expel the liquor amnii. It resembles what is, with respect to other muscles, termed tone or contractility, and, as in them, is without doubt dependent upon communications of the organ with the cerebral system.

It is distinct, however, from that contraction which takes place during labour, in the form of paroxysms, and which resembles common muscular motion. It is more permanent in its kind, not coming on by paroxysms, nor intermitting by intervals; it may, therefore, be distinguished as the *permanent*, or as not being accompanied by sensation, as the *insensible contraction* of the uterus. The coming on of the insensible contraction is an evidence that the uterus is ready to assume its active and parturient contraction, the excitement of which, as will hereafter be shown, it promotes by pressing down the presenting part more firmly upon the orifice of the womb; at the same time, it tends to complete the obliteration of the cervix, while it is probable that the obliteration of the cervix contributes to excite the insensible contraction; so that these actions may, in some measure, be regarded as cause and effect to each other.

An immediate effect of the obliteration of the cervix and insensible contraction combined, is that the gelatinous plug, which seals up the uterine orifice throughout pregnancy, is detached, so that it



passes away, generally accompanied by an increased mucous secretion from the part, occasioning what women usually term "the shews," and which they consider as a certain indication of labour being about to commence.



## SECTION II.

## ON THE PARTURIENT ACTIONS.

AFTER the preparatory actions are completed, parturition, or labour (terms generally used synonymously), commences.

The muscular fibres of the uterus fall into powerful action, contracting upon the cavity, and pressing its contents with very considerable force. If the uterus was a regular sac, the whole sides or fibres of which were of equal strength, this contraction would press the contents towards their common centre, and no tendency to expulsion would be occasioned; but if any inequality or want in the power or number of these fibres be supposed to exist, it is evident that a tendency to deviation from the common centre towards such weaker part will be given, which, yielding to the impulse, would bulge out, open, and at length allow the contained matters to escape through that opening. This is literally the case with respect to the uterus; it is less fibrous towards its lower part, and is possessed, at this part, of an elastic yielding orifice, which, giving way to the pressure applied to it, opens or dilates under that pressure, and allows thereby the uterine contents to be expelled.

The above-described contraction of the uterine



fibres constitutes what is termed a *paroxysm* of uterine action, or a natural *labour-pain*. If this paroxysm fails to expel the contents of the uterus, after continuing a greater or lesser time, it goes off, and is succeeded by a state of relaxation, or, as it is termed, *an interval*, during which the uterine fibres repose and recover from the exhaustion produced by the previous effort. After this period of repose, the paroxysm, accompanied by its various phenomena, repeats; and these repetitions continue to recur until the whole contents of the uterus are driven out of its cavity.

It is of importance to notice the various effects of the above paroxysms, and particularly those more immediately connected with the final result, the expulsion of the child and its appendages. These effects may be detected,

First : by examining the uterus with a hand placed upon the abdomen of the patient.

The tumour of the gravid uterus, as felt through the sides of the belly, may be termed the *utero-abdominal tumour*, to distinguish it from one felt within the pelvic cavity, on making an examination per vaginam, and which will be designated the *utero-vaginal tumour*. If the hand is applied to the belly immediately before a paroxysm comes on, the utero-abdominal tumour is found in a soft and flaccid state ; parts of the child may indeed be felt, presenting harder masses, but the general sensation



is that of softness and compressibility. As the paroxysm comes on, this compressibility gradually goes off, and is exchanged for tension and contraction, until at length the tumour becomes firm and incompressible, so as to be rendered, emphatically speaking, hard and solid as a board. When the paroxysm subsides, the contraction and tension lessen, and at length entirely go off, while the softness and flaccidity return.

The above mode of examination affords a very delicate and excellent mode of trying a pain. The information it gives is important, and uniformly correct; for genuine parturient action is always accompanied by this change from flaccidity to tension, while false or unprofitable action is seldom co-existent with it, its presence evincing the existence, and its absence the want of the true energetic uterine principle, by which the most distressing cases of parturition are often, for a length of time, totally unaccompanied. It is true that this mode of examination will not indicate the state of presentation, nor the degree of progress; but when those points have been ascertained to be favourable, the necessity for frequent examination per vaginam, which is generally distressing to female delicacy, will be obviated by its use; while the information it is capable of affording may even be acquired through the dress of the patient, without trouble or appearance of interference.



Secondly : the effects of the paroxysm may be detected by examination, *per vaginam*.

On introducing the finger before the first paroxysm commences, if the child presents naturally, its head will be felt through the anterior parts of the womb, lying in contact with or near to the os uteri, which, at this time, somewhat resembles a small ring or circle. The whole thus forms the utero-vaginal tumour before alluded to, and is detected in so relaxed a state that it may be moved about with the finger at pleasure.

As soon as the paroxysm comes on, the utero-vaginal tumour is perceived to become gradually more and more tense ; the previously loose and relaxed orifice is rendered firm and fixed ; the internal rim of it more circular ; and the bag of membranes distended with liquor amnii ; or, if this is broken, the head of the child is pressed upon the rim with considerable force. It consequently becomes more dilated, or, at least, a tendency to dilatation is given it.

After the mouth of the womb has, in this manner, been opened, a continuation of the same action dilates in succession the vagina and os externum, and eventually expels through them the contents of the uterus. Whenever any individual paroxysm ceases, the tension and pressure, which it has given rise to, also cease, and the previous relaxation of the utero-vaginal tumour returns.



There are some other circumstances connected with the paroxysm, which it is important to notice, and in particular the sensations which accompany it.

The most remarkable feature in this respect, is the feeling of forcing or bearing down within the pelvis, and which may be termed the *sensation of expulsive nisus*. It is very similar to what accompanies the natural evacuations from the rectum and bladder, but more extensive in degree, because the parts concerned require a greater impulse to open them, in consequence of their not being originally constituted of a diameter so well proportioned to the bulk of the expelled substance.

The above bearing-down sensation is not seated in the body of the uterus itself, but affects the various parts of the passage conducting from its cavity, as the os uteri, the vagina, the perineum, the os externum, or parts adjoining to these, and, of course, will vary in its degree and character, according to the violence of uterine pressure and the nature and sensibility of the parts in question. It is occasionally, if not generally, combined with more or less contraction of the abdominal muscles, which are thrown into action either in a voluntary or involuntary manner, as if with a view of assisting the expulsive nisus of the uterus.

This action of the abdominal muscles has generally been regarded as a natural auxiliary to the



action of the uterus in labour ; and upon the same principle, as it has been supposed, to assist the urinary and fœcal evacuations, but I doubt whether in any of these instances, the opinion is correct ; in the last, at least, I am disposed to consider the connexion an associated action originally established in consequence of these muscles having been called into play to assist the muscles of the rectum under states of constipation, and afterward continued, and occasionally substituted, for them. Such an association, having been once formed, would readily be extended to the urinary organ, and subsequently exerted in labour from mere analogy.

Notwithstanding the very prevalent opinion amongst women, with respect to the advantage of voluntarily straining with the abdominal muscles in labour, their exertion is more likely to be injurious, since we know that two distinct actions are very incompatible with each other, and that, consequently, the forcible exertion of the voluntary organs in question, during labour, will tend to weaken the proper action of the involuntary organ, the uterus ; independent of such ill effects, the exertion and pressure, which their action occasions, is not unlikely to weaken the cellular tissues that support the various pelvic viscera in their due situations, and to produce subsequent prolapsus. These opinions will be well illustrated by the following case.



## CASE I.

I WAS summoned December 2, 1822, by Mr. Prowse, a gentleman attending my class, to Mrs. Turner, aged nineteen, in labour with her first child. The head had been long lying upon the perineum, and, notwithstanding the pains were violent and almost incessant, and each one put the above part to a degree on the stretch, yet no actual progress appeared to be making. I soon noticed that the whole impulse was exerted as it were by fits and starts, accompanied by a most forcible straining of the abdominal muscles, the head receding and the perineum becoming relaxed as soon as this effort was discontinued. I was satisfied that no real uterine action was present, but that a spurious and quite inadequate pressure was made by the muscles of the belly; and this opinion was confirmed by finding, on examining the utero-abdominal tumour, that no tension existed, except in the abdominal muscles themselves, the uterine viscus, during this straining effort, being entirely relaxed. The patient afterwards told me, that she had been led by her friends to believe that this voluntary exertion was necessary for her delivery. I desired her to intermit the straining, and, at the same time, kept a continued friction or support with my hands, upon the abdominal muscles; in about half an hour, a paroxysm of correct uterine action came on, and expelled the child.



The recovery of this woman was greatly protracted by both hæmorrhoids and prolapsus uteri, the undoubted consequences of the above improper exertion of the abdominal muscles.

It has been universally believed that pain accompanying the uterine paroxysm, is not only the most characteristic symptom, but essential to the process, of human parturition. This belief has so far interwoven itself with the opinions and experience of mankind, that it appears like an absurd infraction of an established principle, to attempt to impugn it. I propose, however, to show, that the paroxysms of uterine action are naturally and properly exempt from pain; and this it will be attempted to prove, by considering

First, the analogies presented by the parturition of other animals;

Secondly, by the structure and functions of the uterine organs;

Thirdly, by facts and observations.

First. Those writers who have advocated the necessary connection of pain with human parturition, admit that the lower animals are exempt from it. This distinction they have endeavoured to account for from peculiarities observable in the structures employed in the process. "Human parturition, from the mechanism of parts concerned, must be



difficult; and that of animals, from its nature also, is, and must be easy".\*

It was imagined that the form of the human pelvis created this difficulty, in consequence of the direction which the foetus has to take in its passage through that structure being a curved one, whereas, in other animals, it constitutes a straight and horizontal line†. It is well known, however, with what ease a moving body will change, from a straight into a curved direction, when impressed by another body acting obliquely upon it. In short, if moving in a cylinder, its velocity will be little impeded, since although more friction will be occasioned at the circumference, proportionably less will be experienced toward the centre of motion.

If this structure gave rise to a necessary difficulty, as it is common to every woman, all ought, without an exception, to experience that difficulty; this, however, is not the case: and, on the same principle, by antithetic reasoning, other animals ought to be exempt from certain difficulties to which women are obnoxious, which it will be seen, is, also, not the case. It is probable that the structure in question is not intended to influence parturition, but to counteract the gravitation of the contents of the abdomen and pelvis downwards, and

\* London Practice of Midwifery, p. 124.

† See Osborne on Laborious Parturition.



which, in the erect position of the human body, without such contrivance, would have risked their extrusion, or been incompatible with the tone and welfare of the soft parts; and hence, such structure is common to both sexes.

The opinion of an essential difference between the parturient principles of the human and inferior animals, may be shown, from other considerations, to be founded in error; for the lower animals are liable, under circumstances, to suffer pain and difficulty in bringing forth their young, and particularly when civilized or domesticated. Breeders of cattle are acquainted with this fact, for experience has shown them that the forest varieties of sheep are much safer in yeanning than the more cultivated breeds, in which individuals are not unfrequently lost in the process. It will hereafter be shown that the difficulty of human parturition is chiefly to be attributed to the influence of civilization.

I have known two instances where cats have suffered intense pain in parturition, one of them dying in consequence.

Admitting, therefore, that no essential difference necessarily exists between the parturition of the human female, and other animals; and that the latter do not naturally experience pain in the process; analogy is strongly in favour of the opinion that the former are also naturally exempt from such sensations.



Secondly. The arguments to be derived from considering the structure and functions of the organs employed in human parturition are still more powerful.

The combination of pain with labour has been attributed to mechanical opposition to uterine action, arising either from want of space in the bony structure, or unyielding principle of the soft parts.

That such circumstances should affect parturition when they arise from morbid or disorganized structure cannot be disputed; it is proposed, however, to show that, under natural and healthy states, no necessary opposition will arise sufficient to occasion the pain in question.

In the first place, the space afforded by the apertures of the pelvis is so ample, that no mechanical difficulty need originate from such source. This is proved by admeasurement; for instance, the longest diameter of the upper aperture of a standard pelvis will measure five inches and a half, the shortest one, four inches and a half; the longest diameter of the lower aperture, five inches, while the shorter diameter is better than four inches. The long diameter of an average-sized foetal head, from the forehead to the occiput, only measures four inches, while the short diameter, from the protuberant part of one parietal bone to the other, scarcely measures three inches. As these always



correspond with the correspondent diameter of the pelvis, a comparison of one with the other clearly shows, that most sufficient space is afforded for the passage of the head in labour, nay, more than sufficient space; thus, with respect to the lower and more contracted aperture, we have the long diameter of the child's head, equal to four inches, applied to a space of five inches, and a shorter diameter of three inches to a correspondent space of four inches. In short, a considerable unfavourable deviation in these proportions may exist, without the slightest mechanical opposition thence arising.

It has also been attempted to explain the occurrence of pain in labour, by supposing that the soft parts were constructed with such degree of rigidity, as to be incapable of yielding and dilating under the uterine impulse, without pain being produced by it. This cause undoubtedly sometimes gives occasion to pain, particularly when a morbid state of the parts exists; but if it happened under healthy states, no woman, when in health, could ever escape it, and yet we shall find that in many, and even in whole nations, parturition is entirely exempt from pain.

That too much influence has been attributed to rigidity of parts may be inferred from a reference to the writings of some of our more eminent obstetricians. Dr. Burns, after detailing the ef-



fects of a rigid os uteri, adds, "But although these observations may assist the prognosis, yet we never can form an opinion perfectly correct; for it is wonderful how soon a state of the os uteri apparently unfavourable may be exchanged for one very much the reverse, and the labour accomplished with unexpected celerity. Our prognosis, therefore, should be very guarded. When the pains produce little apparent effect on the os uteri, when they are slight and few, and when the orifice of the os uteri is hard and rigid, or thick and puckered during a pain, there is much ground to expect the labour may be lingering; on the other hand, when the pains are brisk, and the os uteri thin and soft, we may expect a more speedy delivery, but, as in the first case, the unfavourable state of the os uteri may be unexpectedly removed, so in the second, the pains may become suspended or irregular, and disappoint our hopes \*."

Thus we find that an apparently rigid os uteri will prove, by dilating freely, that it was really not a rigid os uteri; while, on the contrary, a most favourable one in appearance shall become implicated with symptoms and protraction, exactly similar to what have been attributed to states of the greatest rigidity. It is fair to infer that these phenomena,

\* Burn's Principles of Midwifery, B. 2, c. 2, s. 3.



which Dr. Burns himself admits are wonderful, *i. e.* inexplicable on the commonly received principle of rigidity, must depend upon some other and distinct cause. I hope, hereafter, to prove that such distinct cause does exist.

The opinions above advanced with respect to a rigid os uteri, may be extended to rigidity affecting other parts of the passage, as the vagina, perineum, and external parts. The whole are intended by nature to dilate, and constituted of dilatable or elastic materials for that purpose. That they are naturally capable of dilating freely and with little distress, is proved by the ease with which women, existing under a state of nature, go through their labours.

Additional arguments may be derived from the structure and functions of the uterus. This organ is enveloped in the same general peritoneal membrane; and supplied with vital power by the same system of nerves as is common to the whole abdominal viscera, viz. the spinal and sympathetic nerves.

All the other abdominal viscera are admitted to be involuntary organs, and, when in health, to discharge their respective functions without pain, or even sensation. The fairest analogy would lead to an inference that the uterus must be subjected to similar laws, and that when acting naturally it is an involuntary and insensible organ. Nor is this



analogy unsupported by fact, for what woman can, by the power of volition, influence her labour?

That the uterus is capable of becoming the seat of pain is no objection to the present view, for it is well known that all involuntary organs, as the heart, and various parts of the chylopoietic system, are brought by disease to suffer pain; and, in like manner, a derangement in the functions of the uterus may introduce unnatural and painful sensations into it.

Thirdly. That the parturient action of the uterus is not necessarily complicated with pain, is proved by various facts and observations.

Although labour is so commonly attended by pain, women occasionally undergo the process without it. This ever was, still is, and probably ever will be the case in countries remote from the habits and effects of civilized life \*. Instances occasionally, however, occur in civilized life, where no pain has been experienced, the action being accompanied only by the simple nusus of expulsion. Women are sometimes thus delivered by a single paroxysm, and this even during sleep. I have personally witnessed various cases where women have been

\* See Sir J. Chardins's Travels in Persia; Winterbotham's Account of the Native Africans; Sparmann's and Campbell's Travels at the Cape of Good Hope; Bruce's Travels in Abyssinia; Mariner's Tonga Islands; Nicholas's New Zealand; Crantz's Greenland; Long's Travels in America, &c., &c., &c.



brought to bed with so little suffering, that they have denied experiencing pain ; and in some of them the exemption has been the result of a mode of treatment which will be hereafter detailed. It is remarkable that the subjects of some of these cases, in both previous and subsequent labours, suffered most intensely ; so that the facility in one instance, and the difficulty in the other, could not have been connected with mechanical structure.

The following case may be worth detailing, as illustrative of the above points.

#### CASE II.

AFTER a miserable ride of five miles through nearly impassable roads, on a dark, cold, and snowy morning, I arrived at the residence of Mrs. K., about six o'clock, December 25, 1813. On being ushered into my patient's presence, I was surprised at being informed that she was not yet in labour, but, in consequence of circumstances, expecting it would shortly take place, had sent for me to be in readiness, as she was always remarkably quick. I could not avoid feeling vexed at having been hurried from my bed, with so little apparent necessity, on so inclement a morning, as well as at the prospect of detention. It was evident, however, that I was expected to await the event. After breakfast, no appearance of the desired change having shown itself, I sought amusement in the



perusal of a volume of Josephus, which was lying in a sitting room below. While thus occupied, at about eleven o'clock, I was suddenly roused by some one beating the floor above with much violence, and at the same time heard my name vociferated with great energy. I instantly ran up stairs, but before I entered the room the child was crying loudly. My patient had suffered only a single paroxysm, which she described as entirely of an expulsive or forcing nature, unconnected with what could be termed actual pain. On the day but one following, I found this extraordinary lady out of bed, in full dress, entertaining a number of visitors\*.

Other facts may be advanced to show that uterine action is not only naturally exempt from pain, but that this action and pain are more or less incompatible with each other; in short, that the most correct uterine action, is properly without pain, while, vice versa, the most distressing states of pain in labour are often unaccompanied by the slightest degree of uterine action, the proofs of which are reserved for a future occasion.

\* For additional confirmations, see Cases III., IV., XIII., XX., XXI., XXV., XLI., XLII.



## SECTION III.

## ON THE EXCITING CAUSES OF LABOUR.

It is remarkable that an explanation of the exciting causes of labour should have been regarded as a point of no practical importance, for even Dr. Burns says "it can do no good to enter into the investigation." I hope, however, to show that an acquaintance with them, leads directly to useful practice.

It appears unnecessary to notice the various hypotheses which have been advanced with respect to the present point, as they have ceased to retain any material influence over obstetrical science. I shall, therefore, proceed to detail those opinions which I am convinced have the strongest appearance of being consistent with physiological truth, and which constitute, collectively, what may be termed *the doctrine of orificial irritation*.

With respect to this, although I do not presume to lay claim to the basis as original, I am disposed to assert that it has not, hitherto, been taken up on the same principles as are about to be advanced.

Every organ of the body is excited into proper action by a stimulus or exciting cause: the eye by the irritation of light; the ear by the impulse of sound; the voluntary muscles by mental stimuli;



and the involuntary organs by their peculiar stimuli, as, for instance, the heart by the irritation of the circulating blood, the rectum by fœces, the bladder by urine, and the uterus by the stimulus of its contents.

All organs which are intended to retain for a time, and afterwards expel, their peculiar contents, are furnished with sphincters placed at their evacuating orifices. The most remarkable of these, are the rectum, the bladder, and the uterus.

The sphincters of the above organs are possessed of two distinct properties: in the first place, they act as valves to prevent improper evacuation; and secondly, they are endowed with a peculiar sensibility which enables them to regulate the necessity or propriety of discharge; and for this latter purpose especially, they are supplied with a larger proportion of nerves of sensation than the bodies of the organs to which they belong.

To produce the evacuating action of any of these organs, the exciting stimulus must be applied to the sphincter, when the organ contracts and expels its contents. The effect of friction of the glans penis, in exciting the action of the ejaculatores seminis muscles, is an excellent illustration of this principle.

The existence of sphincters, as above described, is universally admitted with respect to the rectum and bladder; but the claim for such structure with



regard to the uterus, is novel, and therefore it will be desirable to illustrate the theory, and advance proofs and arguments in support of it.

In the first place, I shall make some observations respecting the analogous actions of the rectum and bladder, and then proceed to point out the nature and effects of the sphincter of the uterus, as explanatory of the exciting causes of labour.

The fæces received from the colon are protruded forward along the rectum until they arrive at the sphincter ani, where, in consequence of the impression made upon that part, the action of the rectum is elicited, and they are expelled. That this irritation of the sphincter is here the cause of expulsion may be inferred from the fact, that if the motion for evacuation be attended to, the first perception of it is always at the sphincter, and rarely felt under the earlier periods of accumulation in the rectum, unless indeed the fæces are in a fluid or acrid state, so as to be more readily admitted into contact with the sphincter, or to produce more stimulating effects upon it. This proves that the expulsive action is the effect of stimulation, and not distension.

Besides, the action of the rectum may be artificially induced by a stimulus applied externally to the sphincter, as by the introduction of a bougie, candle, or twisted piece of paper, as is frequently practised by nurses to procure their children stools.



We have equal or more decided evidence of the same principle operating in the evacuation of the urinary bladder. The want to make water is, most evidently, first intimated by a sensation at the neck or sphincter of the bladder, communicated from thence along the urethra, but not felt in the bladder itself. In cases where the sensibility of the neck of the bladder, or the stimulating power of the urine is increased, the effort for evacuation will be excited long before any thing like distension of the bladder takes place, and will be readily renewed for a length of time after the contents have been generally evacuated, if any portion of the irritating fluid be left in contact with the sphincter; and it is also well known that a calculus lying near the neck of the bladder is productive of more frequent micturition than when situated in any other part.

It may be worth while to advert to a remarkable analogy between the structures of the above organs and the uterus, viz. that the evacuating orifices of the whole are supplied with nerves of sensation from the same common trunk, the hypogastric nerve.

I shall now attempt to show that the cervix and mouth of the womb discharge all the functions which have been above assigned to sphincters.

The cervix appears anatomically distinct from the body of the uterus; it presents a more membranous, elastic, and less fibrous and vascular texture. It experiences comparatively little change



from conception, until the pregnancy is half completed, the enlargement of the womb having, in the earlier months, evidently proceeded from the body exclusively, and it is most probable that throughout the whole term, it continues to be derived therefrom.

The cervix, until the end of the fifth month, retains its former length; after this time, it begins to experience a gradual diminution, until, at the termination of pregnancy, it has entirely disappeared. The following is the ratio of this progressive obliteration; at the end of the sixth month, it has lost one-fourth of its original length; at the end of the seventh month, half has disappeared; in another month, three-fourths are gone; and at the termination of the ninth month, the whole is obliterated. The contents of the uterus, which the intervening cervix had previously kept at a determinate distance, are now admitted into direct contiguity with the orifice.

A peculiar distinction of structure in the orifice itself must now be noticed. This part, forming the very extremity of the cervix which projected forwards into the vagina, and the most remote point from the body of the uterus, is much more largely supplied with nerves than any other part of the uterine system. The lower part of the uterus, and particularly its cervix and the vagina, are supplied by the hypogastric nerve, the main trunk



of which divides near the middle of the sides of the pelvis into two branches, the posterior and anterior. The former is expended on the rectum of which it forms the main supply; the latter is by far the largest, and spreads itself out like the expanded sticks of a fan, upon the whole side of the uterus and vagina; the upper branches pass obliquely upwards towards the fundus uteri; the less oblique, or horizontal ones, are spread more directly upon the lower parts of the uterus, its cervix, and orifice, while the remaining ones run obliquely downwards to the vagina. The greatest crowd or number of branches, however, go to the os uteri and adjacent parts\*.

When we take into view this extraordinary supply of nerves it is fair to infer that the orifice is endowed with a peculiar function, and a high proportion of sensibility; and were we to admit that a stimulus applied to it would, in a manner analogous with the above-recited production of fæcal and urinary evacuations, have the effect of exciting parturient contractions of the uterus, it must be allowed that a necessity exists, during the period of foetal evolution, for the interposition of a valve between it and the uterine contents to prevent their premature expulsion. This valve we conclude is

\* See Dr. Hunter's *Description of the Gravid Uterus*, p. 25, from which the above account has been principally and almost *verbatim* taken.



found in the cervix, and the beautiful simplicity of the contrivance, as well as the undeviating and admirable manner in which nature gradually removes it before labour comes on, is a fine illustration of the providence of the Divine Creator to prevent the generative actions from being rendered abortive, and secure, at the due time, their propitious consummation.

That the orifice of the uterus is the medium through which the parturient actions are excited, is strongly confirmed by the fact, that contractions of the uterine fibres may be occasioned by an artificial stimulus, applied to the part in question, proving that the cause presumed is adequate to produce the effect assigned to it; thus the venereal poison, *concussiones aphrodisiacæ frequentes*, retroversion of the uterus, and various mechanical stimuli, are occasionally exciting causes of abortion.

Another proof is, that a defect of orificial irritation will be followed by a deficiency of parturient contraction. Thus the labour goes on slowly or is suspended when the presenting parts are prevented from making proper exciting pressure on the orifice, as in cases of malpresentation, malformation of the child or pelvis, or where the head recedes in consequence of rupture of the womb, or where the belly is pendulous, or in a variety of other cases, which will hereafter be more fully adverted to.

Labour, however, does not always come on as



soon as the cervix is obliterated ; and occasionally takes place previous to that event. These circumstances require some explanation.

A given and determinate impression of the orifice, differing in degree according to the constitution of the individual and existing sensibility of the part, is necessary to give rise to the uterine contractions. This the mere gravitation of the uterine contents in the direction of the orifice, is not alone sufficient to produce ; the pressure and tension given by the insensible contraction must be super-added. If this is wanting, or weak, labour will still be postponed. On the contrary, if it happens to be strongly or prematurely excited, as it may be by evacuating the liquor amnii, and various other causes, before the cervix has been naturally obliterated, it may have the effect of either hastening that event, or of stimulating the cervical parts sufficiently to occasion premature action.

The gravitation of the contents of the uterus, doubtlessly co-operates in producing the insensible contraction, while the latter tends to complete the cervical obliteration, and, it is probable, that they combine in giving rise to the uterine contractions. Thus, as I before observed, they operate as cause and effect to each other\*.

\* The principle of orificial irritation is illustrated by Cases V., XXXIII., XXXVII., XXXVIII., XLI. ; and the effects of artificial stimulus, by Cases VI., XI., XIV., XV., XXXIV.



## CHAPTER II.

ON NATURAL LABOUR, OR, LABOUR  
WITHOUT PAIN.

I SHALL only enter into the present subject so far as may be necessary to illustrate peculiar views, or to prevent the various difficulties which are liable to occur with respect to labour.

Under the term natural labour, it is intended to include only those cases in which the parturient actions, proceeding in exact conformity with the principles that have previously been advanced, are unattended by pain; the accompanying sensations being referable to the expulsive nisus or bearing down sensation. It has already been seen that such a state of parturition is by no means a mere imaginary occurrence.

Independent of a correct state of uterine action, other circumstances are necessary to constitute natural, and distinguish it from difficult labour.

1. The various anatomical structures connected with it, must be correct, whether relating to the proportions and diameters of the pelvic apertures, or the constitution or texture of the soft parts.



2. The size and form of the child must be natural, as well as the various circumstances connected with the secundines.

3. In natural labour, the head of the child must not only *present*, but this in the most favourable position, as regards its relative proportions when compared with the diameters of the pelvis.

The preparatory state being complete, the uterine paroxysms commence and proceed in the manner before described. In the first place, they occasion a pressure of the presenting parts downwards on the orifice, which is put upon the stretch, and gradually dilated; the membranes distended with liquor amnii now protrude through it, and, at length, in consequence of the impulse upon them, are ruptured, the liquor amnii escaping; the head of the child now descends through the os uteri, passes along the vagina, presses on the perineum, and, dilating these various parts in its passage, begins to push through the os externum, out of which it, at length, escapes, followed by the body and extremities. Soon afterward, the uterus renews its efforts, the secundines are expelled, and thus the labour terminates.

It is unnecessary to detail the various practical attentions required in regulating the above process. I shall confine myself to one or two points which are more or less novel, or par-



ticularly important in preventing the occurrence of difficulties.

It has been customary to allow the more favourable cases of labour, to pass through the various stages of the process, with little attention on the part of the accoucheur, until the membranes have been ruptured, or have burst, and the child's head begins to press on the perineum. This would certainly be proper could we be assured that the case would without doubt, during our inattention, proceed in a natural manner. This practice has originated from a mistaken opinion, that so long as the patient suffered regular pain, the labour was going on correctly. It will, however, be shown that such a conclusion is frequently erroneous, and that the process of labour is liable, every instant, to run into deviations or unpropitious modifications of its paroxysms, and that a strict and undeviating attention, and regular observation of the case, assisted by occasional abdominal and vaginal examination, is desirable, even in the most natural labours, to detect the first occurrence of difficulty, and obviate its effects as soon as possible. I have uniformly found myself repaid for this closer attention, by the facile and speedy manner in which my patient has been relieved from her more immediate sufferings, as well as by her subsequent welfare.

The membranes sometimes rupture early in the



labour, but more generally in its advanced stages, when the os uteri has dilated to the diameter of two and a half, or three inches. Should they not break spontaneously when the os uteri has attained the latter diameter, I am of opinion that there will be little advantage in preserving their integrity longer, and that it will be right to rupture them with the finger, or in some other obvious manner; otherwise they not only become a mechanical impediment, but the uterine action may be rendered more unfavourable; upon this, however, I shall have to make further remarks on a future occasion. There is one rule which ought to be particularly observed in rupturing the membranes, viz. that the most proper time for effecting it, is *during a paroxysm of uterine contraction*, and just before that paroxysm arrives at its *height*. The unpropitious effects of inattention to this rule will hereafter be made evident.

The necessity for supporting the perineum at the time when the pressure of the child puts it upon the stretch, is well known, as tending to prevent laceration of the part. Much that is important might be observed with respect to the principles of giving this support, and guarding against the accident in question, but that it is foreign to the chief object of the present Treatise.

Another point I would particularly insist upon,—namely, a strict observance of that excellent rule first, I believe, inculcated by the late Mr. White,



of Manchester, not to hurry away the child after the head is born ; on the contrary, rather to keep it back, and compel, as it were, the uterus to empty itself entirely, by its own efforts. At a future time, when I speak of retentions of the placenta, I shall point out explicitly the very great importance of observing, and the serious risk of transgressing, this very admirable rule.

There is one more attention which appears worthy of observation ; this is, to apply a bandage with considerable tightness, around the patient, as soon as the child is born. I am even disposed to extend this practice further, and to recommend applying the bandage previous to the delivery of the child, and then to tighten it gradually, as the uterus empties itself, in the same way as, in paracentesis, we make an increasing pressure on the belly as the water flows from it. In a state of nature, and, perhaps, with first children, the natural elasticity of the abdominal parietes would probably be sufficient to give the desired tension and support, but modern females are not accustomed to use such precautions as would best preserve the power of the abdominal muscles, a variety of causes frequently concurring to weaken the tone of the parts.

If the bandage be properly used, it will assist materially in securing a proper contraction of the uterus ; a point of considerable consequence to the



well-doing of the patient, and, at the same time, diminish the risk of faintness, by preventing the collapse of the nervous system, so apt to be produced by the sudden evacuation of the uterus, and removal of pressure from off the larger blood vessels, situated in its neighbourhood. The patient will uniformly express the great comfort she derives from its application.

In order to prove further that it is not a violation of truth and nature to hold up the existence or non-existence of pain attendant on the uterine poroxysms, as an important characteristic distinction between natural and difficult labour, I am induced to detail the following cases, selected from many similar ones.

#### CASE III.

MARCH, 1813.—I was called, about ten in the evening, to Mrs. S., a robust healthy woman, the wife of a farmer. On my arrival, I found the os uteri considerably dilated ; in about an hour afterward, the child was born. During this time, my patient lay on the bed without uttering a single expression either painful or otherwise, and the only difference I could detect was, occasionally, a slight increased frequency in the respiration. In short, I was never certain that a paroxysm was present, except when making an examination. On subsequent inquiry, she described the accompanying



sensation as merely expulsive, and divested of every feeling of pain.

#### CASE IV.

Mrs. C., aged 22, was taken in labour with her first child in June, 1819. On my arrival, at six o'clock in the morning, the paroxysms were occurring every two minutes attended by the most decided uterine contraction, with correspondent impulse downward; in half an hour the child was born. During this period she appeared to suffer the greatest anxiety and distress, but, on questioning her respecting the nature and seat of her suffering, she declared that it did not consist, neither had it consisted, of the slightest degree of pain, but of an indescribable bearing down within her, as if her bowels were on the point of being forced out.

For additional illustrations, see Cases II., XIII., XX., XXI., XXV., XLI., XLII. ; in all of which, paroxysms divested of pain are more or less manifested.



## CHAPTER III.

## ON DIFFICULT LABOUR.

WERE all the circumstances connected with parturition conformable with the principles which have been above attributed to natural labour, there can be no doubt but that the process would uniformly be an easy one, there being no reason why the human female should suffer more in the act of parturition than other animals. But a number of deviations from the natural process are liable to take place, that render it too frequently painful or protracted, and which may strictly be regarded as constituting difficult labour. These deviations admit of being arranged with much advantage, under the following heads :

A. Deviations arising from the action of the parturient principle.

B. Deviations produced by mechanical obstruction.

C. Deviations arising from various adventitious circumstances, and which may therefore be termed accidental.

In the present Treatise I propose only to take into consideration those deviations which are comprised under the first head of the foregoing ar-



rangement. It will be found to afford almost an infinity of interesting matter, and is, at the same time, a part of the obstetric art which has hitherto been very imperfectly investigated.

I shall consider this subject under the following sub-divisions :

1. Labour with painful contraction of the uterine fibres.
2. Labour with pain from uterine pressure.
3. Labour with metastasis, including
  - a. Labour with pain from metastasis,
  - b. Labour with convulsions.
4. Suspended labour, comprising several varieties.
5. Labour with difficulty in the expulsion of the placenta.
6. After-pains.
7. Labour with premature uterine action.



## CHAPTER IV.

ON LABOUR WITH PAINFUL CONTRACTION  
OF THE UTERINE FIBRES.

IN the present Chapter, and the one which succeeds it, are comprised a considerable proportion of those painful cases which have more generally been designated as natural labours.

That pain affecting the general system is an unnatural principle, it would be superfluous to attempt to prove, for which of the bodily organs, if we except the uterus, suffers pain in the healthy discharge of its natural functions? The involuntary organs act not only without pain, but without sensation, and what reason is there to suppose the uterus influenced by any distinct principle?

But all these organs are susceptible of pain when acting inordinately, or under the influence of disease. This is a fact not peculiar to the human being, but common to every animal.

In the same manner, the uterus is capable of being affected with pain, whenever circumstances operate to derange its functions; the effects giving rise to the present varieties of labour.

The womb may be affected by pain in two ways:



1. In consequence of the organ itself being morbidly affected. The phenomena attendant on convulsions, tetanus, and on the spasmodic pains affecting the gastrocnemii muscles in cholera morbus, are instances of morbid affections of muscular textures; and there can be no inconsistency in maintaining that the uterus may assume painful and spasmodic action upon similar principles.

2. The second source of uterine pain is, when the organ is determined to an excessive exertion of its natural functions.

This is also conformable with various analogies in the general system, as the supervention of cramp in dancing, or in pulling off a tight boot.

I have, however, heretofore attempted to show that the pains of labour do not depend so much on mechanical opposition as is commonly imagined, and although it cannot be disputed that distorted pelves, or preternatural constriction, or rigidity of the soft parts, as well as other mechanical obstructions, will give rise to high states of pain; yet I maintain that neither the curved axis of the human pelvis, nor the natural tone of the soft parts necessarily produce such effects\*.

When pain is produced, on the present principle, I am disposed to think, that it seldom proceeds to any material extent; at least, I hope to prove that

\* See Dr. Osborne's Essay on Laborious Parturition.



a very large majority of the more distressing cases which have hitherto been referred to it, admit of being explained upon very distinct principles.

The characteristic features of the present variety of labour are to be found in the locality of the pain, which is seated exclusively in the uterine viscus, and combined with powerful contraction; it is of an acute and spasmodic nature, but not attended with so much grinding or cutting feel; nor is it usually productive of such great vociferation and complaining; nor succeeded by so much soreness remaining during the interval, as will be found in other painful cases, to be hereafter described.

The prognosis is always favourable, as the action being uterine, and accompanied by powerful contraction, the labour will end well; but, *ceteris paribus*, the progress will not be so rapid as in a case strictly natural, for pain is always more or less incompatible with the proper functions of the organ affected by it: thus, pain of the bladder coming on during micturition, will impede the free flow of urine.

I am disposed to think that cases of the present kind do not generally require particular treatment; leave them alone, or regard them as mere natural cases, and they will do well; whereas, too much interference may make an unfavourable impression on the mind of the patient, and produce more serious deviation.



When, however, the pain is considerable and highly distressing, it will be possible to relieve it by treating it on the principle of a spasmodic affection, by means of opium, fomentations, friction, and by other means, the whole of which will be noticed in detail in the succeeding part of this work.

As the attendant pain in many instances originates from increased resistance to the action of the womb, it will not be improper, although the consideration might be regarded as rather belonging to the head of mechanical deviation, to consider how far these resistances may be removed, or their effects remedied by art; besides, it affords a convenient opportunity for detailing various means of promoting or assisting the power of uterine action, which will, in future, be occasionally adverted to.

The indications which present themselves are,

1st. To diminish the rigidity of parts,

*a.* By general bleeding. This, with many, is a favorite remedy in painful and protracted parturition, and, without doubt, is capable of lessening the rigidity in question, and possibly may be the best mode of effecting it with which we are acquainted. I shall, however, hereafter show that a chief part of its good effects are explicable on other principles. The great objection to its use with this intention is, that while it produces relaxation of the resisting parts, it tends, in an equal proportion, to weaken the powers of uterine action; an objec-



tion, however, if we are to believe some, which is only hypothetical\*.

*b.* By local bleeding. The effect of uterine hæmorrhage in relaxing the os uteri is some argument in favor of the present means. The chief difficulty and objection would be in effecting it properly and delicately.

*c.* By topical relaxants; as, fomenting with warm water, or injecting the same per anum vel vaginam. It has been suggested to smear the parts with extract of bella donna.

*d.* Emetics, and other nauseating medicines; injections of tobacco smoke, and the warm bath, have been employed with the present intention. Their use has, however, been most deservedly censured.

I have, in no instance, been induced to resort practically to any of the above means with the present intention. The use of venesection, fomentations, and enemas of warm water, with occasional addition of opium, will, however, form a prominent feature in judicious practice.

2. To increase the power of uterine action.

*a.* By opium. I shall make a variety of observations on the use of this medicine in labour, in

\* Dr. Dewees, of Philadelphia, bleeds his patients with the present view, even to sickness and deliquium animi, and calls it almost a divine remedy, which his patients speak of with "rapturous effusions of gratitude." See his "Essay on the Means of lessening Pain," &c.



future parts of the work, and have here only to notice that it has been supposed by some to be capable of directly exciting or increasing the power of uterine action. I have certainly, in various instances after its administration, witnessed a more propitious action, but am disposed to attribute this effect to other properties or effects of the medicine. At all events it is equally, or more certain, that opium, particularly when given in larger doses, has occasionally, either directly or indirectly, interrupted or suspended the actions of the womb; and therefore, as we are acquainted with no limitation of the doses under which this effect may or may not be induced, I cannot but regard it as a doubtful remedy.

*b.* By the ergot. I have not been able to procure this medicine, and, consequently, have no testimony to give with respect to its alledged properties of exciting powerful uterine action. It appears, however, to deserve more extended trials, in order to determine its virtues.

*c.* By cordials, &c. Women are fond of administering cordials, spirits, &c., in the lying-in room, with a view of giving strength, and increasing the pains. This practice is frequently productive of evil, as will hereafter be seen. When they are given it ought only to be in moderation, and with a full conviction of their necessity or advantage.

*d.* The best *cordial*, however, is to excite confi-



dence and secure a happy and contented mind on the part of the patient. I know nothing more efficacious in keeping up correct uterine action.

*e.* By friction. A variety of observations will be made, in a future part of the work, respecting the application of the present means in midwifery, when its powers in relieving pains, and exciting uterine action in an *indirect* manner, will be proved. I believe, however, it is capable of producing uterine action in a *direct* manner, and my experience leads me to assert that it will be found an important addition to the means above detailed. I cannot evidence this point better than by adducing the following case, which, however, does not strictly belong to the present variety of labour.

#### CASE V.

THE lady of the Rev. J. F. was seized with labour-pains on the evening of June 20, 1816. Before my arrival at 10 o'clock, the membranes had ruptured, and the pains entirely gone off. I found the os uteri very little dilated, and my patient much dejected; in this state, she continued throughout the night and whole of the next day. At midnight, no perceptible alteration being evident, and tired with waiting, I determined to try the effect of friction on the abdomen.

On applying my hand she complained of much tenderness of the part, which, however, almost im-



mediately went off. In less than five minutes we had indications of a decided paroxysm, the uterus contracting firmly under the hand ; and, in a few minutes, this was repeated. The paroxysms now came on with regularity, the friction being persevered in, and these gradually increasing in power, at the end of two hours from the commencement, my patient was most happily delivered\*.

The suspension of the labour in this case, was, probably, a consequence of the pressure being taken from off the orifice of the uterus by the premature rupture of the membranes.

*f.* By stimulating the os uteri. This is grounded upon the theory which I have supported of the exciting cause of uterine action, and will be found important in practice, as giving a considerable controul over the actions of the womb. It is to be effected, either by pressing a finger firmly on the os uteri, or by moving it upon the part so as to make a gentle friction, taking especial care not to give pain or excite uneasiness. In such case, the operation must be instantly discontinued.

\* Since the first edition of the present Work was published, Dr. Ulsamer, a continental writer, has proposed the use of friction for the induction of premature labour. If he is correct in his views, this is a strong confirmation of the propriety of considering it as a means of directly exciting uterine action.



## CASE VI\*.

“ FEB. 1819. I was sent for to Mrs. C., in the habit of suffering very painful and lingering labours, and who had been many hours ill, under the care of a female midwife. I found her greatly dejected, under a high state of febrile excitement, and the soft parts remarkably puffed and swollen, so that I found a difficulty in detecting the presentation, which proved the head, with one hand, and the umbilical cord descended before it. The pains were very slight. After bleeding her freely, the inflammatory state of the vagina seemed diminished, and I succeeded in returning both the hand and cord. Being under the necessity of seeing another patient, I directed the midwife, during my absence, to apply hot fomentations, with a view of eliciting uterine action. On my return, two hours after, I found her much in the same state, the action very slight, and the head high up, so as to make little pressure on the os uteri. I now applied a bandage tightly round the belly, in hopes of pressing the child's head more firmly downwards; after which I began to stimulate the os uteri itself with my finger. These plans had a wonderful effect in increasing the efficacy of the pains, and,

\* For this case, I am indebted to my brother, Mr. Power, of Atherstone.



more particularly, the latter ; so much was my patient sensible of its advantage, that, during the pains, she would not allow me to intermit it for an instant. After the head began to make way upon the perineum, the pressure of the finger was continued, with the same good effect. Towards the latter part of the labour, we experienced some interruption and delay, from violent pains in the left side and right thigh, which were soon relieved by friction of the parts affected. The patient was delivered of a large still-born child, in about four hours from first commencing the abdominal pressure and stimulation of the os uteri."

*g.* By rupturing the membranes. If the membranes are ruptured without the concurrence of uterine action, a retardation of the labour will be produced ; but when the rule before laid down respecting them, in the management of natural labour, has been observed, the rupture will, generally, be succeeded by more powerful contractions.

It not unfrequently happens that the membranes are so strong and leather-like in their textures, as to refuse to give way to the impulse of the uterus, notwithstanding the labour is very far advanced. In this case, the uterine action, disappointed in its effects, begins to flag and becomes inefficient ; if so, the membranes should be ruptured, by means which are obvious, taking care, however, to attend



to the rule above alluded to. After this, the paroxysms generally become more energetic.

3. The third indication is to produce an artificial effect in aid, or in place, of uterine action. Independently of the use of instruments, this can only be accomplished by artificial dilatation of the parts, a practice which has been recommended by some, and highly deprecated by others. I am convinced from considerable experience, that, when properly made use of, it is of essential service, and, instead of inflicting additional distress on the patient, will often enable us to terminate, in a comparatively short space of time, and with far less suffering, cases which would otherwise be protracted and distressing in the extreme. In short, under such a view, it is only producing, in an easier way, by art and the finger, what nature would otherwise effect with difficulty by means of the pressure of the presenting parts; so that it is assisting nature, and not interfering with her.

Artificial dilatation is to be effected by applying the soft feeling surface of the index finger to the circular margin of the os uteri, and moving it around the part, with a firm steady impulse, during the continuance of the uterine paroxysms and pressure. It is, however, only to be used when the os uteri allows the freest liberties from the point of the finger without suffering pain, and should immediately be desisted from, in case such



an effect is produced ; persevering with it here would be improper and cruel in the extreme. Nor should it, in any instance, be resorted to where the progress of the case is satisfactory.

A similar cautious dilatation may be used with advantage to the perineum. In this case it will be better to use two fingers.

#### CASE VII.

FEB. 1, 1818. I was summoned to attend Mrs. G., aged about 21, with her first child. I found that she had experienced a precursory kind of pain for some hours, but had not been sensible of the sensation of bearing down, until a short time previous to my arrival.

The paroxysm now came on every four or five minutes, and appeared to act powerfully, the abdominal examination evincing strong contraction of the uterus, and the vaginal one a correspondent impulse on the os uteri. The latter part, was, however, of a very rigid feel, lying obliquely towards the sacrum, and scarcely in the least degree dilated.

After the above promising action had continued two hours, little or no sensible progress was made. I, therefore, determined, as the os uteri manifested no peculiar sensibility, to try the effect of artificial dilatation. This was steadily and gradually effected while the uterus continued under a state



of contraction, and produced each time a sensible effect. From time to time it was discontinued, to ascertain the effect of the natural efforts; during this delay, no progress was observed. In the course of three hours, the os uteri was well dilated, and without distress to the patient; the membranes ruptured, and the head was received on the perineum. Here it lay for three hours or more, before it was extruded, the uterus continuing to act strongly and regularly. During this part of the process, the same cautious dilatation was used, and with the same apparent good success, and with similar want of progress during any period of discontinuance. On the second day, I had the pleasure of finding my patient out of bed, and free from every unfavourable symptom.

This female, possibly, possessed hereditary right to slow dilatation, as her mother, who had given birth to eight children, had, in every instance, experienced protracted labour of from six days to thirty hours. At all events I am satisfied that without the above interference, she would have suffered a most tedious labour.

For additional illustrations of the advantages of artificial dilatation, see Cases XI., XV., XXXIV., XLIII.



## CHAPTER V.

ON LABOUR WITH PAIN FROM UTERINE  
PRESSURE.

THE present variety of labour is characterised by pain affecting the os uteri, vagina, perineum, or any other organ or part upon which the presenting parts are forced by uterine contraction ; and which pain consists of sensations more or less distressing, and quite distinct from the *nisus* or bearing down of natural labour.

The accompanying pain will necessarily differ according to the differences in the existing sensibilities of the parts pressed upon. It is distinguished from other pains affecting the same organs, and which will hereafter be described as the results of metastatic action, by its being combined with powerful uterine contraction, from which it more immediately results.

A comparison of the aboriginal inhabitants of the new world with more civilized man, leads to an inference that the circumstances of social life tend to impair the power of sustaining the effects of natural or accidental stimuli ; this is particularly exemplified by the manner in which the former



bear torture. This variation in the constitution of civilized man is one cause why he is so easily affected by disease, and without doubt, in some measure, involves the reason why the civilized human female suffers so acutely in her parturition.

Hence the dilatation of the organs concerned in parturition are rarely accomplished, even in the most favourable cases, without painful sensations being excited of the kind comprised in the present variety of labour.

So long as fair and satisfactory progress is made it will be unnecessary to interfere in the present case. Should, however, the pain become so violent as to demand attention, opium may be given in doses sufficient to allay it; and it may also be attempted to sooth the parts affected by warm fomentations and injections, or steaming them with hot water. If deemed necessary, the abstraction of blood as a powerful sedative will, probably, afford effectual relief.



## CHAPTER VI.

## ON METASTATIC LABOUR.

## SECTION I.

## THE PRINCIPLES OF METASTASIS.

THE nature of the nervous energy, or that principle derived from the brain, by means of which the vital and animal functions are discharged, has not been satisfactorily investigated. Many of its effects are, however, evident, and, through them, some estimate may be formed of its properties.

This principle, notwithstanding it is capable of giving rise to various modifications of action, appears to be of an homogenous nature; and, it is probable, that the diversity of its effects are dependent on the diversity of structure upon which it operates.

Amongst other properties, like the electric fluid, it possesses that of *diffusibility*, by virtue of which it has a tendency to distribute itself into an equilibrium throughout the whole system, and may be determined or diverted instantaneously to any part of it, producing correspondent action in that part.



The quantity produced by the brain is limited ; so that if, in proportion to that production, it is superabundantly determined to, or expended in any given part of the system, it must become comparatively deficient in other parts.

It is from these properties that many of its phenomena are to be explained, particularly such as occur in morbid states of the system, in which it may be presumed that the equilibrium is interrupted.

Amongst other results, it happens that when an inordinate action is excited in any part of the system, the nervous principle will be determined from other parts to support it, the actions of the latter being either diminished in consequence, or rendered quiescent.

This is the basis of that principle which, in the doctrines of medical science, has received the name of metastasis or conversion, and which, however hypothetical our explanations respecting it may be, stands upon as certain grounds as any fact in philosophy.

In conformity with this principle, an action shall either partly, or wholly, leave one part or texture when another part or texture becomes actuated\*. Familiar illustrations of this position may be found in the phenomena of gout ; the rationale of the use

\* See Dr. Parry's Elements of Pathology (DCCCLX\*).



of blisters is also explicable on the same principle.

Before metastasis can take place, the parts to be implicated in it must be associated together in a way which is, at present, unsatisfactorily accounted for, but in the same manner as the nose and the organs of respiration are connected together in the action of sneezing.

The part from which the metastasis is made, is termed *primary* ; that to which it is determined, *secondary*. It is not, however, necessarily confined to two parts or organs ; more may be affected, so as to form several links in the metastasis. Thus in the action of sneezing, the eye may be implicated with the nose and respiratory muscles ; as when, at the commencement of summer, the more irritating solar ray occasions a periodical species of catarrh accompanied by sneezing ; here an action is first excited in the eye, from thence by metastasis transferred to the schneiderian membrane, and subsequently, through its medium, to the organ of respiration.

Metastasis is most commonly produced by an action taking place at the secondary part, the counter irritation of which derives nervous principle from the primary one, and diminishes its activity, or disposition to act. This may be termed *direct metastasis*, and an exemplification of it is



found in the relief of tooth-ache from applying a blister behind the ear.

There is, however, an inexplicable kind of connection, or association, between different parts of the system, known by the name of *sympathy*, which influences the whole of the vital and mental powers, and controuls, in a remarkable manner, their functions, sentiments, affections, and diseases. We know not how it is established, or how supported, but we know that it is capable of giving rise to metastasis, and in so remarkable a manner, that one part can scarcely act without another part corresponding, and this without any apparent irritation operating upon the secondary part to excite it. This may be distinguished from the former kind as *sympathetic metastasis*. By virtue of this sympathy, an undue irritation existing in a primary part is capable of producing effects in a secondary one. The common form of gout in the foot is an instance of sympathetic metastasis from the digestive organs.



## SECTION II.

## ON THE CONNECTION OF METASTASIS WITH PARTURITION.

ALTHOUGH the above principle of metastasis has been freely used to explain the morbid affections of the general system, it is remarkable that it has not hitherto been extended to the parturient actions of the uterus; as if the latter was a detached insulated system, amenable to no laws but its own. This we have no authority for presuming to be the case; on the contrary, evidence in abundance may be advanced to prove that it is an inseparable part of the general system, governed by the same laws, and liable to the same diseases. The sympathies which exist between it and the general system, as evidenced in the symptoms and effects of puberty, menstruation, and pregnancy, are well known; and I shall endeavour to show that, during parturition, the principle of metastasis is peculiarly liable to be called into action.

It has been seen that the most important and characteristic feature of parturient action, is a firm tense contraction of the uterine organ, discoverable by placing the hand upon the belly of the female during the paroxysms. If this contraction be wanting, uterine action is also wanting.

It will frequently be found, during the most



acute and painful paroxysms, that this contraction is totally wanting, the uterine viscus remaining flaccid, and yielding to the impulse of the hand equally as if the examination was made during the interval. In short, the uterine fibres are here totally unconnected with the existing pain, and in a state of evident inaction.

As it cannot be doubted that the paroxysm in question is connected with and dependent upon the parturient principle, it must be evident that this principle is here diverted from the uterine muscles, and that, instead of producing their parturient contractions, it has, on the principle of metastasis, been determined to distinct parts, throwing them into painful action.

This metastasis may be produced either by direct or sympathetic excitement; this will be better understood by means of the following illustrative cases.

#### CASE VIII.

Mrs. Poyser's first labour was so rapid that I was unable to reach her in time. In the second, she was taken ill in the night of Oct. 31, 1816; I was immediately sent for, and arrived about four o'clock in the morning. The paroxysms were frequent and violent, but the labour little advanced; on placing my hand on the belly during the paroxysm, the uterus was perfectly flaccid, nor did



examination per vaginam evidence the least bearing down or pressure on the os uteri. I applied friction to the parts in pain, which in some degree gave relief, the patient, however, continued to suffer severely, and this without the least satisfactory progress. I now noticed that the pains were more particularly situated in the region of the bladder, and found that my patient had not made water for some time : the catheter was introduced, and a pint or more of urine drawn off; the paroxysms immediately became less distressing, and more bearing, and the os uteri began to dilate. After a while, this more propitious state gradually receded, and the former distress returned; the bladder was evidently filling again; the urine was again drawn off with similar good effect, but the improper action in a while returned as before. In this manner, we went on throughout the whole day before the child was born, the catheter requiring to be used occasionally, in order to keep up any degree of uterine action. I have a lively recollection of this poor woman's very acute sufferings, from the circumstance of her requesting a razor to be brought that she might cut her throat.

Here the irritation of distension in the bladder, by direct metastasis, took off the proper action of the uterus, the parturient principle, or nervous power, being determined to keep up the painful affections of the urinary organs.



## CASE IX.

MRS. P. was taken in labour with her first child on the 14th of March, 1810. As she was engaged in some domestic pursuit, which required a degree of exertion, the membranes ruptured; shortly after which, paroxysms of labour came on, and continued, throughout the night, to increase in strength and frequency, producing a gradual but slow dilatation of the os uteri, which, in the morning, was about half opened.

At this time, her sufferings became excessive, the pain being most acutely intense. A variety of means were tried to relieve her, particularly opium, fomentations, and friction, until four o'clock in the afternoon of the 18th. During the whole of this long period, notwithstanding the paroxysms had been almost incessant, not the slightest additional progress had been made. At length, after a more than usually vigorous application of friction, and administering an additional thirty drops of laudanum, proper uterine action, with bearing down pains, came on, and in twenty minutes expelled the child.

In this case, premature rupture of the membranes appears to have given rise to the unfavourable action, in consequence of the hard head of the child exciting painful and inordinate affection of the os uteri itself, and occasioning a sympathetic metastasis of the parturient principle.



This lady's next labour only occupied two hours from its first commencement.

The metastasis is liable to take place at any period of labour, but more commonly makes its attack in the earlier stages, while the os uteri is dilating. I have known it come on when the child's head has been protruded through the os externum; nay, it may even take place after the whole body has been delivered, and retard the expulsion of the placenta, or modify the after-pains.



## SECTION III.

## ON THE PREDISPOSITION TO METASTATIC LABOUR.

THE imperfect knowledge we possess of the nature of metastasis, and the great obscurity which exists with regard to the circumstances that render the human subject liable to it, will necessarily prevent any satisfactory explanations of the present point.

The predisposition to metastatic labour, without doubt, depends upon the same principles of association and sympathy which give rise, or dispose, to other species of metastasis, so that the latter may be regarded as analogous states; consequently it will be justifiable to make use of such analogies in explaining the nature of the former.

Some important change, eventually leading to it, must have taken place from the original constitution of the female who suffers metastatic labour, and which is evidently connected with the circumstances of civilization, since women living in a more primitive state of nature are exempt from it. A leading point of the present inquiry must therefore be, to ascertain what this change, originating from social life, is, and how it has operated to produce the various associations and sympathies which constitute the predisposition in question.



It is probable that the natural man, in common with other animals, was, in his original constitution, in a great measure exempt from associated actions, and, consequently, from that extensive class of diseases, which we include under the term metastatic; the effect of stimuli would in this case be chiefly local, and his diseases such as originated from direct or accidental irritations, as wounds and other injuries; indeed, the uncivilized Indian of the present day appears to suffer as little from diseases of association as his dog.

How more extensive associations, leading to consequent disease and to metastatic labour, became formed, is a point of such obscurity, that I do not pretend to offer more than mere conjecture respecting it.

There are certain circumstances upon which the metastasis, as affecting parturition, evidently does not depend, a knowledge of which may assist us in ascertaining those on which it may depend.

It does not depend upon climate; for metastatic labour, equally with natural labour, takes place in every latitude.

Nor does it immediately depend upon the general strength of the functional powers, since all women in civilized countries, whether robust or weak, are liable to it.

Nor is it immediately dependent on the intellec-



tual powers, or on any peculiar habits of social life, since individuals in every circle of society, whether they be highly refined and educated, or grossly the reverse, living in luxury or the most abject poverty, appear to be equally susceptible of it.

The predisposition does not, therefore, depend upon any cause acting *immediately* upon the individual; and must, consequently, originate in circumstances *long since* existing, and which have probably operated to bring about the change in question, in a gradual and progressive manner.

It may be observed, that one of the most remarkable and important consequences of civilization has been, an inordinate and forced action of the stomach and chylopoietic system, arising from a gradual introduction of luxury and epicurean indulgences, and which inordinate action, it is conceived, would be greater than the natural powers of those organs are capable of supporting; it may be presumed that, to keep the latter in action, and preserve the whole machine from destruction, the diffusible nervous energy must be abstracted from other parts less immediately necessary to life; hence mutual and injurious associations would be formed, and a disposition to metastasis established between the organs concerned, operating insensibly while they continued comparatively in health, and



leading to decided and important results, whenever an action more excessive or inordinate than usual happened to be excited.

In this way, voluntary and involuntary organs might become connected, and reciprocally affect each other; and upon this principle may be explained how the voluntary powers are depressed after a full meal, or how excessive exertion of the muscles of volition weakens the powers of the stomach.

Besides the above origin of associated actions, arising from the over-exerted functions of the alimentary system, the increased mental actions, also consequent to civilized life, would tend to coöperate, in the same manner, in establishing associations between the mind and different organs of the body.

In order to confirm the principle of association thus produced, so as to constitute the present existing predisposition to metastasis, it is necessary to suppose that some correspondent and consequent change takes place in the organization of the parts affected, which adapts them to the discharge of their newly acquired property, and that this is capable of being transmitted in the generative process to the posterity of the individual, so as at length to become a positive and constituent principle in the whole race of his descendants, to whom a common predisposition is thus given.



This common predisposition appears to differ only from what is usually termed *hereditary* predisposition, in consequence of the specific actions in the latter being more strongly marked in some families than in others, who probably are either more exclusively affected by them in consequence of their being of later origin, or from peculiar aggravations having been induced. According to this view, the predisposition to metastatic labour may, in some families, be regarded as hereditary.

It appears probable, therefore, that the predisposition to metastasis *generally*, has, in the first instance, originated from inordinate exertions of the chylopoietic and mental actions of the natural man, gradually and eventually producing a permanent change in the organization and functions of the system, in consequence of which, parts of that system naturally separate and distinct, have become associated together so as mutually to affect and influence each other.



## SECTION IV.

## ON THE VARIETIES OF METASTATIC LABOUR.

It is upon the different effects of the metastatic principle that a greater part of the almost infinite varieties which are observable in the process of parturition depend, and which almost warrant us in asserting that no two cases of labour are exactly alike.

But certain modifications of this principle are more common than others, so as to admit of being referred under distinct heads. In the first place, the metastasis may give rise to painful affections of the organs or parts secondarily affected. This comprises by far the more common and important varieties. Secondly, it may produce increased actions, or determinations of the sanguiferous system. Under this latter head, a great extent of morbid derangements might be included; a few of them, however, only materially influence parturition, as convulsions, mania, hysteria, or fever, and of these, it is my intention, in the present Treatise, to consider only that very interesting variety, puerperal convulsions.



## CHAPTER VII.

## ON METASTATIC LABOUR WITH PAIN.

## SECTION I.

## THE SYMPTOMS OF METASTATIC LABOUR WITH PAIN.

It is an important feature in metastasis that the action of the primary part is sometimes wholly, and at other times only partially, superseded.

This circumstance occasions differences in the symptoms of the present kind of labour, which will require particular and distinct considerations.

In the first place, I shall contemplate the metastasis as producing a total loss of uterine contraction.

The accompanying symptoms arrange themselves under three heads :

1. Those which characterize the deficiency of uterine action.

The paroxysms recur with their accustomed frequency, but are divested of uterine contraction, evidenced by the total want of tension and hardness in the utero-abdominal tumour. In short, the accompanying sensations are strictly extra-uterine,



the muscular fibres of the organ itself being in a state of most perfect relaxation.

If an examination be made *per vaginam* there is no impulse, no pressure downwards within the pelvis; on the contrary, during the utmost severity of the paroxysm, the child's head may be forced backwards by the finger.

Another symptom, particularly where a number of metastatic paroxysms have been experienced in succession, is an unusual dryness or want of lubricity in the vagina; the mucous glands, from deficiency of the stimulus of pressure, having ceased to secrete their usual fluids.

All the powers which are intended by nature to produce and favour the dilatation of parts, and the expulsion of the child being thus suspended, it cannot be wondered at, that the progress of the case should be completely arrested.

2. Another set of symptoms are those which affect the sensations of the patient, and the state of her mind.

The bearing down feel, arising from uterine action, is exchanged for pain of the most acute and distressing nature, described by the patient as cutting, grinding, or cramping, and sometimes accompanied by sickness or faintness.

The nature of this pain has been much misconceived. It has been imagined that two kinds of pain existed in what has been more commonly termed natural labour; the one distinguished as



*dilating pain*, characterized by an acute, cutting or grinding expression, the object of which was to dilate the parts ; the other as *expelling pain*, denoted by a grave bearing-down expression, and intended, after the first kind has opened the passage, to expel the contents of the womb.

This is supposing, what does not exist in nature, a difference between the dilating and expelling powers : on the contrary, we know that the same power which dilates, also expels, namely, uterine contraction. Nor have we the slightest ground for supposing that this contraction differs in different parts of the process, in either its nature or immediate effects ; so that it may be considered certain that the dilating and expelling powers are strictly synonymous, and the same.

Dr. Denman has even advocated the distinction of dilating and expelling pains in the same paroxysm, and at the same instant in this paroxysm. He says, "There is an intermediate period of a labour, in which there is, in the first instance, some degree of dilatation, and afterwards an effort to expel, and then there will be the expression which denotes sharp pain, combined (*with*), or immediately succeeded by, a grave tone of voice."\*

Dr. Burns appears to have adopted similar views, as appears by the following quotation from his invaluable work. "Sometimes, after the first

\* Denman, Chap. VIII., sec. iii.



stage is completed, and the os uteri is well dilated, the second does not commence for some hours, but the first kind of (dilating) pains continue in different degrees of severity without producing any perceptible effect.”\* Here the first, or dilating pains, are contemplated as distinct from the expelling ones, and their improper continuance is presumed as explanatory of the want of progress. To show further the inconsistency of these views, it may be inquired, how it is possible that the uterine contractions, of which the supposed dilating pains, if really dilating pains, must necessarily have consisted, could have gone on for hours with the described severity without producing the least “perceptible effect?” Admitting the doctrine to be correct, we might be induced to wonder at the blindness of nature, in continuing her dilating efforts for such a length of time after they could be of no further service.

A complete refutation of the opinion, however, will be found by placing the hand upon the belly of the patient during one of the paroxysms above alluded to, when the uterus will be detected lying passive and uncontracted, and, consequently, incapable of producing either dilatation or expulsion.

\* Burns's Principles of Midwifery, p. 338, 4th Edit.



The pains in question in short are metastatic ones, of the nature lately described, and which, being entirely extra-uterine, will too often continue for hours, without the least "perceptible effect;" while the true dilating pains are similar to, and synonymous with, expelling ones, consisting of uterine contraction, the only genuine source of all progress.

In natural labour perfect ease is felt during the interval; in the present kind of labour, the pain rarely ceases with the paroxysms, but remains partially after it has receded, or lingers in the part affected, which frequently becomes exquisitely tender and sensible to the touch.

When genuine action goes forward, if the patient slumbers, which is not unusual, her sleep is easy, undisturbed, and refreshing, and she awakes from it with undiminished confidence; where metastasis exists, if she falls asleep it is from morbid exhaustion, and, during its continuance, she is agitated by frightful dreams, from which she awakes with horror, unrefreshed, to repetitions of unavailing suffering.

The mind of the patient is remarkably affected; she becomes anxious, fretful, and desponding; no assurance can cheer or sooth her; and, conscious of the unsatisfactory state of her labour, she anticipates the most dreadful result.



It is impossible to conceive a state more afflicting than labour thus charged to the full with metastatic action.

3. The last set of symptoms, I shall notice, are those which depend upon the actions of parts secondarily affected; and which might be regarded as constituting varieties of the genus.

*a.* The abdominal muscles, or parietes, may be the seat of the affection, in which case they suffer most acute and painful action. The unfortunate patient cries out from intense agony, and clings around her attendants for support.

The lingering pain and soreness are perhaps most marked in this variety.

*b.* The transfer may be to the back, hips, the sacral region, or the perineum, or upper part of the thighs; occasionally I have known the legs, feet, or shoulders, affected. These varieties are of course characterized by the local pain which accompanies them, and which is always highly distressing.

*c.* The urinary organs are not unfrequently affected by the metastasis, occasioning acute pain, and fruitless efforts to evacuate the water; and which are succeeded by considerable lingering pain and soreness about the pubis and neck of the bladder; and sometimes the latter will become distended.

*d.* Lastly, the metastasis may be determined to



the rectum, which, like the bladder, becomes the seat of violent pain, with imperfect expulsatory efforts.

The straining which takes place in the two last varieties, will often so strongly resemble the last efforts or sensations accompanying the expulsion of the child, as to be mistaken for them; and yet, on examination, the uterine action will be found wholly wanting, and sometimes the os uteri not in the least degree dilated. In such cases, it is important to distinguish correctly between the effects of true uterine and metastatic action.

The above are the principal varieties of metastasis with pain; it is, however, not unusual for two or more of them to occur in the same labour, and sometimes even in the same paroxysm.

But the uterine action, as before observed, may be only partially transferred from the parturient organs; in this case, very material differences in the accompanying symptoms will be evidenced. A degree of general action, of a weaker kind, may remain in the organ; or certain parts or fasciculi of fibres may fall into contraction, while others continue at rest.

In the former case, the uterus will be found tense, but this tension is of a minor kind, and distinct from that firm decided contraction which belongs to a genuine paroxysm; at the same time, the bearing-down sensation is slight, and more or



less combined with the distressing pain of metastasis, affecting the part to which the partial transfer of action is made; the tumour of the scalp is less perfect; and the progress by no means satisfactory, the case being more or less protracted, according to the degree of action transferred from the uterine fibres.

The contraction of only particular fasciculi of the uterine fibres, may be detected by placing the hand on the belly, when the uterus is felt rising at points into elevated bumps, the remaining parts continuing flaccid; in this case, the paroxysms are acutely painful, and produce no pressure on the orifice, for this partial action is incompatible with dilatation or progress, upon the same principle as partial action of the œsophagus prevents swallowing the morsel, and produces choking.

Occasionally, uterine action and perfect metastasis alternate with each other; thus there will be a series of metastatic, and then a series of uterine paroxysms, after which the metastatic ones shall revert; or an individual paroxysm may commence with uterine, and then change into metastatic, or, *vice versâ*, it may commence with metastatic, and then change into uterine action.

In such cases, the hand placed on the belly will detect the want of contraction during the metastatic part of the paroxysm, and also the gradual change into it, as the uterine action comes on; and



vaginal examination gives similar information. The sensations of the patient also evidence it, for during the metastasis she cries out aloud from agony, but, as it goes off, this expression is changed into a bearing-down sensation, with comparatively little or no pain; thus exemplifying and proving the true nature of those distinct pains, which, as before observed, have been termed dilating and expulsatory, and which Dr. Denman says may be combined in one and the same paroxysm, but which should properly be termed efficient and inefficient.



## SECTION II.

## ON THE CONSEQUENCES OF METASTATIC LABOUR WITH PAIN.

THE effects of the metastasis upon the progress of the case will be more or less unpropitious, according to the degree of action transferred from the uterine muscles.

When the metastasis is perfect, the progress will be entirely arrested. In some cases, the delay of a week or longer has been experienced, the patient continuing, during the whole of this time, to suffer most intensely ; two or three days of suffering is by no means unusual.

After the protraction has continued for a time, it will sometimes happen that uterine action suddenly returns ; the case again makes progress, and often terminates with wonderful and unexpected celerity.

In other instances, the patient worn out with her sufferings falls into sleep, or the paroxysms go off ; during the repose from which the system recruits itself, and acquires new parturient power, which, if properly determined to the uterine fibres, leads to a happy termination.

I am not aware of metastasis accompanied by pain, having ever proved directly fatal.

Where the action is only partially transferred,



the consequent degree of protraction will depend upon the extent of that transfer. The metastatic action is negative; the uterine positive; if the latter is sufficient to overcome the resistances of parts, there will be a proportionate advancement of the case; otherwise it may be excessively protracted.



SECTION III.

ON THE CAUSES OF METASTATIC LABOUR WITH PAIN.

1. *The proximate and predisposing causes.*

With respect to these I have nothing to add to what has been already advanced in considering the subject of metastasis generally.

2. *The exciting causes.*

Predisposition alone is insufficient to give rise to metastatic labour; an exciting cause must be superadded. Nor is it probable that the latter alone is capable of producing it, the concurrence of both being necessary.

The exciting causes of metastatic labour with pain, consist of *irritations*, capable of giving rise to inordinate actions distinct from the parturient contraction, in parts which have become associated with the immediate organs of parturition, and which actions, on the principles of direct or sympathetic metastasis, derive or determine from those organs more or less of the nervous power necessary to maintain the proper parturient functions.

The irritations in question are very numerous; they admit of being classed under distinct heads, viz.

1. Irritations acting upon the uterine system itself.



Irritations applied to the muscular parietes of the uterus, it might be conceived, would have a tendency to throw them into more powerful contraction ; in some degree this is the case, but when they are carried to such extent as to excite painful sensation, other parts associated with them may, by sympathy be thrown into action, producing in this way sympathetic metastasis.

Upon this principle, metastasis may be the result of violent and painful exertions of the muscles, which take place in labour with uterine pain ; or of irregularity in the form or position of the fœtus ; or from its inordinate and undue motions ; or it may arise from the effects of premature evacuation of the liquor amnii, admitting the hard surface of the child into more immediate contact with the uterus.

Irritations affecting any other part of the uterine system, distinct from its moving fibres, may give rise to either direct or sympathetic metastasis. Whatever produces pain in them will have this tendency, as too powerful impressions on the os uteri, whether these consist in undue irritation of the part, as where the membranes have been ruptured too soon ; or in too powerful an impulse of uterine contraction operating upon it ; or from fingering the parts imprudently during labour.

The same remarks may be extended to the vagina, perineum, and os externum.



It must be evident that the whole of the above causes will be more likely to produce effect, when the parts in question, either from organic structure or other causes, are in a highly sensible state, so as to have a stronger tendency to run into pain or inflammation. An oblique situation of the os uteri, which, instead of being placed naturally in the proper axis of the pelvis, is occasionally turned backwards towards the sacrum, not unfrequently appears to be productive of painful metastasis. In this case, it is doubtful how far the unfavorable state of action is the immediate result of the obliquity (which will, hereafter, be contemplated as a source of suspended labour), and as arising from the yet inexplicable connection which will be shown to exist, between suspension and metastasis of the parturient action; or whether it is to be attributed to the undue irritation, which, in consequence of the peculiar position of the os uteri, the gravitation of the presenting parts occasions with respect to the anterior and lower portion of the body of the uterus.

2. Irritations acting within the stomach and alimentary canal.

These are powerful sources of metastasis, nor can it be wondered at, when we know that a large proportion of the diseases to which the human frame is liable, originate from derangements of the chylopoietic system. It may be considered as an



axiom, that all inordinate affections of the organs in question, have a tendency to derange the par-turient actions. They are too numerous to be particularized, but are included under the following heads.

In the first place, the ingesta, or matters received into the stomach, may, from their immediate qualities, or the chemical changes they undergo within the body, give rise to dyspepsia, flatus, pain, spasm, or other morbid effects ; or by their operation on the nerves produce still more serious derangement of the system. Under this head, are included the administration of improper food and beverage, as spirits and cordials, opium, and various other stimuli.

Secondly, the egesta, or matters of excrement, may, from improper assimilation of the food, &c., in consequence of undue secretions from the viscera, be acrimonious and excite pain, diarrhœa, or tenesmus ; or from a torpid peristaltic action, accumulate, and by mechanical irritation, excite various morbid or improper actions.

### 3. Affections of the urinary organs.

Distension of the bladder is a frequent source of metastasis. It may be occasioned by neglect of its evacuation, or the pressure of the child's head may mechanically obstruct the urethra, and sometimes a calculus has been the exciting cause.



## 4. Affections of the mind.

The present is a subject of deep interest, which belongs more to metaphysics than physics.

The affections of the mind in question depend upon operations of the intellectual organ, as the perception of pain, the apprehension of danger, or the contraries of these, constituting the depressing passions of fear and despondency, or the exciting ones of hope, confidence, joy, anger, &c.

The whole of these, equally with the bodily functions, are maintained by an expenditure of nervous principle.

Those which excite moderately, as hope and confidence, appear to favour the production of nervous power in the brain, in a degree equal to the exhaustion they produce, and do not prove causes of metastasis. The more violently exciting ones, however, as joy and anger, expend it in a larger ratio than the brain produces it; while the depressing ones, independently of their proper expenditure, diminish the production. These latter will therefore have a strong tendency to induce metastasis, as deriving a part of their supporting principle from other organs, and particularly from the uterus during parturition. These positions are confirmed by a variety of well known phenomena; as the effects of fear and anger, in depressing the bodily powers, either directly or indirectly.



5. I shall conclude the present section with enumerating a few other occasional exciting causes.

- a.* Excessive heat or closeness of the room.
- b.* Cold.
- c.* Too close confinement on the bed.
- d.* Fatigue from walking about the room, want of sleep, pain and other causes.
- e.* Falls and accidents.
- f.* Violent straining or attempts to force down the child by voluntarily exerting the abdominal muscles.

With respect to the latter, the impropriety of which has already been adverted to, there can be no doubt that it is capable of depriving the uterine organ, by direct metastasis, of that energy which is necessary for the proper discharge of its functions.



## SECTION IV.

## ON THE PREVENTION OF METASTATIC LABOUR WITH PAIN.

LITTLE can be done to obviate the predisposition to metastasis, as it would be vain to contemplate the restoration of mankind to its primitive state.

It is however very possible, in many instances, to prevent the application, and action, of the exciting causes, a consideration of much importance to the accoucheur.

During the latter periods of pregnancy, it will be desirable to keep the bowels in an open state, so as to avoid accumulation of fæces ; this regularity should be produced by means of the mildest purgatives, as castor oil, electuary of senna, or magnesia ; excessive motions of the child ought to be restrained by properly adjusted bandages, and if spasmodic pain should be troublesome, it may be relieved by fomentation, friction, and occasional doses of opium.

When labour comes on, it will be very important to keep up the spirits of the patient, acquire her confidence, and set her mind at ease respecting the result ; for if, on the contrary, she becomes anxious and desponding, there will be every risk of the uterine action becoming unpropitious.



The administration of proper food and beverage, is another point which ought particularly to be attended to; unless the case happens to be protracted little food will be required; should it become necessary, or desirable, it cannot be too plain and light; common gruel, or tea, may be made to supersede every thing else; if thirst is troublesome, it may be allayed by toast and water, barley-water, lemonade, or any other grateful subacid; but spirits, wine, and fermented liquors, should be avoided.

The lying-in room ought to be kept quiet and cool, and the intrusion of unnecessary attendants interdicted; two attendants are all that can generally be wanted, and more only serve to render the air of the room impure; the worst of these *good* people however is, that they are apt to interfere with the cautious views of the practitioner, and suggest danger, or urge the patient, with indiscreet and mistaken zeal, to take what is improper.

Care should be taken that the bladder is duly evacuated, and in order to give the patient an opportunity of doing it without restraint, the accoucheur will do well to leave the room occasionally.

Other attentions will be obvious from a consideration of the various exciting causes above detailed.

I have already expressed my opinion, that



throughout the most natural labour, a constant and undeviating attention ought to be paid to the progress of the case, with the view of detecting incipient deviation. I am disposed to assert that this strict *surveillance* is very important in preventing the establishment of metastasis, or at least its extension into an obstinate or confirmed state.



## SECTION V.

## ON THE TREATMENT OF METASTATIC LABOUR WITH PAIN.

1. THE first indication of treatment is to remove the exciting causes ; this being effected, the metastasis may be expected to go off immediately, and the uterine action to return.

The attentions necessary to remove many of the exciting causes, are implicated in what has been advanced in the last section ; I shall, therefore, in the present place, proceed to the more important ones not included therein.

Many of the irritations, which have been enumerated as operating upon the uterine system, are out of our reach ; the painful sensations and inflammatory tendencies resulting from them (and which are more immediate sources of metastasis), may be frequently relieved by opium, and a cooling and antiphlogistic treatment ; if these symptoms run high, it may be desirable to resort to venesection ; and if the os uteri and vagina are affected, undue manual interference should be carefully abstained from.

Where rigidity of parts exists, relaxants may be had recourse to, on the principles before recommended, when speaking of the means of lessening rigidity.



When the stomach is deranged, some gentle stimulus should be administered, as camphor mixture combined with a few drops of æther, or ammonia, or some essential oil; should any acrid or irritating substance be suspected in the primæ viæ, these may be evacuated by a gentle purgative; if spontaneous vomiting takes place, it will be favourable, but there is reason to believe that exciting it by emetics has been productive of ill consequences.

Acrimonious and irritating contents within the bowels should be removed by mild purgatives and injections; after which, if pain continues in the visceral region, twenty-five or thirty drops of laudanum may be given with advantage.

Obstinate constipation will require more active purgatives, as infusion of senna, with manna and neutral salts; a stimulating injection will here be serviceable, and I have frequently found the following sufficiently efficacious: a pint of gruel mixed with a table spoonful of common salt, and four or six spoonsful of sweet oil. Should the rectum be loaded with a mass of indurated fæces, it may be necessary to break them down with the handle of a spoon, and facilitate their evacuation.

In case the bladder becomes distended, and the patient unable to make water, the catheter must be used. I have sometimes known the discharge of



only a table spoonful of urine sufficient to take off the metastasis, and occasionally have enabled the patient to discharge it, without using the catheter, by bearing up the head of the child from off the urethra by means of my finger.

It is needless to repeat what has been advanced respecting the regulation of the patient's mind. I may, however, add, that sometimes the moral treatment will be advantageously assisted by medical means, as by administering, when the spirits are depressed, occasional doses of a cordial mixture, camphor, æther, ammonia, spirit of lavender, or small doses of opium, or a little warm nutriment, or wine, or spirits and water. Especial care must, however, be taken not to over-excite the system, as this would be adding to the difficulty of the case.

2. The next indication comprises by far the more important part of the treatment. It is to remove the secondary actions resulting from the metastasis which will more frequently be followed by an almost immediate restoration of proper uterine action.

As these secondary actions in the present variety of metastasis, consist of painful affections, recourse must be had to the various means of relieving similar kinds of pain arising under other circumstances; and I dare to assert that the results will be most satisfactory, not only as affecting the



state of the labour, but as contributing materially to the present comfort and future welfare of the patient.

There are certain methods of answering the present indication which are most efficacious and useful ; upon these I shall proceed to dilate.

*a.* Bleeding. I have already adverted to the employment of bleeding as a means of relaxing rigid parts : it remains to show its application with the present intention.

Taking away blood abstracts a proportionate quantity of what is important for the maintenance of the vital actions, and therefore must be regarded as a direct sedative. When blood is abstracted during painful metastatic labour, the pain is diminished or ceases, the system is allowed to repose, and the nervous power becomes recruited, until, at length, the exciting causes of labour continuing to operate, a return of action is elicited in the uterine muscles, the happy effects of which are probably promoted by the relaxation produced in the resisting parts, in consequence of the loss of blood. I have no doubt that bleeding will produce good effects in the present kind of cases, upon the above principles, but hope presently to show that equally good or better effects will be gained, by means more simple and less equivocal. Where it is resorted to, the quantity to be taken away must be regulated by the effects ; the objects in view are to



relieve pain, and produce a slight disposition to faintness. I should recommend, however, that the latter be, on no account, carried to syncope.

*b.* By opium. The use of this medicine in protracted and painful labour, has long been deservedly extolled. I believe we are chiefly indebted to Dr. Mead for its introduction in such cases, who recommends one or two grains to be given “*cum irritis conatibus, colicorum tormina æmulis, diu parturit foemina.*” \* Dr. Spark, however, has carried the practice to its greatest extent, having exhibited no less than ten grain doses in a variety of cases with the happiest success, attributing the good effects to the consequent removal of spasm from the uterus †.

I have frequently given opium in the doses recommended by Dr. Mead with excellent effect, having seen metastatic pain relieved, and uterine action restored soon afterward, but have never ventured upon the large doses employed by Dr. Spark. In two or three cases in which I have known it largely given, uterine action has been suspended, and the termination of the case seriously protracted.

I entertain much the same opinion of the action of opium in metastasis, as has been expressed with respect to bleeding, viz. that its good effects are to be chiefly attributed to the relief it gives to pain,

\* *Monita Medica*, sect. 5.

† *Med. Phys. Journ.* v. 31.



and the consequent suspension it occasions, which, if not carried too far, probably may favour the return of uterine action in the same manner. Whether its action in thus relieving pain is that of a direct or an indirect sedative, is a point which I shall not attempt to discuss. Its possessing the property of directly exciting uterine action, as supposed by some, appears to me, very questionable.

I shall be induced to extend my observations on this medicine still further on another occasion.

Opium appears to be most serviceable in those cases of metastasis which affect the deeper-seated parts, and which are, more or less, inaccessible to the modes of treatment to be presently described.

*c.* By various medicines of the class termed antispasmodics, and which are capable of relieving pain. Many of these, however, are strong and diffusible stimuli, and therefore must be used with caution, as, by immoderate excitement, they may increase the tendency to metastasis; indeed they may generally be dispensed with. The chief of them are æther, ammonia, camphor, wine, and various other alcoholic compounds.

Æther and ammonia are the preferable ones, as their action is chiefly on the stomach, where they excite warmth, and from which they escape by evaporation and eructation, before any considerable absorption takes place.

*d.* By pressure and bandaging. It is well known



that supporting a part suffering from spasmodic pain, will tend materially to relieve it: this is particularly instanced in midwifery, by the comfort women find from bandaging, in the latter parts of pregnancy, and the anxiety they so often express to have their backs held during the paroxysms of labour.

The same kind of assistance may be advantageously extended to any part affected by metastatic pain, and particularly to the belly, back, hips, thighs, sacrum, and perineum.

Pressure may be made with one or more hands expanded over the part affected. It should be more particularly applied during the paroxysm, but will, with great propriety, be continued also during the interval, an attention which is often very important in preventing the recurrence of pain.

I find a curious passage in Bartholine, which illustrates the advantage of the above mode of pressure. He says, "*Novi in Gallia puerperas quæ feliciter etiam vivos foetus emittuntur compressione externa manuum propriarum, qua blande ad exitum propellunt embryonem, et ita sine aliarum mulierum auxilio, brevi ipsæ negotium susceptum conficiunt.*" \*

\* "I have known women in labour, in France, who have been happily delivered of even live children in consequence of external pressure made with their own hands, by which means they have, in an easy manner, promoted the birth of the child, and got over



A similar practice is described by Sonnini as prevalent among the midwives of the Levant\*.

Bandaging is best applied by means of a napkin passed over the belly, and fastened firmly behind the back. This admits of being tightened at pleasure, by an attendant placed behind, so that a regular and uniform pressure to any degree may be kept up.

*e.* By friction. Although friction of the abdomen has long been recommended to promote the expulsion of the after-birth, when retained beyond the customary time, I am not aware of its use having ever been suggested for the relief of painful and protracted parturition; and had this been the case, it must be admitted, its employment with such intention, has long been obsolete.

I hope, therefore, whether reference be made to the want of evidence of its previous use, or to the peculiarity of the principles which have led to its adoption, that I am not presuming too far in claiming a degree of originality in recommending it as an admirable and invaluable remedy in painful metastatic labour†.

the task of parturition in a very short space of time, without the assistance of any other women." Hist. Anat. et Med. rar. cent. vi. hist. 83.

\* Voyage en Grèce et Turquie. T. ii. p. 83.

† It has lately been communicated to me, by a medical friend, upon the authority of a *non-medical* resident in India, that the



Friction, with this view, is to be made with the dry hand, moved with more or less rapidity and pressure over the parts affected, so as to excite a glowing warmth in them. This is, without doubt, beneficial, in consequence of both the warmth and support which it affords; but independent of these effects, it is probable that it excites some peculiar action in the suffering fibres, resulting from the concussion or agitation which they experience, and by which their innate irritability (*vis insita*) is either exhausted, or changed in its susceptibility to receive impressions or commence action, so as to remain quiescent, or to cease from pain. The nervous energy being thus prevented from expending itself longer on the parts affected by the metastasis, is determined more largely to the uterine fibres, so as to renew, or increase, their disposition to contract.

However hypothetical the above ratio operandi of friction may be, the practical results are certain; the pain of metastasis is effectually taken off, and the genuine uterine action immediately restored, so that a case which has been protracted, amidst an intensity of suffering, for days, shall fre-

female midwives in that country, without any other knowledge than experience as their guide, actively champoo all the parts in pain, and attribute to this practice, the ease and safety of their labours. This is a strong testimony in favour of the treatment which I am advocating.



quently be terminated with comparative ease in a few minutes.

Independently of the above admirable effects, friction possesses decided advantages over all other modes of relieving metastatic pains ; it is literally always at hand, and consequently affords the readiest mode of assistance that can be offered ; its action is entirely local, and produces no improper influence on the system ; if any future result is produced, I am disposed to assert that it is a favourable one ; and it appears not improbable that the external action excited, on the principle of counter-irritation, may prevent internal disease. Hence it is an argument of no small importance in its favour, that, after its use, patients uniformly recover from their puerperal state with unexampled celerity, for I have scarcely known the necessity of giving medicine in child-bed, in any instance where the practice has been resorted to.

The friction should be applied with the ends of the fingers, rather than the flat or palm of the hand. In this way the glowing warmth will be better produced, and kept up with less fatigue to the operator ; the fingers should move over the part a hundred and thirty times in the minute, or oftener, and the greater the pressure applied is, so that it does not distress the patient, the more decided will be the beneficial effects.

Some art is necessary in regulating the degree of



pressure: the parts suffering from the metastasis will occasionally be so exquisitely sore and tender, that the impression of the hand produces most intense suffering; the patient will earnestly entreat to have it discontinued; her wishes should not, however, be complied with; on the contrary she must be encouraged to bear the operation with resolution, under the certain assurance that the inconvenience she complains of will vanish under it. In this case the friction must be commenced with only such degree of pressure as can be borne, perhaps touching the part lightly as with a feather, and then gradually increasing the force of impression, until the full friction can be borne, when, as the operation proceeds, the tenderness goes off, and the relief from pain is, at length, decided and complete.

The application of the friction is, however, seldom painful to the patient; on the contrary, the relief she derives from it will often surprise and gratify her; so much so, that she will be unwilling to have it discontinued for even an instant.

The usual position, on the left side, answers generally well for the application of the friction, but this may be varied according to circumstances. It is important to the comfort of the operator, that his arm and hand be in no ways under constraint during the application, for it is singular how immediately they begin to tire, if the least impedi-



ment is offered by the dress, or bed-clothing, or the hand of the patient; whereas, otherwise, the operation may, after a little practice, be continued for an hour or more without fatigue.

The friction will be most advantageous if applied to the skin itself, and, in obstinate cases, this is indispensable; but very excellent results may frequently be obtained through the medium of the clothes, particularly in less severe cases, or with timid females.

This mode of treatment will be found particularly serviceable when the belly, back, hips, and thighs are affected, but is not without advantage in every kind of metastasis accessible to its application.

The metastatic action, being expelled from the part first rubbed, will frequently fix itself upon another part distinct from the uterine fibres; thus on being driven from the belly, it will fix on the back: in this case the back must be rubbed in its turn. It may now attach itself to a third part, or return to the first; it must be pursued and dispossessed of all its holds, until, at length, the true uterine action is re-established. In accomplishing this complication of friction it may be necessary to use both hands at once, or pressure on some of the points may be substituted by the hands of an assistant.

It may be observed, that pressure and friction



may occasionally be combined together, or made very advantageously to assist each other ; thus, for instance, I am frequently in the habit of using friction during the interval, and changing it for pressure when the paroxysm comes on, and *vice versa*.

Under the above cases of complicated friction, the attentions of the accoucheur may become not a little laborious, but this ought not to discourage him from persevering ; practice will in time render it easy, and he will be fully compensated by the relief given to his patient, and the saving of time to himself\*.

The friction above recommended is intended to be made with the dry hand only, and I am not aware of any advantage from combining it with medicated media. Oily and soapy matters by diminishing friction, would detract from its good effects ;

\* That it is less generally adopted than its important effects entitle it to be, is not a matter of surprise to me, who, in my first employments of it, frequently experienced the fatiguing effect it produces upon the operator ; hence medical accoucheurs will often feel reluctant to encourage a practice productive of so much unpleasantness to themselves, however beneficial and comfortable it may be to their patients : but when the hand and arm are accustomed to it, it is soon divested of this inconvenience. This is fully confirmed by the facility with which persons, who are in the habit of applying friction to diseased limbs, continue it for several hours, without fatigue, although, when they first began the practice, a short rubbing occasioned very considerable weariness.



spirituous embrocations are less objectionable, and may be used ad libitum, prepared with camphor, ammonia, opium, or a variety of other ingredients.

*f.* Fomentations are also particularly useful in the present kinds of labour, although in their effects by no means comparable with friction; flannels that have been immersed in hot water may be applied, the fluid being first well expressed, as hot as can be borne to the parts affected, and renewed from time to time, so as to keep up a constant warmth.

Fomentations are more particularly serviceable in affections of the pubic and pudendal regions, or of the perineum, where friction cannot be conveniently used. The good effects are chiefly attributable to the warmth imparted, although it is not improbable that the moisture is not without its utility.

*g.* Warmth, applied in any other manner, will be beneficial, as by means of a bladder partially filled with hot water, or a bag of heated oats.

*h.* Injections are often extremely serviceable, particularly where parts situated within the pelvis, or the abdominal viscera, are affected. Simple hot water may be thrown up; or it may be combined with a hundred drops of tincture of opium, or be made more stimulating by adding a table-spoonful of common salt; I have frequently experienced



the great efficacy of the latter in producing more energetic uterine action.

Fomenting injections may also be thrown up per vaginam, in case this part or the os uteri are suffering pain.

3. The next indication is to remove the metastasis, by the employment of such means as tend more *immediately* to restore or strengthen uterine action. The whole of these have already been detailed, when treating of the various modes of overcoming the resistances of rigid or opposing parts.

4. The fourth and last indication is, that in case the means above recommended prove inefficacious, or the patient appears worn out, or in danger of sinking, it will be necessary to have recourse to the forceps, or such other instrumental or artificial mode of delivery, as the nature of the case may require.

#### CASE X.

SHOWING metastasis excited by an inflammatory or tumid state of the os uteri, the effect of increased irritation consequent to the rupture of the membranes ; the metastasis affecting the back, and abdominal muscles, and accompanied by an irregular contraction of the latter ; admirably relieved by friction ; the delivery followed by metastatic after-pains.



July, 1819. Mrs. Preston, the mother of many children, had always experienced most painful and protracted labours, having never been less than two or three days under acute suffering. She was taken in labour at eleven o'clock in the evening; at three in the morning the membranes ruptured; and I arrived at four. The os uteri was well dilated, but had a remarkable tumid feel as if inflamed; the child's head was entering the pelvis; and the paroxysms appeared, at the first view of the case, to be very forcing, but mixed with a remarkably acute expression, and attended by violent pain in the back, succeeded during the interval by a constant and almost unbearable aching. On making a careful examination, the forcing part of the paroxysm proved to be extra-uterine and metastatic, consisting of violent but momentary strainings of the abdominal muscles, in the intervals between which, the uterine viscus might be felt quite flaccid; while the volume of the uterus was perceived, during the strains, to be pressed downward by jerks.

In addition to these symptoms, at eight o'clock, a great want to empty the bladder came on, which was effectually relieved by introducing the catheter, notwithstanding no material accumulation of urine had taken place.

At half after nine, there being no sensible progress, I commenced a vigorous friction upon the back, which *instantly* removed the pain therefrom;



the paroxysms now sensibly did good, but it was remarkable that, whenever the friction was intermitted, the bearing-down action immediately diminished.

In this way I *compelled* the case to make progress, so that in two hours from commencing the friction the child was born.

The after-pains were particularly distressing, and described by the patient as exactly resembling the above metastatic paroxysms; the patient's recovery was, however, a rapid one.

#### CASE XI.

EVIDENCING strong predisposition to metastasis; the metastasis, at first complete and affecting the abdominal parietes; admirably relieved by friction; afterward mixed with uterine action; the case finally and happily terminated by pressure on the abdomen, stimulation of the os uteri, and artificial dilatation.

Aug. 19, 1819. I was called to Mrs. Meads, the mother of eleven children, with all of whom, one only excepted, she had experienced very painful labour of two, three, or four days. Knowing these facts, I had before-hand determined to make every effort to terminate the case more favourably.



The first symptoms of labour had occurred on the preceding evening. On my arrival at ten o'clock in the morning, I was informed that she had suffered strong and regular pains; the os uteri, however, was only dilated to the size of a shilling. On applying my hand to her belly during a paroxysm, I found it remarkably sore, and the uterus perfectly flaccid, without the least tension; the accompanying pain being of a most acute character. Important business compelled me to leave her for two hours; on my return, at twelve o'clock, I found her much the same, except that she was more dejected, and the tenderness of the belly become so exquisite, that the slightest touch, or motion on the bed, produced inexpressible agony.

Satisfied of the existence of metastasis affecting the parietes of the abdomen, I commenced an active friction, tempering, however, in the first instance, the force of the impression to her capability of bearing it. The relief was immediately such as to astonish my patient; the pain entirely vanished; the paroxysms became expulsive; and, ere long, the os uteri was one-third part dilated. The friction, however, at length producing a superficial soreness of the skin, I was unable to continue it as I wished, and the action became less perfect, so as to consist of a mixture of uterine contraction and metastatic pain. I now changed the friction for pressure made upon the belly by the



hands of a female attendant, and began to stimulate the os uteri with the finger, and to dilate it carefully with the same during the continuance of the paroxysm, which was borne without appearing to give the slightest distress.

The progress now became gratifying, but soon after, at half past one o'clock, being summoned to dinner, my attentions were intermitted for an hour. On my return, I found not the least additional progress; but on renewing the stimulus, and artificial dilatation, the action immediately became very forcing; the os uteri was soon completely dilated, the membranes ruptured, and, at four o'clock, my patient was delivered. She had afterward a rapid recovery.

As I only date the commencement of my assistance at twelve o'clock, and it was intermitted entirely for one hour, during which no progress was made, I do not hesitate to say that this case was terminated by the means used in *three* hours; whereas, both from the nature of the existing action, and from the analogy of former experience, there is every reason to believe that it would otherwise have been protracted two, three, or more days.

#### CASE XII.

OF metastatic affection of the back greatly relieved, and uterine action promoted by friction.



Mrs. P. was taken in labour with her first child on the 28th Nov. 1819. The first symptoms occurred about two o'clock in the afternoon; at eleven in the evening, the paroxysms, which before had been going on apparently in the ordinary manner, became less frequent and severe; I found the child's head filling up a considerable portion of the pelvic cavity, but the os uteri was only dilated to the size of a shilling. At a quarter after one I saw her again, when the paroxysms were more frequent, and acutely painful, affecting chiefly the back, which she was anxious to have supported; there was however not the slightest bearing down, nor was the os uteri more dilated.

After waiting half an hour, without any favourable change, I began to apply friction to the back, at first through the medium of the bed-clothes; even in this way it gave considerable relief. I now, however, gradually insinuated my hand under the various coverings, until at length I applied the friction to the back itself; the pain in this part was now entirely relieved, and my patient requested I would continue it without intermission, saying that it was 'delightful,' and that it did more good than any thing. The pains were at this time confined to the abdomen, and for a time bore down strongly; finding however, soon afterwards, much pain and tenderness in the abdomen, with an evident diminution of pressure, I rubbed this part



also, when the soreness went off, and several forcible contractions succeeded. At two o'clock, the os uteri was dilated to nearly the size of a crown piece.

After this, the lady became exceedingly anxious and dejected, and combinations of uterine and metastatic action took place, while the paroxysms diminished in frequency; nevertheless, under the continuance of friction, there was sufficient uterine pressure to make a sensible progress.

In this partially correct state the case went on to its termination. At four o'clock, the os uteri being dilated to the diameter of two inches and a half, I ruptured the membranes, after which the paroxysms materially improved; at six o'clock, the head pressed forcibly on the perineum; and at seven, my patient was delivered. I left her in the highest spirits, and she recovered without being sensible of any illness.

I doubt not, that without the friction, the present would have proved a highly protracted and distressing case.

#### CASE XIII.

SHOWING the possibility of a female attendant applying friction, through the dress of the patient, with the greatest advantage, so as to prevent pain and metastasis, and produce an easy and most pro-



pitious labour; also the advantage of friction with respect to the placental expulsion.

Mrs. P. (the subject of the last case) was again taken in labour on the 10th July, 1821. When I arrived, Mr. P. informed me that she was not materially ill, and that he considered the labour only in an incipient state. On being ushered into my patient's apartment, I found her sitting near the window, evidently suffering a paroxysm of uterine action, although not indicated by any painful expression; what struck me most forcibly, however, was, a female attendant placed at her back, and making a friction upon it, through her dress; this I was told had been done throughout the morning, and that the comfort it afforded was very great; in short, I had soon a full demonstration of this, for throughout the remainder of the case she would not allow it to be discontinued for an instant; even when I entered the room, the attendant in question having raised her head and desisted for the moment from the friction, in order to reconnoitre me, was earnestly desired, with an evident tone of increased and severe pain, to 'rub on.'

In the course of ten minutes from my entering the room, my patient was induced to lie on the bed, when I found the child's head pressing through the os externum. I immediately ruptured the



membranes, after which, in a couple of paroxysms, the child was born. Even now she would not allow the friction to be discontinued until the after-birth was expelled, which happened in two minutes from the birth of the child. In a very few days, Mrs. P. was completely well again.

I never witnessed more surprise and pleasure than her friends expressed at this unexpectedly early and easy delivery, in which the exemption from pain, and probably from metastasis, was without doubt, attributable to the friction.

#### CASE XIV.

OF violent metastatic pain in the hip and thigh, materially protracting the labour, and successfully treated by friction, and artificial irritation of the orificial parts.

I was sent for, Dec. 24, 1822, by Mr. Dabbs, a gentleman attending my lectures, to assist him with Mrs. Cooley.

The os uteri was well dilated, and the child's head filled up the pelvis, in which situation Mr. D. stated that it had been for the last six hours, without the least advancement, notwithstanding the pains had been excessively violent. He added, however, that they had chiefly affected the right



hip and thigh, and been unaccompanied by any uterine contraction, and that he had kept up a continual friction, which gave great relief.

The first pain which came on fully confirmed the preceding account, the poor woman crying out with the greatest agony, and earnestly entreating to have her hip and thigh rubbed.

Besides continuing the friction, I stimulated the orificial parts with my finger, with a view of exciting the action of the uterus; the next paroxysm bore down considerably, with a material diminution of the former violent pain. After this, we had powerful uterine action, divested entirely of the metastatic pain, which, in a few paroxysms, and in less than twenty minutes from the time I entered the room, expelled the child.

This woman had, in her previous confinements, always experienced very bad and lingering labours.

#### CASE XV.

OF metastatic affection of the back, probably arising from obliquity of the os uteri, most successfully terminated by means of friction, artificial stimulation, and dilatation of the os uteri.

March, 1823, I attended Mrs. Gulley. The membranes had ruptured twelve hours before I



was sent for, and she had suffered very frequent strong pains, lying chiefly in the small of the back. On examination, the os uteri was dilated to a degree scarcely sufficient to admit the point of the finger, and, at the same time, very obliquely situated near the sacrum, and its edges so thick, as almost to feel like an unobliterated cervix; the paroxysms were entirely without uterine contraction or pressure. With the index finger of the right hand, I attempted to draw the os uteri into a more central position, and at the same time to stimulate and dilate it; while, with the left hand, I kept up a vigorous friction on the back, the pain of which was, in consequence, immediately relieved; uterine action became vigorous, and the progress most satisfactory, so that, in little more than an hour, the child was born.

This woman had before suffered very difficult labours, and, in the previous one, been delivered of twin children with the forceps, by an accoucheur of the very first eminence.

#### CASE XVI.

OF metastasis affecting the abdomen and back, in which friction was highly useful.

April 25, 1823. Mrs. Judd, when I arrived at



five o'clock in the morning, had been experiencing pain every ten minutes, which she described as very grinding and acute; there had been no show; and the child's motions were unusually distressing to her. I found the os uteri very obliquely situated towards the sacrum, only dilated to the size of a shilling, and with very thick rigid edges. The pain was violently acute and cramping in the back and belly, the latter remaining so tender during the interval that she could hardly bear the slightest touch; and during the paroxysm, the uterine viscus was entirely flaccid and uncontracted.

With the finger of my right hand, I kept up for a time, a gentle stimulation of the os uteri, while, with the left hand, I rubbed the back of my patient through her dress as she lay on the bed, commencing the friction very gently, and then gradually increasing the impression as the soreness went off. Two or three paroxysms shortly came on, which were less grinding and more bearing. After this, my patient complaining much of her back, I applied the friction to it with one hand, while the other continued to rub the abdomen; the paroxysms now became powerfully uterine, and she expressed herself quite relieved from her former acute suffering; the case went on most satisfactorily; before seven o'clock the os uteri was well dilated; and about nine o'clock my patient was put to bed.



## CASE XVII.

OF violent metastatic affection of the back and belly which appears to have been excited by mental agitation, showing the good effects of friction, and particularly the artful manner in which it requires to be conducted, when there is considerable tenderness or soreness of the parts affected.

Mrs. Clark was taken in labour with her sixth child on the 16th of May, 1823. At ten in the evening, the pains came on every ten minutes with much violence, the membranes were ruptured, and the os uteri well dilated; the head however lay rather high in the pelvis, and the extremity of the sacrum appeared to be turned inwards towards the pubis, so as to contract, more than usual, the longer diameter of the lower aperture of the pelvis.

After my arrival the pains began to remit, both in strength and frequency, but still there was sufficient uterine pressure to drive the head, within the first half hour, much nearer to the os externum; after this, my patient became greatly dejected and agitated, the pains ceased to bear, and became entirely extra-uterine, occupying the back and abdominal parietes, and affecting the latter with exquisite soreness and tenderness, so that I found the greatest difficulty in being allowed to rub the back, which, however, was materially relieved by it; but



when I attempted to extend the friction to the belly, the distress was so great, that my patient, in a most peremptory and fretful manner, insisted upon my discontinuing it. I consequently gave up the attention for the present, determining for a while to await the event.

After two hours more of most exquisite suffering, not the slightest progress having been made, I resolved to attempt the friction again, first explaining to my patient that my object was to relieve the violent pain, which she must be sensible did not bear down, and consequently was not of service, and assuring her that I would give her no additional distress, provided she would allow me to do as I wished. Under these assurances, she permitted me to commence my friction, which I did by moving my fingers in the lightest manner possible over the surface of the abdomen, and then gradually increasing the force of the impression. I had the pleasure of finding the tenderness rapidly yield, while the uterus began to contract firmly under my hand; before long, my patient could bear the fullest pressure without the least distress; the head soon began to push forcibly on the perineum, and through the os externum; and in less than half an hour from commencing the friction, my patient was delivered of a child, whose forehead was materially bruised, evidently by the pressure of the inflected sacrum.



## CASE XVIII.

OF violent darting metastatic pain in the bowels and back, with a complete cessation of uterine action, most admirably relieved, and terminated, by friction; and which also shows a combination of partial uterine with metastatic action.

I was called, April 25, 1823, to Mrs. Lawrence, who had been taken in labour on the preceding evening. When I arrived, at a quarter after eleven o'clock in the morning, the os uteri was fully dilated, and the child's head lying near the os externum, but the pains were few and slight. I ruptured the membranes, after which, notwithstanding many highly distressing paroxysms succeeded, all uterine contraction and pressure ceased entirely. The pains, as she expressed it, now darted into her bowels and back, and the surface of the former became highly sensible to the touch; while her mind showed itself greatly depressed and agitated.

I attempted to make friction upon the belly, but was prevented from doing it effectually, by the impediment offered by various bones in her stays. At the end of an hour, finding no manner of improvement, I directed the stays to be removed, and commenced a more energetic friction. At first she requested me to desist, on account of the great soreness of the part; in two or three minutes a pa-



roxysm came on, which, in the first instance, was a mixture of uterine and metastatic action, as I could feel one part of the uterine viscus contracting, while the other remained flaccid, but then terminating in a more perfect and general uterine contraction, my patient observing that it bore well, and that she thought another or two would deliver her.

On continuing the friction, we had another paroxysm or two of the same nature ; after these all the former soreness and darting pain entirely vanished, the action becoming bearing in the extreme ; and in less than twenty minutes from the commencement of the more active friction the child was born.

#### CASE XIX.

OF metastatic pain, probably excited by improper administration of spirits, or other bad management ; relieved by friction and other appropriate means.

I was requested, in the summer of 1822, to visit a female, who had been many hours in labour under the care of a professional gentleman. I found her walking about the room, under a state of great mental agitation, and complaining of violent pains affecting her back and belly ; and I could perceive



that spirits or other improper beverage had been freely administered. The os uteri was very slightly dilated, and the child's head lying high in the pelvis, so that I could with difficulty touch it. It was in consequence of a suspicion, excited by this indistinct feel of the child's head, that the presentation was incorrect, that my opinion had been desired; the case appeared, however, to be purely one of defective action, arising from metastasis.

I was neither expected, nor able to stay long with the patient, but I made one vigorous friction on the parts affected, which appeared to give her instant relief, and then left her, having prescribed a draught with twenty-five drops of tincture of opium, and enjoined a mild cooling regimen, and great quietude of both body and mind, assuring her that all would do well.

I was afterward informed that she continued for a time quite relieved, and, in short, free from pain, until at length proper uterine action came on, when she was most happily delivered.

#### CASE XX.

OF complete metastasis produced by mental emotion, and most admirably relieved by friction, which not only restored powerful uterine action, but deprived the labour of all painful sensation, so as to bring it into a state resembling the primitive natural process.



Mrs. P., the subject of Case IX., was taken in labour with her fourth child on the 31st of January, 1814. The uterine paroxysms commenced between twelve and one o'clock after midnight, and went on, for more than an hour, under the most favourable appearances, the os uteri having in that time become more than a third part dilated. Her mind, however, now all at once became impressed with the idea of not doing well, nor could any assurance to the contrary remove the opinion. The paroxysms, which before had consisted of bearing down only, became immediately combined with acute pain, and the abdominal and vaginal examinations evinced a total want of uterine contraction; in short, the metastatic state was fully established.

The pain thus existing, being principally confined to the region of the abdomen, friction upon it was commenced; it instantly removed to the back; on rubbing the latter it reverted to the belly; both hands were now called into action, and a vigorous application made to each of the suffering parts; the pain ceased, and the uterine action became re-established; in less than an hour afterward the child was born.

It remains to notice some remarkable features of the present case. The comfort experienced from the friction was so great, and the return of metastatic pain so instantaneous, whenever it was discontinued, that the patient would not admit a mo-



mentary relaxation of it, even for the purpose of vaginal examination ; it was, consequently, continued until the rupture of the membranes made that examination necessary ; when, to my great surprise, the head of the child was found protruding through the os externum.

The whole process of parturition, during the application of the friction, appeared to consist of one continued paroxysm, not expressed by the least indication of pain, but, as the patient afterwards admitted, quite unconnected with it, and consisting of an unceasing, forcing, and expulsive nîsus, which was only interrupted by the exclamation of “ rub, rub, rub ! ” whenever the least intermission of the friction took place.

#### CASE XXI.

SHOWING genuine natural labour, with the exception of one metastatic paroxysm, in a patient who had in a former case experienced a most severe and protracted labour evidently of the metastatic kind ; this case shows, also, one of the peculiar advantages of abdominal examination.

The lady of Sir W. D. experienced her second parturition on the night of the 5th and 6th of November, 1817. She had been attended in her first confinement by a most respectable accoucheur, and



had suffered a painful and protracted labour. On my first introduction, about nine o'clock, she assured me that she had scarcely suffered any pain, and therefore did not consider it probable that my assistance would be required for the present; she however admitted the existence of regular paroxysms, attended by a bearing down feel; one of these paroxysms occurring, an opportunity was afforded of satisfactorily ascertaining, by applying my hand to the abdomen through her dress, and as she sat in her chair, that the uterus was powerfully contracting; and I consequently assured her that there could be no doubt of the existence of labour, and of considerable progress.

In the course of the desultory conversation which ensued, she stated that her professional attendant had informed her, that in the earlier period of her former labour, a considerable progress had taken place, and that an early termination had been anticipated; but that notwithstanding, it was protracted and the progress arrested in a manner which was inexplicable; and added, that at length she was delivered suddenly and unexpectedly. I could not doubt but that this protraction arose from metastasis.

On seeing my patient again, about half past twelve o'clock, she had continued to experience regular paroxysms, but with little or no pain connected with them. On examination, the os uteri



was half dilated, and I consequently wished to have continued in the room; at her request, however, I retired to bed, under the promise of being called in the event of the waters discharging, or the paroxysms becoming stronger. About half after four I was sent for, and found the os uteri fully dilated, but the membranes unbroken; my patient, however, still asserted that she had suffered too little to conceive the case in any considerable degree advanced, particularly as she was sensible of nothing like what she had undergone in her first case. Immediately after this, she exclaimed, *that she had a pain like what she had before experienced at H—*. On examination, this paroxysm was found entirely divested of uterine action, and I began to fear an indefinite period of metastasis, of which this pain undoubtedly consisted; but on rupturing the membranes, the next paroxysm or two fortunately proved uterine, and terminated the labour.

#### CASE XXII.

OF metastatic labour, protracted for nearly a week, and terminated in twenty minutes by the application of friction.

I was summoned to Mrs. Deacon, who had been five or six days in labour, under the care of a female midwife. This woman informed me, that



her patient had continued in nearly her present state during the greater part of the above period, and without making the least progress. She was much exhausted, but her pains had not ceased. On making an examination, the os uteri was found well dilated, the waters evacuated, and the head lying very low in the pelvis; the paroxysms affected the back and belly with severe spasmodic pain, and were entirely unaccompanied by uterine action.

On applying friction, this improper state was instantly removed, and the uterine efforts restored: in twenty minutes the child was expelled.

This poor and unfortunate woman, being, independently of her parturition, in an ill state of health, was so exhausted by her labour and disease conjoined, that she sunk in a few days after delivery, without the appearance of any puerperal complaint.

A variety of other cases are comprised in the body of this work, which illustrate the nature and treatment of the present kind of labour; namely,

Case VIII. Showing the origin of the affection from distension of the bladder.

Case IX. Of very obstinate metastasis from premature rupture of the membranes.

Case VI. Where obstinate metastasis appears to have arisen from an inflammatory state of the soft



parts, and which was excellently relieved by orificial stimulation, abdominal pressure, and friction.

Case I. Where uterine action was entirely suspended by spontaneous exertion, or bearing down with the abdominal muscles.

Case XLI. Of metastatic action affecting the rectum, and producing expulsive-like sensation; and which affords a strong illustration of the power of friction.

Case XXXI. Of puerperal convulsions preceded by painful metastatic labour, arising from mental emotion, or improper manual irritation of the parts by a midwife.

Case XXXII. Of puerperal convulsion, also intimately connected with metastatic pain, and which appears to have originated from mental anxiety.

The succeeding cases have kindly been furnished by medical friends; they will be inserted nearly verbatim as communicated to me, and without any comments; so that the reader will draw his own inferences with respect to the very valuable additional testimony which they afford.

#### CASE XXIII.

COMMUNICATED by Mr. Watson, Surgeon, Market Bosworth.

“On the 27th of April, 1818, I was called to



attend Mrs. B., who was in labour with her third child. On my arrival, I found she had been seriously ill about three hours and a half, but had been rather complaining the whole of the day before.

“The pains returned about every four or five minutes, and were very severe indeed. She mentioned the circumstance to me of having been five days in labour with her last child, under the assistance of a female midwife, and that the pains were then entirely confined to the loins. On applying my hand to the abdomen, during a paroxysm of pain, I felt very little uterine action present, and concluded immediately that she was suffering under a metastatic state. The mind was calm; the rectum and vesica urinaria empty.

“Having got her to bed, an examination per vaginam was made, and the state of the labour was as follows: A small portion of the membranes, which seemed extremely thick with a coriaceous feel, distended with liquor amnii, had protruded through the os uteri, its dilatation being just sufficient to admit the points of two fingers, in the absence of a pain. There still appeared very little uterine action, though the pains regularly returned with undiminished violence. There was no obliquity of the os uteri, nor did it evince any uncommon state of sensibility. At the commencement of the friction which I immediately began to em-



ploy, she complained of a great deal of pain and soreness in the part, and begged me to desist. I, however, encouraged her to have it continued, by telling her that it would very soon relieve her sufferings, and tend to promote a speedy termination of the labour. I had scarcely employed it five minutes, before the desired effect was produced.

“The pain, so long as the friction was kept up, was considerably diminished, and often entirely removed from the back; and the uterine action was, at the same time, increased. If the friction was for an instant discontinued, the metastatic action immediately returned. She soon found the utility of it, and requested it might be continued, which was done for nearly four hours, at the expiration of which time the head was protruded through the os externum. Nothing more particular happened in the course of the labour, except that the membranes remained unruptured until within a short time of the birth of the child. The liquor amnii was in great quantity.

“The placenta was readily extracted, the uterine action which expelled it being immediately excited after slightly irritating the os uteri. The rigidity of the membranes, as connected with the excessive quantity of liquor amnii, appears, in this case, to have been the exciting cause of the metastatic state, which, however, was not perfectly complete, but mixed with uterine action.”



## CASE XXIV.

By Mr. Weston, Surgeon, Kibworth, near Leicesters.

“DEAR SIR,

“You perhaps may feel interested by the following particulars which occurred in my attendance upon a poor woman, aged twenty-four, and in labour with her first child, on Saturday, Nov. 24, 1821. On my arrival at twelve o'clock at noon, I was informed that she had suffered violent pains in her back, shoulders, and abdomen, coming on in regular paroxysms since four o'clock on the Friday morning preceding. My presence appearing to suspend the pains, and having no reason to think the labour in an advanced state, I thought it better to leave her for a time. At three o'clock I found her suffering very intensely; on examination per vaginam, the os uteri was little dilated; at eight in the evening no progress being evident, I gave her twenty-five drops of laudanum.

“At ten o'clock, she sent for me again, the membranes having ruptured; the os uteri was, however, in much the same state as before; she complained of excruciating pain in her back and thighs, but, more especially, in her shoulders. Finding the state of the labour thus unfavourable, my patient nearly exhausted, and no uterine action



evidenced on applying my hand to the abdomen, I was induced, under the impression that this was a case of metastasis, to try the effects of friction. The shoulders at this time being the chief seat of pain, I commenced a vigorous friction upon them, and before many minutes were elapsed, she said the pain was quite gone, and immediately after fell asleep, and continued in that state nearly two hours, when she awoke suddenly, complaining of violent pain in her back, rolling herself about the bed from side to side, and entreating that she might be delivered with instruments. I found the os uteri, however, much more dilated, yet on examination per abdomen the state of uterine action was in no respect commensurate with the degree of pain she appeared to suffer, particularly in her back; therefore I applied the friction to that part, and it immediately had the effect of removing the pain, although it shifted to the thighs. By desire of my patient, I now followed it with the friction, and expelled it from the thighs, when she once more expressed herself quite easy, and fell fast asleep; yet when the friction was discontinued, she awoke, and begged I would continue it. In this way, she slept for five or six hours, the friction being obliged to be kept up all the time.

“ Soon after seven in the morning, powerful uterine action came on, and by half after nine, she was delivered of a girl.



“ My patient recovered in the most satisfactory manner.”

# CASE XXV.

COMMUNICATED by Mr. Langstaff, R.N., and Physician's Assistant at the Royal Hospital, Plymouth.

*“ March 31, 1821.*

“ I HAD the extreme gratification of experiencing a complete illustration of metastatic determination of the parturient energy to muscular parts, and the salutary effects of friction during parturition, in the case of Mrs. Holt, whom I delivered of her first child on the 29th instant.

“ When I entered her apartment, I found her in excruciating agony from pain alternately in the thighs, lumbar and hypogastric regions. Upon examination per vaginam I discovered that the membranes had been just ruptured, and the head received into the os internum. Mr. H., an accoucheur, who attended in conjunction with me, had immediate recourse to friction, which, if I may be allowed the expression, appeared to have acted like a charm, for, in fifteen minutes, we had the pleasure of seeing our patient perfectly free from pain, and in half an hour from the period of our arrival at her bedside, the delivery of the child, and ex-



pulsion of the placenta, &c., were completed, and such was her gratitude towards Mr. H., who steadily persevered in the above useful operation, that she said, 'God bless you! you have saved me from considerable torture.'

"Upon my visit to her on the following day, I enquired how she felt, and her reply was 'charmingly,' and from the state of her pulse, tongue, skin, and animation of her countenance, I could not have supposed, except from my previous knowledge of the case, that she had been so recently in labour."

#### CASE XXVI.

COMMUNICATED by Mr. Leech, Surgeon, &c.

"THE following case, with several others, has fully convinced me of the utility and good effects arising from friction in labour, as tending not only to subdue spurious pains, but to shorten and greatly relieve the sufferings of the patient. I was sent for to attend a poor woman with her second child; upon entering the room, I found her walking about apparently in much pain; on making inquiries, I found she had been in that state since the preceding Friday.

These pains I considered only as spurious, both from their situation, duration, and that want of ten-



sion of the abdomen during the paroxysm, which denotes the true parturient action; vaginal examination confirmed my opinion, the os uteri being not at all affected, neither was it much dilated; finding this to be the case, and the woman still continuing in pain as above described, I resolved to try friction, which I did, and the result proved most successful; she found immediate relief from it; her former pains were removed, and the true parturient action was fully established; and the rapidity with which each pain was succeeded by another was astonishing; and before ten o'clock she was delivered of a girl.

"Upon my leaving the room, she expressed herself in the most grateful terms for what I had done, and said she was sure I had shortened her sufferings many hours, which I think there can be but little doubt of."

#### CASE XXVII.

COMMUNICATED by Mr. Oldmeadow, Surgeon, Welwyn.

*"Welwyn, Dec. 2, 1821.*

"ON Monday, Nov. 26, I was called to Mrs. J. F., residing within a mile of this place, at three o'clock, a. m. She had been a long time ill. On the Wednesday fortnight previous to the Monday on which my attendance was requested, she was taken



in labour and sent for the gentleman who was to attend her, and I was informed by the nurse, that, soon after his arrival, the membranes ruptured spontaneously, and much water passed; the patient said she was in strong labour, but did not feel the child bear down at all, and described her pain as being all round her, but most severe in the lower part of the abdomen, in which way she continued eight hours, the pain afterward going off. The gentleman then left her, but was again sent for in two days, when the pains had returned with increased severity, and again, after some hours' continuance, ceased. Thus she went on, from time to time, until the Friday before I saw her, when she was taken worse than ever, so that she felt in her own mind that with 'proper assistance she should be delivered.' Disappointed, however, in this expectation, she lost all confidence in her medical man, and saw him no more. On the following Monday I was sent for. I found her in a very low state, and the pulse hardly perceptible. I gave her some gruel with brandy in it, which raised her pulse and spirits, for she had persuaded herself that she could not be delivered.

"At first the pains cut off very short, coming on about once in twenty minutes, but unattended by any tension of the abdomen; the os uteri was dilated to the size of a crown-piece, and I could just reach the head of the child. I now com-



menced a gentle friction on the abdomen ; the poor patient at first entreating me not to do so, saying she ' could not bear it,' however I continued and kept it up for an hour without ceasing, during which time she had many paroxysms, the belly becoming more tense under each. My patient had now not only for some time discontinued her entreaties for me to leave off, but on the contrary told me that she was quite comfortable, and that all the soreness had left her, adding that the child seemed to bear down very much, but that the pains were not strong, on which latter account she was apprehensive they would go off again. I now found the head in the pelvis, and that we were making rapid strides towards a conclusion of this most tedious case. I commenced the friction at four o'clock, and at seven gave the nurse the child ; the placenta followed in about three minutes ; I then gave her twenty-five drops of tinct. opij, and left her. In the evening I found that she had slept for some time, and was greatly refreshed by it ; and she told me she felt so well that it appeared like a dream to her. On the following day I gave her a cathartic, and on the Thursday she came down stairs to dinner, and continued down ; she had no after-pains although it was her third child.

" MY DEAR SIR,

" THE above is one of the many cases which I



have met with which illustrate the beneficial effects of friction, and I beg to add you are perfectly at liberty to make use of it in any way you may think proper.

“ Believe me to be, &c. &c.

“ H. E. OLDMEADOW.”

#### CASE XXVIII.

Also communicated by Mr. Oldmeadow.

“ On Wednesday, the 20th of June, 1821, at nine o'clock in the evening, I was called to attend Mrs. Burton. I found my patient walking about the room; her pains came on with regularity at intervals until two o'clock the following morning, when, finding no appearance of immediate delivery, I gave her twenty drops of tinct. opij, and left her. I was summoned again about ten o'clock; although I was informed that the pains had continued strong and regular, I found the labour had made no progress, the os uteri being little dilated, and the head so high up that I could but just reach it with my finger. On enquiry, I found the pains had been all along confined to the back, and placing my hand on the abdomen I could distinguish none of that contraction and tension of the uterus which characterize the true parturient paroxysm, however I thought proper to wait with patience.



“ About two o’clock, the poor woman became almost frantic with the violent pain in her back, and I now resolved to try the effect of friction, which I applied with the dry hand, or rather finger-ends, at first very gently, on account of the back being so tender from the pain, and gradually increasing the action until my arm ached; the relief this afforded was evident, for on ceasing a moment to rest, my patient requested me (using her own words) to ‘go on.’ On my placing my hand on the abdomen, I now found the tension I had so long wished for, and that the pains were bearing down, the poor woman spontaneously using the following expression, ‘Now my child is for the birth;’ the back was relieved; more of the waters passed (for the membranes had ruptured the day before); the head passed into the vagina with a very few pains, and these accompanied by comparatively little distress; and before three o’clock I had the pleasure of presenting to my poor exhausted patient a fine boy.

“ Thus, within three quarters of an hour from the first application of the friction, was this long and tedious labour terminated.”

#### CASE XXIX.

COMMUNICATED by Mr. Padfield, Surgeon, Shepton Mallet.



“ As I think the following case may be interesting to you, I take the liberty of stating the particulars, which you are at liberty to make any use of you please.

“ I was called, at eleven o'clock in the forenoon, to Mrs. Wright, in consequence of the absence of a medical gentleman who had previously been in attendance. I found she had suffered, the evening before, violent paroxysms of pain in the back and round the belly, which I was informed had been entirely removed by the use of friction. She told me that this was her second child, and that with her first, eight years before, she had experienced painful and protracted labour. On examination, the os uteri was not in the *least dilated*, and during the paroxysm no pressure was exerted upon it, in short I was convinced that, notwithstanding the violence of the paroxysms, the uterus was wholly uncontracting.

“ I was induced to repeat the friction, of which I made a vigorous application to the back and abdomen, which parts were more particularly in pain. The pain was immediately relieved ; in short, it quite changed its character, and became strongly forcing and with a grave tone, instead of being as before acutely spasmodic and grinding. As my hand moved upon the abdomen, I could feel, during the paroxysm, the uterine tumour become tense, so as to convince me that genuine action had



now taken place. The os uteri rapidly dilated, and this case, which had previously threatened to be painful and protracted, terminated, to my great surprise, in little more than half an hour from the time I first entered the room."

## CASE XXX.

EXTRACT of a letter from Mr. Hawkins, Surgeon, Brierley Hill, near Dudley.

"In several cases of protracted labour from metastasis, I have employed friction upon the abdomen, with the points of my fingers formed into a conical shape, with the happiest results; in one case in particular, where uterine action came on, and the child was expelled in about ten minutes, after the female had been in a lingering state for ten hours."



## CHAPTER VIII.

ON METASTATIC LABOUR WITH  
CONVULSIONS.

THIS affection, generally known under the name of puerperal convulsion, or eclampsia, consists in the occurrence of convulsions resembling those of epilepsy.

The attack is commonly preceded by a train of precursory symptoms, which must in the first place be noticed.

There is frequently, before the convulsions come on, more or less metastatic pain, accompanied by considerable anxiety and dejection ; these are succeeded by indications of increased determination of blood to the head, as pain in that part, suffusion of the face, giddiness, impaired vision, tinnitus aurium, and other symptoms.

After these preludes, an attack of convulsions may be expected. At length the face becomes violently contorted, and every part of the muscular system rigid or convulsed ; the mouth foams, and the tongue is protruded ; the respiration is difficult, and during the expiration a peculiar hiss-



ing sound is made, which has not unaptly been compared to a cat spitting.

Under this attack, a vessel is sometimes ruptured on the brain, and the patient dies in a state of apoplexy; but, more commonly, after the fit has continued a greater or lesser time, as, for instance, from a minute to half an hour, the convulsion goes off, and is succeeded by stupor or coma, from which the patient gradually rouses and becomes sensible again.

After an interval, the convulsion returns with all the previous train of symptoms, but generally with aggravated violence, and these repetitions continue to recur with increased frequency and force, until the case either terminates fatally, or the woman is delivered. It may be remarked, that the child is occasionally expelled during the convulsions, and while the mother is insensible. After delivery, the convulsions generally go off entirely; or if they return, which however seldom happens, they are much divested of their former violence and danger.

I shall now endeavour to show the nature of the present interesting affection, and its connexion with the metastatic principle.

The precursory symptoms clearly prove that the attack is connected with an increased momentum of blood towards the head, and this in a manner so correspondent with the occurrence of the same in apoplexy, epilepsy, and mania, so as to leave no



doubt that the whole depend upon one common proximate cause\*.

Admitting thus far, it becomes quite immaterial to the theory in question, whether the convulsion or other effects, succeed immediately the increased excitement of the brain, or are subsequent and consequent to a state of *collapse* following that excitement.

That such increased action of the sanguiferous system may be the consequence of a metastatic transfer from other parts, is conformable with a variety of well known facts. Thus the principle of gout, although more commonly transferred from the stomach to the foot, is capable of affecting the vessels of the brain, and producing apoplexy. It cannot excite surprise, therefore, that the actions of parturition, which are so very susceptible of metastasis, should be occasionally transferred to the same organs. The convulsions, as I have before observed, are often immediately preceded by paroxysms of uterine or metastatic pain, which cease when the convulsions take place ; so that the convulsion appears to be either a substitute for, or a modification of, the labour pain. I believe convulsions are generally in this way conversions of

\* The connection of convulsion with mania is well-evidenced in Case XXXI.



pain, as, for instance, when they supervene upon the bowel-complaints of infants.

It is a further confirmation, that puerperal convulsions observe, in a marked manner, the regularity of labour pains, becoming, like them, more and more frequent and violent, as the case goes forward.

The circumstance of the child being occasionally expelled during the convulsion, may possibly be thought an evidence that the action is not transferred from the uterus; but this effect may be the result of the convulsive spasms of the abdominal muscles, acting on the volume of the uterus, and pressing its contents downwards in the direction of the orifice peculiarly relaxed under the convulsive diathesis, for it is by no means uncommon for the sphincters of involuntary muscles to relax when voluntary ones are convulsed; or possibly there may be sufficient uterine action preceding, or combined with the convulsions, to produce the necessary dilatation.

Further confirmations of the metastatic nature of puerperal convulsion is found in the predisposing and exciting causes.

The predisposition is so similar to the predisposition to metastatic labour with pain, that little further comment is necessary with respect to it.

It may be observed, however, that there is nothing contradictory to the views of other patholo-



gists, with respect to this subject, who attribute puerperal convulsions to a 'peculiar sensibility or irritability of the system ; for these imply the same principle of association to which I have referred the predisposition to metastasis with pain. It may be asked, why under this common predisposition, the metastasis should, in one instance, be connected with pain, and, in another, with convulsion. This may not be more easy to explain, than why gout should affect the foot in one case, and the head in another ; and yet we do not, on this account, doubt the existence of the metastatic principle.

One circumstance appears to throw a light upon this point ; puerperal convulsion is almost peculiar to first pregnancies, in which the abdominal tension being greater, the gravid uterus makes more decided pressure on the aorta descendens and its branches, and consequently gives the blood a greater tendency towards the head.

Another circumstance worthy of notice is, that the convulsion has often occurred in illegitimate pregnancy, where emotions of mind may be presumed to produce a tendency to increased action in the vessels of the head.

The exciting causes are precisely the same as those which excite metastasis with pain, *mutato nomine*, what has been said with respect to one, may literally be extended to the other ; the follow-



ing have, more particularly, been enumerated by authors,—premature rupture of the membranes; improper interference with sensible or inflamed parts; distension of the bladder; irritation of the bowels; and passions of the mind.

1. The first indication of treatment is to be directed, as in metastasis with pain, to the removal of the exciting causes, and is to be accomplished in exactly the same manner.

2. The second indication is to lessen the excessive determination to the brain.

*a.* By local evacuation from the neighbourhood of the part, as cupping, leeches, or section of the temporal artery or jugular vein.

*b.* By depletion of the general system, as venesection of the arm, or active purgatives. The abstraction of blood ought to be persisted in until a remission of symptoms, or a disposition to faintness is produced. Purging possesses, besides depleting the system, the additional advantage of evacuating those irritations which are frequently the exciting causes of the convulsions; the great objection to it is, that the action is not always readily excited. Stimulating injections will, probably, be particularly beneficial, both as tending to produce evacuation, and restore uterine action.

*c.* By the vigorous application of cold to the head, as napkins soaked in the coldest water, or a



bladder of snow, or a clay cap placed on the head. The degree of cold should be regulated by its effects; if the scalp becomes decidedly cold, or the countenance pallid and nipped, it ought to be discontinued.

*d.* By counter-irritants, as blistering. Some have recommended to blister the head, but I would prefer the nape of the neck, or between the shoulders, for I am convinced that I have seen the former increase the actions of the vessels of the brain where they have been previously excited.

3. The third indication is to remove the convulsions.

*a.* By means of opium. Dr. Denman has highly extolled the use of opium in puerperal convulsion, but others have as strongly objected to it. As tending to diminish the effects of those irritations which excite the disease, it no doubt admits of being beneficially employed; how far it may be advisable to give it in large doses, with a view of immediately cutting off the convulsions, may be more questionable, as opium has been imagined to increase congestion on the brain, a state which is probably intimately connected with the proximate cause of the convulsions; perhaps we may be right in regarding it as a doubtful remedy.

*b.* By musk, camphor, and other antispasmodics. The propriety of using these various stimuli, rests



on disputed grounds, and perhaps they will be better dispensed with. I have, however, sometimes thought the following useful.

R Misturæ camphoræ

Aquæ cinnamomi āa ʒvj

Spt. ætheris comp. ʒss. ft. haustus secundâ  
quâque horâ sumendus.

c. By dashing cold water on the patient. This practice is condemned by many: probably it may sometimes be useful in recalling the sensibility of the patient.

4. The fourth indication is to reproduce the proper action of the uterus. I am disposed to assert, that this indication, founded upon the metastatic nature of the disease, is a most important one. The removal of the exciting causes, and the various attentions above laid down, must necessarily co-operate in producing this effect; but there are some additional means which deserve consideration.

It appears a matter of question whether the convulsion ought to be regarded as an immediate secondary action transferred from the uterus to the brain, or whether it is not, more commonly, a ternary one; so that the transfer from the uterus may in the first instance be productive of a painful modification, which is then subsequently converted, or modified, into convulsion as an additional link of the metastasis; thus, for instance, during labour, the bladder may become distended, and, in



consequence, affected with painful metastasis, which having continued for a time, the convulsion then succeeds. In conformity with this view it has been seen, that the convulsions are generally preceded by more or less painful paroxysm, which goes off, or ceases to produce sensible effects, when the convulsion comes on.

In this case, I beg to observe, that if we can succeed in cutting off the first link, or painful metastasis, we shall cut off or remove the second link, or convulsive metastasis.

Upon this principle, a variety of the modes, which have previously been detailed, for the removal of painful metastasis, will be most important and efficacious with the present intention, as tending to the immediate restoration of uterine action; but in particular the use of friction applied to the parts which had been suffering most before the convulsion came on, or which may be supposed most likely to be implicated in its causation. My experience of its effects has certainly been limited, but yet sufficient to convince me of the value of the practice; for I have found the convulsion cease immediately and permanently on applying it, and the genuine action at the same time restored.

5. Some think the most rational treatment is to deliver the patient as soon as possible. If the plans above recommended fail to take off the convulsions, and restore uterine action, and particularly



if the violence of the convulsions, or stupor during the intervals, should excite serious alarm, there can be no doubt that this indication ought to be acted upon. The mode of effecting it, whether by the forceps, perforator, or the operation of turning, must depend upon the progress and circumstances of the case.

## CASE XXXI.

Mrs. Newton, aged 22, residing in Westminster, was taken in labour with her first child on Sunday evening, August 5th, 1821. The case went on satisfactorily, under the care of a midwife, throughout the night; at five o'clock in the morning, the head of the child had reached the os externum, and the delivery was immediately expected. In order to promote the effect of the pains, the patient was at this time urged to bear down strongly, by voluntary exertion of the abdominal muscles; but, notwithstanding violent and repeated paroxysms, no further progress had taken place. At this time the midwife began to show impatience at being detained, and used very unkind expressions, which greatly agitated the patient; it was, in consequence, determined to call in professional assistance. Several practitioners were successively summoned, who happened to be from home. At length, about eight o'clock, three gentlemen met



together, when the case appearing to consist of mere protraction, one of them undertook the superintendence of it, and the remainder retired.

Soon afterwards, the patient was seized with a strong convulsion-fit, by which the whole body was agitated; the features were distorted, and she foamed at the mouth. This attack was succeeded by several similar ones, during the intervals between which she lay in a state of insensibility. The gentleman in attendance informed me that all pain now ceased, or, in his own words, that "there was no action." He very properly abstracted from the arm about forty ounces of blood; after which, although the convulsions did not cease, he found their violence sensibly diminished.

An unsuccessful attempt was made to deliver with the forceps. I was then sent for. I arrived soon after twelve o'clock, and was informed that a paroxysm of convulsion had lately gone off; but instead of the patient lying comatose, I was surprised to find her under violent maniacal excitement. She was throwing herself about the bed in such way, that the medical gentleman, her husband, and four female attendants, could scarcely restrain her; and was swearing, shouting, and attempting to bite those near her. On examination, the os uteri was most fully dilated, the head of the child lying low on the perineum, and in approxi-



mation with the os externum ; the scalp, however, felt excessively tumid, so that I could, in no way, reach an ear.

Considering the convulsive and maniacal states as the effects of metastasis from the uterus to the brain, and probably established through the medium of some previous painful affection of the abdominal muscles, I commenced a vigorous friction on the belly. In less than two minutes a decided contraction of the uterus was produced, evidenced by an expression of pain, and occasioning a tense hard state of the utero-abdominal tumour, while, at the same time, the head of the child was pressed with much force upon the os externum. This was shortly succeeded by three or four similar paroxysms: after this, we had no recurrence of convulsion, but the maniacal state continued.

I now felt not a doubt that, keeping up this action, the case was in a fair way to terminate naturally ; but when I considered the evidences of disproportion between the head and the passage, I apprehended that the termination would be materially protracted in consequence ; and then, connecting this with the high state of mental excitement which was going forward, I thought it more prudent to deliver with the forceps, the more especially as, from the situation of the child's head, I saw no reason to anticipate any important difficulty in effecting it.



My patient was, with the greatest difficulty, retained on the bed while I introduced the respective blades of the instrument, although she appeared to experience no pain from this process, or in the subsequent delivery; except that she occasionally cried out, as if addressing her husband, "Thomas, how you pinch me!" and then she would abuse him as an "ungrateful wretch."

Having succeeded in applying the instrument around the child's head, with considerable exertion, at half after one o'clock, I brought away a dead child, the whole of the soft parts around the cranium of which were so much swelled, and with the latter elongated, that on re-applying the forceps, the points would scarcely reach the ears; the facial features were also greatly bruised.

As soon as the child was extracted, the patient showed a return of sensibility, but immediately afterward sunk into a deep sleep, from which she was, with difficulty, roused, to get down some nutriment, &c. This continued until nine o'clock in the morning, when she awoke greatly refreshed, and perfectly sensible, but unconscious of the events of the preceding night. This sleep was attended with such relaxation of the muscles of the face, and stertorous respiration, that at first I felt apprehensive that she had fallen into a moribund state.

With the exception of slight irritation attend-



ing the lacteal actions, her recovery was most favourable.

#### CASE XXXII.

IN the summer of 1820, I was requested by a midwife to visit a poor woman near the Tower, who had been supposed in labour for more than a week, during which time she suffered a variety both of apparent labour pains and paroxysms of convulsions, the former always ceasing when the latter came on. Finding the cervix uteri unobliterated, its orifice undilated, and the child's head very high in the pelvis, I expressed my opinion that real labour had not commenced, and that she would probably be better before it came on.

She was suffering a paroxysm of convulsion when I arrived, and was reported to have had many similar attacks shortly before. As she had lately been bled by a medical gentleman who had seen her, I determined immediately to apply a vigorous friction on her belly. In a few minutes a sharp paroxysm of pain came on, and in the course of the two hours, during which I stayed, several more, but we had not the least return of convulsions. These pains being evidently not true labour pains, I ordered her an active purgative, and its operation to be followed up with thirty drops of laudanum, the friction to be repeated, and fomentations to the belly, should the convulsions return, and leeches



to be applied to the temples, and bleeding from the arm repeated, if the above means did not relieve them. I did not see this patient again, but was informed by the midwife that she became quite comfortable, and that all the appearances of labour went off for a fortnight, and that she ultimately did well.

This poor woman had been neglected by her husband, and reduced to a state of abject poverty, the distress of mind arising from which, appeared to be the exciting causes of her convulsions.



## CHAPTER IX.

## ON SUSPENDED LABOUR.

THE kinds of protracted parturition which I am now about to notice, appear hitherto to have been totally neglected, if we except a few slight allusions to them; at all events they have not received that attention which they merit.

Where metastatic labour takes place, the parturient principle continues to influence, or produce action in, some other part of the system distinct from the uterus; in the present kinds of labour, however, not only does uterine action itself cease, but all other actions which can be regarded as modifications of it.

This arrest of the labour may originate from very different causes, the particular effects of which will necessarily constitute different varieties of the suspension.

I propose to consider these under two leading heads.

First, where the suspension arises from insufficient stimulation of the os uteri.

Second, where it is a consequence of a deficiency of parturient energy.



## CHAPTER X.

ON SUSPENSION OF LABOUR ARISING FROM  
DEFECTIVE IRRITATION OF THE ORI-  
FICE OF THE UTERUS.

THE present kind of protracted parturition is grounded upon the doctrine of orificial irritation, before advocated as the most probable and correct exciting cause of labour. I hope to show that it is not of unfrequent occurrence, and that the facts which will be advanced in confirmation of it, are strongly corroborative of the doctrine in question.

It will be necessary to notice several varieties, dependent on variations of the exciting causes.

1. The *first variety* is, where the sensibility of the os uteri is deficient, and its susceptibility to receive impressions consequently diminished, so that a greater stimulus than the ordinary tension of insensible contraction is capable of giving, becomes necessary to give rise to the uterine contractions.

2. The *second variety* is, when the insensible contraction is too slight to produce the requisite pressure on the os uteri.



It is almost impossible to discriminate between these varieties in practice, nor is it necessary, as the same treatment applies to both.

That one or both of them are operating, may be inferred when, at the full time of utero-gestation, notwithstanding the cervix is obliterated, and the presenting parts are in approximation with the orifice, labour fails to come on, or few and ineffectual paroxysms take place; no other obvious cause existing by which the delay can be accounted for.

In order to bring about labour the sooner, in these cases, it will be desirable to apply a bandage tightly around the belly of the patient, with a view of making a greater impulse of the presenting parts on the orifice, and thus increasing the irritation; this pressure at the same time compensates the want of insensible contraction, and tends to promote its fuller establishment.

Another and efficacious mode of treatment would be to stimulate the orifice artificially, in conformity with what has been before advanced respecting this mode of increasing uterine action.

Friction applied over the belly may also, as we have before seen, be useful in exciting both tension and contraction of the uterine fibres.

#### CASE XXXIII.

IN the beginning of 1821, I was sent for to a poor woman in Westminster, who had gone a month



beyond her expected time, without any other indication of labour than occasional spurious pain. I found her suffering in this way; the paroxysms neither accompanied by the least degree of uterine contraction, nor pressure upon, nor dilatation of, the os uteri; the child's head lay sufficiently low, and the cervix obliterated, but the abdominal tumor was very flaccid. Suspecting that labour failed to come on for want of sufficient insensible contraction, or from deficient sensibility of the orifice, I applied a bandage tightly round her and left her; in the course of the evening actual labour came on.

3. The *next variety* is, when an obliquity of the os uteri interposes with its due irritation, the child's head not gravitating on the centre of the pelvis, but laterally as respects the os uteri itself; in this case, the orifice is situated backwards towards the sacrum, so as to be nearly out of reach of the finger.

This cause may defer the commencement of labour, or, if commenced, will protract its early stages, lessening both the frequency and force of the paroxysms. As the case advances, however, the orifice opening towards the centre of the pelvis, the obliquity gradually disappears, until, at length, the difficulty is removed, and the labour proceeds as in ordinary cases.

This state of the orifice is probably in many in-



stances, if not in all, the effect of original structure, and capable of being transmitted in an hereditary manner, and is probably one reason why women have lingering labours, whose mothers have experienced it before them.

In order to obviate the unfavourable effects of this state of the os uteri, bandaging may be serviceable, as making a more decided pressure on the orifice ; or attempts may be made to draw the orifice more within the centre of pressure, by introducing the finger within it : this, if it fails to do good on the principle in question, may be advantageous in consequence of the stimulus applied. The different modes of strengthening uterine action are also to be held in view.

#### CASE XXXIV.

Mrs. H. was taken in labour in November last, with her first child. She had been suffering slight pains for several hours, which came on at distant intervals ; the os uteri was situated very obliquely towards the sacrum, and very slightly dilated. There being so little urgency I left her ; in about four hours I visited her again ; the pains were certainly stronger, but still very slack, and productive of no manner of advantage. Viewing the want of energetic pain as a state of suspension, and the effect of the obliquity of the os uteri, I determined to attempt to correct the latter by introducing my



finger within the part, and, at the same time, to stimulate or dilate the orifice artificially. I had the pleasure of finding the operation give no additional uneasiness; the os uteri speedily dilated, and became more central; in a while energetic action was produced; and, ere two hours had elapsed, my patient was delivered. She had a most satisfactory recovery, and in the course of a week, was able to resume her ordinary occupations.

The *fourth variety* takes place when the liquor amnii has been improperly evacuated.

It is well known, as a point of practical importance, that the membranes should not be ruptured until the os uteri is well dilated; the effects of an inattention to this point have already been alluded to as a source of increased or painful uterine action, or of metastasis; but there is another highly interesting circumstance, connected with rupturing the membranes, which has yet received very little attention,—this is, the mode in which the rupture and consequent evacuation of the liquor amnii is effected.

If the liquor amnii be discharged at a time when the uterus is relaxed, as during the interval between the paroxysms, the disposition to relaxation is thereby increased, and the tension of insensible contraction taken away; in consequence, the necessary and proper irritation is taken from off the orifice, and the paroxysms are either suspended, or di-



vested of their strength and frequency, so as to produce a most serious retardation of the case ; nor will the correct action return, until time has restored the insensible contraction and pressure.

Hence it should be an undeviating rule, in all cases of labour, not to rupture the membranes during the interval ; it can only be effected with propriety while the uterus is undergoing active contraction, and the happiest moment is just before the pressure of the paroxysm attains its height ; for, after this moment, relaxation commences, and if the rupture is now made, unpropitious consequences will ensue. The present cause will invariably retard the labour more or less ; it is not uncommon for the membranes to break at the end of utero-gestation, in consequence of some sudden motion or other cause, after which, although every instant expected to commence, labour has been deferred for a week or more. When the rupture happens during labour, the process is often suspended many hours, and sometimes a day or two.

The chief object in treating this variety of suspension will be, to restore the insensible contraction and orificial irritation as soon as may be, according to the plan before pointed out.

#### CASE XXXV.

Mrs. Exton, on the 28th of October, 1814, dur-



ing the early part of my practice in the country, wastaken with slight pains, supposed to be those of labour, soon after which the membranes ruptured, without any apparent cause ; when a considerable gush of liquor amnii took place. I was immediately sent for, and notwithstanding I found my patient entirely free from pain, was expected to stay, and await the result. It was not until after a complete suspension of thirty-six hours, that indications of returning action became evident ; these gradually increased, until regular paroxysms of uterine action were formed, which, at length, to my great satisfaction, released me from so annoying a captivity.

#### CASE XXXVI.

I was sent for, April, 7, 1823, to Mrs. Austin ; on my arrival, the os uteri was so far dilated, that the membranes distended with liquor amnii were protruding through the os externum, insomuch that it appeared quite necessary to rupture them ; in effecting this by the impulse of the finger, unfortunately the coats, being strong, did not give way as I expected, and I was imprudent enough to carry an increasing pressure beyond the height of the paroxysm, so as to break the bag while the uterus was assuming a state of semi-relaxation ; the paroxysms immediately became powerless, and with very protracted intervals ; this



suspension of action was accompanied by great mental anxiety; her timidity became such, that she expressed the greatest alarm whenever I attempted to introduce a finger per vaginam, or to apply friction on the abdomen; I had no opportunity of procuring opium, or I should have administered it. My favourite modes of treatment being thus negatived, I determined for a while to await the event; after six hours of complete suspension, my patient fell asleep; from this she was awoke by a smart paroxysm, which at once expelled the child.

5. The *next variety* is, where the belly is pendulous, a circumstance that frequently happens in women who have had many children, the parietes of the abdomen having been weakened by repeated distension; this allows the uterine tumor to hang over the pubis, in which case the child's head is occasionally thrown into the pendulous tumor, and prevented from gravitating on the orifice.

Another cause of pendulous belly is, improper pressure made upon the upper parts of the abdomen; and which necessarily gives a tendency to the lower and unsupported parts to bulge out.

The commencement of labour may in this way be materially deferred; I am disposed to say even for months; and hence we may possibly account for a woman carrying her child in utero much



longer than the common prescribed period of nine months.

In order to excite the labour under such circumstances, or to strengthen its efforts when excited, a bandage should be placed round the belly, assisted by straps carried over the shoulders, on the principle of men's braces, so as to bring the presenting parts more immediately within the axis of the pelvis.

#### CASE XXXVII\*.

“ A WOMAN forty years of age, and the mother of many children, considered herself at the full period of utero-gestation, and experienced at that time a slight pain or two, after which she became free from any further effort for nearly three months; her situation exciting alarm, several medical gentlemen saw her, and declared, after examination per vaginam, that she was not with child, as they could feel no weight on the os uteri, nor variation of it from what is found in the unimpregnated state. I saw her, and in a common examination as she lay on the bed, found matters apparently as had been represented. Observing, however, the abdomen very large and pendulous, hanging down, when in an erect posture, almost to the knees, a friend of hers who was present, a physician of great eminence, was requested to stand above her on a

\* Communicated by my father, Dr. Power, of Lichfield.



chair, and to elevate, as she stood, the pendulous belly with the assistance of a napkin; an examination was, under these circumstances, made per vaginam, and I could now feel distinctly the head of the child. A bandage was contrived, with straps to her stays, by which the child was removed from its situation over the os pubis; in four or five days labour pains came on, and she was delivered of an amazingly large but still-born child."

## CASE XXXVIII.

MRS. D., the mother of many children, expected to be confined at the end of August or early in September, 1821, and bespoke my attendance accordingly. I was not, however, requested to see her until the 12th of October, and this was, in consequence of her great anxiety and having suffered some irregular spurious pains, and not from any supposition of labour taking place. I directed her to take thirty drops of tinct. opij, and, observing her belly very pendulous, and overhanging the pubis, applied a bandage tightly around it. On the following day she was in high spirits, relieved from the previous pain, and with an evident increase of insensible contraction.

It unfortunately now happened that I was compelled unexpectedly to leave town for a day or two. On my return I had the mortification to find that labour had come on immediately after I had com-



menced my journey, and that I had lost irrevocably a valuable connection.

6. and *lastly*. Suspension on the present principle may occur, as a symptom, in several of the more important genera of labour; as in deformed pelvis, mal-presentation, or rupture of the uterus, in which, from the circumstances of the case, the presenting parts are prevented from descending on the orifice.

The treatment is here involved in the treatment of the individual genus.



## CHAPTER XI.

## ON SUSPENSION OF LABOUR FROM DEFICIENCY OF PARTURIENT ENERGY.

THE parturient energy is, as we have seen, synonymous with the nervous principle generated in the brain, for the support of the various functional powers.

Whatever causes diminish the operation of this nervous principle, whether such diminished operation arises from an original deficiency of the power itself, or from a subsequent undue expenditure of it, will necessarily tend to depress those organic actions, which it is its property to maintain, including, among the rest, the function of parturition. We have here the basis of the present kinds of suspension.

Before I proceed further with the subject, it will be proper to advert to the strong alliance which exists between suspension of the present kind and metastasis ; both are characterized by a diminished action of the parturient organs ; no distinction of predisposition appears to exist between them ; and the same causes which excite the one



are also capable of exciting the other. Why this diminution in the quantity of uterine power should in one instance become connected with pain, and in another with cessation of action is a point which, under our imperfect acquaintance with the nature and actions of the nervous system, admits only of the most hypothetical explanations.

I shall describe two varieties of suspension from defect of parturient principle.

Var. 1. Where the parturient energy is *produced* in a lesser ratio than natural.

Whatever has the effect of lessening the production of nervous power by the brain, may give rise to the present variety; these causes may be viewed in the light of direct sedatives: the following are some of the more important of them.

*a.* The depressing passions, as timidity, apprehension, despondence, and the like to them. Thus the entrance of the accoucheur into the room of the patient will often suspend the labour for hours, particularly if any unfavourable impression is entertained respecting him.

#### CASE XXXIX.

I WAS called, September 24, 1815, to Mrs. R., whom I had attended in a previous labour. The uterine action was excellent, and in a few minutes after my arrival, the child was expelled. I now, for



the first time, learned that my patient had been three days in labour, and that a medical gentleman had been with her nearly the whole of that time, and had left her only just before I was sent for. On requesting a further explanation, I was informed that my patient had been constrained to apply to the parish to which she belonged, for relief, and that the gentleman in question had been sent to her; that being a stranger, and his appearance failing to prepossess her in his favour, her pains had entirely ceased; at length, finding, after two days delay, no prospect of delivery, it was determined to send him away, which was effected in a manner not a little ludicrous. He was, however, thankful for the intimation given him, by bringing his horse to the door, and joyfully availed himself of the opportunity to be off. After this, I was immediately requested to see her, when she was delivered in the manner above related.

## CASE XL.

ON my arrival at Mrs. T.'s, who was in labour with her first child, I found the dilatation of the os uteri nearly complete, and expected she would soon have been delivered; I was, however, shortly led to notice a singular irregularity in the pains. When I was near the fire they were very energetic, so as to induce me to hasten to her assistance; but as soon as I reached the bed-side,



they instantly went off, suspension taking place, no doubt in consequence of timidity.

So marked was the effect, that I was obliged to keep my distance until the child was born. Even at the last, immediately before delivery, when I was induced to attempt the usual assistance, notwithstanding the child's head was in the very point of expulsion, the pain went off in an instant, leaving the part half-delivered; nor did it return until I again left her.

#### CASE XLI.

MRS. Oswald, aged forty, a woman who had suffered several very painful and lingering labours, was attended in January, 1821, by a gentleman of my class. No progress having been made during a whole night of acute suffering, I was requested to see her.

I found her, at one o'clock, p. m., under a most excruciating paroxysm, chiefly affecting her belly and loins, but which was combined with such straining effort, that one would have imagined the child upon the point of being born. On examination, however, it became evident that this exertion was seated in the abdominal muscles and rectum, for the uterus itself was flaccid and uncontracted, and its orifice little or not at all dilated.

I immediately applied a vigorous friction to her back and belly; the pain instantly ceased, and pa-



roxysms of correct uterine action succeeded, and which were *divested of all painful sensation*. In less than half an hour the os uteri was fully dilated. My patient at this time unfortunately imagined that she could not be delivered without *pain*, and consequently that the present cessation of it was any thing but favourable; her mind became agitated, and in spite of my assurances, I had the mortification to find suspension from the previous satisfactory action had taken place.

Thinking it might occasion more powerful action, I was induced, during the slight pressure of a very imperfect paroxysm, to rupture the membranes. This, however, only increased the difficulty, for the labour now went off entirely. Most complete suspension continued throughout the whole night, and until noon on the following day, when a return of uterine action, *without pain*, was experienced, which, in two or three paroxysms, terminated the labour.

In the treatment of the present cases, I may observe that it will generally be sufficient to wait with patience, until the apprehension or depressing passion subsides, using, in the interim, the various obvious means of soothing the feelings of the patient, encouraging her, and acquiring her confidence; at the same time, the various methods of promoting uterine action, which have been before de-



tailed, may, according to circumstances, be resorted to.

#### CASE XLII.

ON my introduction to the lady of the Reverend —, in labour with her sixth child, I found every thing correct so far as related to the presentation, state of parts, and various other points, with the os uteri very slightly dilated. My patient was, however, much dejected, and apprehensive that she should not do well. This unfortunate state of the mind had evidently an unfavourable effect on the labour, for the pains were so slight as to constitute nearly a complete state of suspension. After waiting some time, I determined to try the effect of an attempt to occupy her mind, and divert it from dwelling upon her present circumstances; and knowing that her feelings were much interested in a religious controversy at that time existing between the Bishop of Gloucester and Dr. Thomas, I drew her into a conversation on the subject, designedly advocating the adverse party. The argument was kept up for the better part of an hour with much warmth on her side, during which I could occasionally observe symptoms of increasing paroxysms. I now requested to make an examination, when I found the child's head pressing on the perineum, and, to my patient's surprise, very shortly presented her with the child.



All being over, "Madam," I observed, "shall we renew our conversation?" To this she retorted, with some severity, that unless I could think more rationally, it would be better to be silent. I then explained the motive which had been influencing me, when she good-humouredly admitted, that Dr. Thomas had been one of her best friends.

*b.* Various direct sedatives, as the abstraction of blood, abstinence, and cold. There can be no doubt that these lessen directly the functions of the brain, and are capable, in this way, of producing suspension. The occurrence of cases of this nature is, however, rare; when they do happen, the following important results, as affecting the labour may be expected, viz. that the powers of resistance being equally weakened with the powers of expulsion, the effect of even slight uterine action will be considerable; thus a debilitated woman will frequently have a most rapid labour, notwithstanding she may die very soon afterward; hence these causes may be, occasionally, sources of accelerated progress rather than of delay.

Perhaps we may partly explain, on the above principle, the extraordinary circumstance of children having been expelled by the contractility of the uterus after death\*.

When suspension arises from the present causes,

\* "Mulier quædam, apud nos compertum narro, sub vesperam



the powers of the brain must be recruited by gentle stimulus, warm nourishing food, jellies, wine in moderate quantities, and other obvious means.

c. Lastly, the suspension may be the effect of certain morbid states of the system, which more immediately depress the powers of the brain; as coma, apoplexy, syncope, and hysteria.

Besides attending to the means, just above described, of promoting moderately the functions of the brain, and also those of increasing uterine action, the various morbid states themselves must be obviated if possible by appropriate treatment.

#### CASE XLIII.

Mrs. M., much subject to hysteria and syncope, was taken in labour with her first child in August, 1819. On my arrival, at three o'clock in the morning, I found her very faint and dejected, insomuch that, throughout the remainder of the labour, she was incapable of speaking, unless in an almost inaudible whisper; the paroxysms were not divested of uterine action, but were so few and slight that it was vain to anticipate any satisfactory progress; the vagina had an unusually strict contracted feel, and the os uteri was very little dilated.

I was disposed to regard the protraction as the *mortua*, in *conclavi sola relictæ* est; mane autem sequenti inter *fœmora ejus repertus est infans.*" Harv. Exercit. de Partu.



consequence of suspension, originating from the constitutional, or, perhaps, more properly speaking, morbidly nervous, temperament of my patient; and, after reviewing the various principles of treatment, determined, as the parts threatened to be so very unyielding, to try the effect of artificial stimulation and dilatation. In this way I succeeded, without any apparent distress, in dilating the os uteri; I then ruptured the membranes; more powerful action came on; and my patient was delivered at eight o'clock. She afterward recovered most satisfactorily.

Var. 2. The suspension is a consequence of the parturient energy having been *exhausted*. In this variety the nervous power, originally produced in a sufficient quantity, has been improperly expended, so as to become ultimately insufficient to carry forward the uterine actions. It is distinct from the latter variety, insomuch as it may be regarded as the result of *indirect* sedatives, or, in other words, of excessive stimuli acting upon the nervous system.

The exhaustion may be the effect of various exciting causes.

*a.* Of highly exciting passions, as joy or anger, which, as formerly observed when treating of the effects of such mental states in giving rise to me-



tastatic pain, expend the nervous power in a greater ratio than they favour its production.

## CASE XLIV.

A FRIEND of mine went, late one evening, to attend a female in Westminster, in labour with her twelfth child. After waiting some time, anxious to ascertain the state of the case, he proposed to his *patient* to lie on the bed; this, however, she thought proper, from time to time, to decline, and in a manner very far from gracious. At length, he ventured to express himself trifled with, and intimated that, as his attentions were not necessary, he might as well return home. The woman chose to be offended at this, and told him plainly that it was his duty to await her pleasure. One word led to another, until, at length, in a paroxysm of rage, she desired him to take himself off, promising very kindly to accelerate his progress down stairs. He availed himself of the hint, and felt not a little happy when he had safely effected *his own delivery*. Curiosity, afterwards, led him to inquire the result, and he found that the fit of passion had suspended the labour, and that the woman was not put to bed until three days after.

*b.* Of different stimuli taken into the stomach; as too copious, heavy, or indigestible aliment; or the improper use of spirits, wine, or cordials, which,



by exciting the stomach forcibly, detract from the energy of the uterus.

## CASE XLV.

Mrs. Jackson had every prospect of being speedily delivered, the paroxysms being powerful, and the child's head pressing through the os externum. At this time, one of her attendants proposed, in order, as she said, to keep up her strength, to give her a glass of brandy and water, and, notwithstanding my positive objection, contrived to get down her privately a quantity, which I believe was very little diluted; the pains immediately ceased, the suspension continuing for more than two hours, when the action returned, and a paroxysm or two expelled the child.

c. Of opium. Much obscurity exists as to the action of opium, whether it ought to be regarded as a direct sedative immediately depressing to the vital powers, or, on the contrary, as a violent stimulus, the action of which is followed by sedative effects, or exhaustion. Some accoucheurs have regarded it decidedly in the latter point of view, and have consequently prescribed it largely in labour, with the intention of exciting, in a direct manner, the uterine contractions.

Whatever may be the real truth of the matter, it appears tolerably certain, that in some instances,



it is capable of producing primary excitement, which has then been followed by sedative effects or exhaustion, according to the principles of the present variety of suspension. At all events I have had experience that its improper administration has been attended by such results.

## CASE XLVI.

IN my first professional attendance upon Mrs. B., after every favourable progress had been indicated, and a speedy termination anticipated, her pains became suspended, and no further action of the uterus was evidenced for several hours. At length the paroxysms appeared to recommence, but very soon again disappeared. I now accidentally detected one of her attendants giving her something from a tea-cup, which proved to be a strong solution of opium; this she admitted she had privately and frequently taken, to relieve her pains before they became first suspended, and was also in the habit of taking largely when in health. The cause of delay was now evident. She was, at length, after the lapse of many more hours, delivered by the forceps.

I afterward learned from my father, that he had previously witnessed a similar delay in the same patient, with the same result. In the course of time, it was my lot again to attend the same un-



toward patient; on my first introduction into the house, however, I contrived to *steal* her whole stock of opium,—the case went on rapidly, and terminated in two hours.

## CASE XLVII.

A GENTLEMAN who attended my lectures at the commencement of the present year, after hearing my remarks upon the practice of Dr. Spark, detailed in the treatment of metastatic labour with pain, determined to give it a trial in the first convenient case of metastasis he might meet with. An opportunity soon occurred, when he gave his patient, in the first instance, eighty, and afterwards a second dose of fifty, drops of laudanum. The effect was that he relieved the metastatic pain which had been very severe, but the case became completely suspended for nearly twenty-four hours.

*d.* The excessive or long continued exertion of any organic function, as when exhaustion succeeds protracted and painful labour, purging, fever, or strong muscular exertion. After what has been premised the operation of these must be obvious.

Suspension of the present kind is not devoid of danger, as there is a risk of the patient sinking under it.

With respect to the treatment, the vital powers may be allowed to repose for a time, to afford



them an opportunity of recovering themselves. At the same time, if the suspension has arisen from the state of the mind, the latter must be regulated accordingly. If improper food has been administered, it is to be counteracted on the principles before directed for relieving the same causes when they are sources of metastasis; spirits, and other improper beverage may be diluted with water, gruel, tea, and lemonade. When opium has been given, the proper antidotes are to be had recourse to; perhaps the more rational plan would be to administer citric acid in the form of lemonade, or to give a table-spoonful of common vinegar. Dr. Spark recommends warm tea in preference to every thing else.

The collapse of the system and symptoms of exhaustion are to be obviated by cordial medicines, nourishing broths, light food, or wine, taking care not to over-excite, and thus increase the exhaustion.

The various modes of promoting and increasing uterine contraction must be held in view, and adopted according to the circumstances of the case.

If the state of the patient becomes alarming, it will be prudent to expedite the delivery by artificial means.



## CHAPTER XII.

## ON RETENTIONS OF THE PLACENTA.

THERE is no part of the process of parturition in which the safety of the patient is more compromised, than the delivery of the placenta. I am, therefore, induced to offer a few observations respecting the difficulties which so frequently accompany it.

In order to comprehend them the better, it will be desirable to take a view of the principles upon which the expulsion of this structure is naturally conducted, and also of the professional management required in regulating it accordingly; and this, the more particularly, as I am convinced that these are points not generally rightly understood.

It is well known that the expulsion of the after-birth is effected by a continuance of the same kind of uterine paroxysms as had previously expelled the child, and which, at the same time that they separate and drive off the mass, close up the orifices of the uterine vessels from which it has been detached, so as to prevent hæmorrhage; thus producing an effect very analogous with the excision



and ligature employed by the surgeon in the removal of diseased or superfluous parts.

The immediate and natural exciting cause of this renewed contraction of the uterus is, according to the principles I have before advocated, the stimulus or irritation applied by the placental mass to the orificial parts.

If the delivery of the child has been completed according to the rule before laid down, when treating of the management of natural labour,—namely, by compelling the uterus to expel, by its own efforts, *every part* of the child,—this organ, at the termination of this part of the process, will be left lying near the pubis, in a closely contracted globular form, with the placenta occupying the whole of its cavity, and in direct contact with the orificial parts; so that the root of the umbilical cord may be readily touched by the finger introduced per vaginam. In this case, after a short and usual interval of repose, the uterus will renew its action in the most favourable manner, and in a paroxysm or two invariably expel the placenta, with little or no sensible pain or hæmorrhage.

This is a point of such immense importance as to deserve illustrating. I may observe that my whole practice has been, for many years, one continued exemplification of the correctness and advantage of the principle, for I have scarcely known



the after-birth retained longer than five minutes. The following cases are but the counterparts of innumerable others.

## CASE XLVIII.

Mrs. S. was attended with her first child by an accoucheur of the very first eminence. The labour, as related to the birth of the child, was not unusually severe, but considerable delay and hæmorrhage were experienced with the after-birth, and she suffered much subsequent illness, with a protracted recovery. This she informed me of, on the occasion of my attending her in her second labour, and expressed much apprehension of a similar difficulty. In the delivery of the child, my patient was fully sensible of the attempt to keep it back, instead of assisting its birth, and noticed it with some concern. The after-birth, however, followed instantly, without the slightest hæmorrhage, and the lady was gratified by finding her recovery unexpectedly and unusually rapid.

## CASE XLIX.

I ATTENDED Mrs. T., the mother of many children, for the first time in January, 1823. She informed me that in her previous labours she had generally suffered much delay and flooding in the delivery of the after-birth and been a considerable time in getting well again. Like the former patient



(Case XLVIII.), she expressed her surprise at the manner in which I kept back the child after the head was born. The placenta, however, followed immediately, without the slightest hæmorrhage ; and my patient was quite recovered from her confinement in a week, so as to be a matter of wonder to her friends.

I shall now attempt to explain in what manner the whole of the more important difficulties, which are apt to take place in this part of the process of labour, originate from neglect of the foregoing rule.

We will suppose that, after the head is delivered, the practitioner grasps the child around its neck, and immediately extracts the remaining parts. It is possible that the uterus may not have ceased its previous contraction, and that it may continue to close upon the child, and co-operate in its expulsion ; or that the additional stimulus applied to the orificial parts, by drawing out the child, may reproduce uterine action. In these cases all may be well ; but if neither of them happen, and the womb exhausted by its previous effort, sinks into temporary repose, its parietes will then be left in a flaccid, uncontracted, and unpropitious state, with a cavity within them proportionate in size and shape to the mass which has been forcibly extracted, and in a manner favourable to the supervention of con-



siderable hæmorrhage; while, at the same time, the placenta, naturally adhering to the fundus uteri, instead of lying near the orificial parts, is situated at a distance therefrom, so as to be incapable of exciting the correct action for its subsequent expulsion.

Under such circumstances one or more of the following ill-consequences may be certainly anticipated.

1. The placenta may be retained from simple want of action, in consequence of defective stimulus, or imperfect uterine action. If so, it will be desirable to apply an artificial stimulus to the orificial parts, as by extending the cord gently, or by means of the finger, making a steady impression or a slight friction upon the part; or the patient may be directed to cough, or induced to sneeze. If these means fail, an attempt may be made to elicit the action of the uterus by pressure or friction above the pubis; or in other obvious ways conformable with the principles which have formerly been laid down.

2. The placenta may be retained in consequence of the uterine action being transferred metastatically to other parts. Although not latterly in the habit of witnessing it, I believe this is by no means an unfrequent occurrence, and may generally be suspected, when, instead of the placenta passing favourably in the manner above-recited, the patient suffers repeated, painful, and unavailing paroxysms



affecting the belly, back, thighs, or other parts which are apt to be the seat of painful metastasis previous to the birth of the child.

After continuing for a few pains, the metastasis will generally change into uterine action, and the placenta be expelled. Otherwise it may be treated in the same manner as recommended in simple retention, by the various means of exciting uterine action; at the same time, the pain may be relieved by friction upon the parts affected, or fomentations, or opium.

3. The placenta may be partially separated, in consequence of imperfect action of the uterus. In this case hæmorrhage may be expected to ensue, and, if considerable, it will not be without danger.

The various methods of eliciting more perfect uterine contraction may here be held in view; but we must be prepared, in case the hæmorrhage be excessive, to introduce the hand, and separate the undetached portions of placenta by peeling it carefully from its uterine connexion.

When the placenta has thus been separated, neither it, nor the hand of the operator, must be withdrawn hastily from the cavity of the uterus; on the contrary they ought to be retained within it, until uterine action expels them: otherwise a cavity or vacuum would be left within the uncontracted viscus, favourable for the effusion and accumulation of additional hæmorrhage, and fatal



results may be the consequence. This is a rule to be observed in the final expulsion of the after-birth under all similar circumstances. Should the uterus be tardy in acting, it may be stimulated by rubbing the back of the hand against its parietes, while, at the same time, the wrist applies an irritation near the orifice; and friction and pressure may be made with the disengaged hand externally above the pubis.

Occasionally, the mere attempt to introduce the hand will, in these cases, be sufficient to induce uterine action, without the necessity of proceeding to separate the placenta.

4. The placenta may be retained from irregular contraction of the uterus; its fibres acting partially, so as to form a stricture in some part of the organ which divides its cavity into two compartments, an anterior and a posterior one. This constitutes what is known as *hour-glass contraction*, a state which I am disposed to assert will seldom, if ever, occur, provided the proper globular contraction of the uterus has been secured at the birth of the child.

The uterus thus contracted does not, however, necessarily resemble the hour-glass, both compartments being equal; on the contrary, the stricture may be either near the fundus or the orifice.

In this case, if any portion of the placenta be contained in the posterior chamber, the mass be-



comes permanently retained, and is not likely to be expelled, however powerful the action of the uterus may be, until the difficulty has been overcome by introducing the hand and dilating the stricture; while the separation of any part which may happen to lie in the anterior chamber, will be certain to occasion the most formidable flooding.

After dilating the stricture, the placenta is to be separated, and its expulsion secured, upon the principles directed for managing the last variety.



## CHAPTER XIII.

## ON AFTER-PAINS.

AFTER-PAINS are the consequences of renewed efforts of the uterus to expel coagula, membranous portions, and other matters remaining, or collecting, within its cavity after the delivery of the child and secundines ; hence if the uterus has been entirely emptied, and completely and permanently contracted, after-pains will rarely occur.

This exemption it is clear will, in great measure, be gained by securing the expulsion of the placenta, as far as possible, by the action of the uterus solely ; but, notwithstanding the greatest caution in this respect, we cannot always prevent after-pains, for it is a question whether energetic uterine action does not in some measure tend to produce them, by grasping the tail of the membranes and occasioning them to break off, in which case they remain behind after the mass of the placenta has been expelled.

A woman experiences little or no after-pain with her first parturition, because the parietes of the uterus, not having been weakened by previous dis-



tension, contract more perfectly and permanently, so as to obliterate and empty the cavity thoroughly.

A genuine after-pain is, like a genuine labour-pain, entirely expulsive, and without real pain; when it is otherwise, I assert that it is, in the same manner, unnatural and commonly metastatic; evidenced by the same acute and grinding expressions; affecting the same parts as are affected by metastatic pain in labour; and in the same manner depriving the uterus of its power of contraction, and delaying the expulsion of its contents.

Upon these principles the treatment ought to be grounded. The first object should be to produce the true expulsive action, which, by throwing off the exciting irritation, immediately relieves the patient, so that if no new accumulation takes place, the after-pain does not repeat. This may be effected by the various previously recited means of exciting and promoting uterine action. These need not be repeated, although it may be observed that, after the patient has been put to bed, manual interference should, if possible, be avoided. The action of a cathartic, or a stimulating enema, will sometimes promote the expulsion, and hence after-pains are frequently effectually relieved by purging the bowels.

The second attention is, to relieve the metastatic pain, which also will be very effectual in increasing uterine action. This is to be accomplished on



the same principles as have been laid down for the relief of metastatic pain in labour, and particularly by the use of opium, fomentation, pressure, and friction. The latter however is, in this case, only to be applied by a female attendant, in which way it will uniformly be found most beneficial.



## CHAPTER XIV.

ON PREMATURE EXPULSION OF THE  
CONTENTS OF THE UTERUS.

## SECTION I.

## ON THE CAUSES OF PREMATURE EXPULSION.

THE customary term of human utero-gestation is nine calendar months, after which time natural labour comes on. This law, however, admits of numerous deviations, insomuch that the womb is capable of expelling its contents at any earlier period, constituting what may be termed *premature action* or *expulsion*.

In this case, the expelling power is the same as operates at the natural term ; the exciting causes, however, are materially distinct, either as relates to their nature or action, and into these I propose to conduct a brief inquiry.

In the first place, the exciting causes of premature expulsion may consist, as in natural labour, of irritations affecting directly the mouth of the womb, being of such nature as to render the cervical sphincter ineffectual ; that is, the sphincter must either have been unduly obliterated, so as to allow



the contents of the uterus to stimulate its orifice ; or otherwise an external stimulus must be applied to the part through the intervention of the vagina, sufficient to induce the action in question.

The former not unfrequently takes place as a secondary effect, arising from certain primary actions occurring within the body of the uterus, as the consequences of a premature evacuation of the liquor amnii, or the death of the foetus, and which will presently be more fully considered.

It is well known that a variety of stimuli that may be termed external, when applied directly to the os uteri, are capable of exciting premature uterine action ; as impressions of the finger ; concussiones aphrodisiacæ frequentes ; the application of acrid matters, including cantharides, or the syphilitic virus ; the reaction of the os pubis against the orifice of the uterus in retroversion of that organ ; or the irritation and pressure of accumulated fæces or of piles, or tenesmus, or strong contractions of the rectum.

It may be observed, that the action of these is, in the first instance, strictly local, and that, unless the process of expulsion be advanced to a determinate degree, their effects cease on removing them ; and consequently premature expulsion from these sources, frequently admits of being obviated.

In the second place, premature action may be



excited by causes operating more immediately on the uterine fibres themselves.

Before proceeding to the various exciting causes comprised under this head, it will be desirable to explain how the uterine fibres admit of being thrown into action, without the intermediate operation of a stimulus acting directly on the orifice.

The action in question may be the consequence of irritation affecting the muscular parietes of the uterus, either existing within its cavity or applied from without ; in this case it is possible that the organ may be thrown directly into active expulsive contraction ; but it is more probable that, in the first instance, insensible contraction will be produced, which eventually leads to expulsive contraction, perhaps by occasioning sufficient cervical obliteration and orificial irritation, to excite uterine paroxysms, according to the ordinary principle.

The admission that expulsive contraction can be excited by a stimulus affecting directly the fibres of the uterus, may be regarded as an argument against the doctrine of orificial irritation. It may be asked whether the parturient efforts may not be excited in the same way at the full period of pregnancy ? I will not deny that this is possible ; but still maintain that it is not the principle appointed by nature ; because there is no evident provision made to secure such direct irritation with any certainty ; whereas orificial irritation is provided for



upon undeviating principles, by the obliteration of the cervix ; nor has the Creator adopted any given mode of effecting a purpose because there existed no alternative, but because it was best calculated to fulfil his intentions ; this, I trust, has before been shown to be the case in the present instance.

There can be no doubt that the premature action of the uterus may be produced by sympathy, or the metastasis of an action transferred to it from some other part of the system, on the reverse of the principle upon which we have so frequently seen the uterus deprived of its action during parturition.

The exciting causes of premature expulsion, which I am now about to consider, are many of them very interesting. They are included under the following arrangement.

1. Detachment of the ovum from its connexion with the uterus. This seldom occurs to any considerable extent, unless expulsive action has actually commenced ; nor does it appear necessarily or directly to induce premature action ; hence in that important variety of uterine hæmorrhage which arises from separation of a portion of the placenta when situated near the os uteri, the labour is by no means rendered premature. The only way in which it is likely to produce the effect is when, the life of the child having been lost from consequent



hæmorrhage, or imperfect discharge of the placental functions, uterine action is induced in a secondary manner.

2. The discharge of the liquor amnii is a well acknowledged cause of premature action, and not unfrequently made use of to excite it at an earlier period than natural in certain cases of expected difficult labour; the more immediate effect of the evacuation is, however, exactly the reverse of the eventual effect; that is, instead of its giving, or increasing, any direct tendency in the uterus to contract, the disposition to contraction is for a time diminished, the uterine parietes being brought into a less tense and more flaccid state than before; at length, this flaccidity gradually goes off; and in the course of a few days insensible contraction takes place, probably elicited by increased irritation of the uterine fibres (the hard surface of the child being admitted into more immediate contact with them in consequence of the evacuation of the liquor amnii); soon after which, symptoms indicative of labour succeed.

3. Another cause is the death of the foetus, giving rise to uterine action, in consequence of the peculiar irritation it produces within the uterine cavity. Why a dead foetus should occasion more irritation than a living one, may be a curious subject of inquiry. The effect does not appear to arise from any increase of the child's bulk in con-



sequence of putrefaction, nor from any diminution or absorption of the liquor amnii, producing the same actions or relations between the uterus and its contents, as if a portion of that fluid had been evacuated. It is, more probably, a consequence of a loss of the influence which exists between living parts, and which enables them to unite or bear with each other, even under circumstances the most incongruous, as long as vitality exists in *both* of them; hence the living child remains within the uterus, until matured, without occasioning its expulsive action, while the dead one excites a series of actions for its ejection.

The above principle involves some other interesting considerations with respect to the economy of the uterine and generative functions.

It enables us to explain how the ovum, in extra-uterine conceptions, admits of an attachment to, and support from, the peritoneal membrane or any other part with which it may accidentally come into contact, in a manner analagous with the transplanting a recently removed tooth into the comb of a cock; insomuch that, without any material violation of reason, we might indulge the imagination in conceiving, under what very extraordinary circumstances, it might not be possible to carry forward the process of viviparous generation by depositing a living ovum into an unusual nidus.

By means of it, also, may be explained how a



tumor of the uterus enlarges within its cavity in an insensible manner, until, having attained a size sufficient to distend and open the cervix, it irritates the os uteri, and excites uterine action for its expulsion.

Nor can I refrain from another interesting digression connected with this principle, which is, that tumors or excrescences from the os uteri itself, having a living connexion with that part, and being assimilated with it in sensibility, produce no irritation with respect to it, and therefore do not excite expulsive action; on the contrary, if the morbid structure happens to be of a callous or indurated nature, the nervous sensibility of the part being impaired, delay in the parturient actions will be occasioned thereby. Thus does the doctrine of orificial irritation bear itself out in all its relations.

I proceed to enumerate the principal causes of the death of the foetus.

*a.* The child may die from its own proper diseases. We know little of the diseases of the foetus in utero; it is, however, well ascertained that it may be affected with syphilis, small-pox, and hydrocephalus.

*b.* It may die in consequence of certain unfavourable states of the uterus, or its appendages, as unusual tension or pressure of the sides of the womb upon the navel string, particularly where the liquor amnii has been originally defective, or



evacuated, and which may produce an impediment to the circulation. Separation of parts of the placenta or membranes, accompanied by hæmorrhage, may indirectly prove fatal to the child, in consequence of the debility occasioned thereby.

c. The more common sources, however, of the child's death are affections of the mother's system, which debilitate the fœtal powers by detracting the principles by which they are supported.

Amongst these are hæmorrhage, syncope, and shivering, the whole of which weaken or suspend the placental functions. The life of the child is always endangered when syncope is induced, whatever may be the cause of it; and hence may be inferred the impropriety of bleeding a pregnant woman until she faints\*.

Another cause comprised under this head is, an incapacity on the part of the respiratory system of the mother, to supply a sufficiency of oxygen to

\* The following case is communicated by my father:—

“A woman, near her time, labouring under pneumonia, was frequently let blood, and at length, a fainting-fit was produced, on recovering from which she described herself as feeling an unusual weight in the lower part of the abdomen, and in about a fortnight after, having quite recovered from her pneumonia, she was delivered of two children, one of which had evidently been dead some time, while the other was perfectly healthy. I have no doubt that the first died during the syncope induced by the bleeding.”



support the double system of herself and child in due health\*.

Violent exertions, whether bodily or mental, may be incompatible with the welfare of the child, probably in consequence of the placental circulation being interfered with; hence, we occasionally find it die after any sudden shock has been sustained by the mother. Acute and other diseases affecting her system, are sometimes succeeded by a similar result.

4. Other causes of premature expulsion operating more immediately on the uterine fibres, are found in various states of the maternal system, capable of affecting those fibres without being implicated in the state of the contents of the uterus. Under this head are included,

*a.* General irritability, debility, and plethora. These have been regarded as frequent sources of premature action; we constantly, however, see the robust, or the irritable female, or those sinking under diseases of the greatest debility, go through their pregnancies without any symptom of the kind, and I am, therefore, inclined to view them rather as predisposing than exciting causes.

*b.* Local plethora of the uterus. Increased vascular action of the uterine system necessarily ac-

\* See "Essays on the Female Economy," by the author, in which abortion from this cause is fully treated of.



companies pregnancy, and the more vigorous it is, the more favourable we might, *a priori*, presume to be the progress of the generative functions. I am little disposed to admit that the vessels frequently become surcharged with blood, so as directly to excite uterine action. How far a plethoric state of the uterine vessels will tend to interfere with the due discharge of the placental functions, is a point with respect to which I am not prepared to express any decided opinion.

*c.* Local debility of the uterus. I am also unwilling to admit this as a direct exciting cause. It certainly may occasion a weakness, or imperfect discharge, of the placental functions, and thus indirectly give rise to expulsion by affecting the life of the foetus, according to the principles before advanced.

*d.* It has been before observed, that premature action may be induced by sympathy, or the metastasis of some other action conveyed to the uterus. This transferred action may originate from actual disease, or from mere inordinate affections of other organic functions.

In this way various diseases, as typhus fever, pneumonia, small-pox, dyspepsia, liver disease, visceral irritations, and other morbid states, frequently give rise to miscarriage. These may sometimes, however, as we have before seen, affect the uterine



actions in a more indirect manner through the medium of the foetus.

Strong bodily exertions and violent passions of the mind, are powerful exciting causes; and certain impressions on the organs of sense, as sight or smell, will sometimes occasion the uterus to expel its contents; thus cows slip their calves when exposed to peculiar scents.

Mental affections of the pathetic kind will often have the same effect, and this will even occur with the inferior animals; breeders of cattle, in consequence, separate the aborting female from the rest of the herd, to prevent them from aborting likewise: and for the same reason, one pregnant woman ought not to be present, while another is miscarrying.

5. The power of habit has been supposed to have a material influence in producing recurrences of premature expulsion, particularly where the woman miscarries repeatedly at the same period of pregnancy. If habit means, as it has been defined, "a tendency in parts to repeat actions which they have before repeatedly performed," I know not how to refer to this principle, a second, third, or even fourth abortion. I do not mean to deny the power of habit over animal actions, and that it occasionally influences parturition; but am convinced that greater effects have been attributed to it than are strictly



due, and am disposed to think that more rational principles may frequently be assigned for the recurrences in question, as, for instance, where the premature action is the result of defective oxygenation, the tendency to which, depending upon constitutional causes, would necessarily come on at the same period in every successive pregnancy.



## SECTION II.

## THE PREVENTION OF PREMATURE EXPULSION.

AN important point in preventing the uterus from expelling its contents prematurely is, to obviate those states of the system which appear to predispose to it, and, particularly, general plethora, debility, and irritability.

Plethora will be lessened by a sparing vegetable diet; abstinence from fermented liquors; keeping the bowels in an open state; and by well regulated regimen and exercise. If it is considerable, and threatens serious effects some blood may be abstracted, although caution should be observed in this respect, as the practice gives a tendency to subsequent increase of plethora.

Where debility exists, the system should be invigorated by the use of nutritive food, wine, tonics, the cold bath, and other strengthening means; taking care, however, not to carry them to excess.

Irritability may be connected with either plethora or debility, in which cases the removal of the latter may be expected to take off the irritability. Independently of this it admits of some peculiar treatment; I have occasionally thought that small doses of opium, taken every night, have been serviceable in relieving it.



Costiveness sometimes appears to act as a predisposing, as well as an exciting cause, and should be carefully guarded against by the mildest purgatives, or the use of emollient injections.

Where the tendency of the uterus to assume premature contraction is strongly marked, it will be important that the female observe the strictest quietude both of body and mind; the uterine system itself should be preserved as exempt as possible from irritation; and its disposition to act may frequently be diminished by the use of opium, either taken internally or locally applied to the uterine organs or their neighbourhood; or by injecting, soothing, or cooling fluids, or applying cold water to the lumbar or pubic regions.

Another leading object will be to remove the exciting cause, or to obviate its effects.

Where it consists of local irritation acting upon the os uteri, the means of removal must be accordant with the nature of the individual stimulus, and will generally be obvious.

Detachments of the ovum, and spontaneous discharges of liquor amnii can neither be foreseen, nor prevented, except by that proper system of quietude which pregnant women ought to observe under all circumstances.

If hæmorrhage of a slighter nature shows itself, it should be treated in conformity with the general principles which will hereafter be laid down for



the suppression of hæmorrhage in abortion. The detraction of some blood from the arm, upon the principle of revulsion, may, however, be held in view as an additional means of checking it.

A variety of attentions may contribute to the welfare of the foetus, and, consequently, to prevent its too early expulsion.

We have no diagnostic symptoms of the diseases to which the child is subject in utero, and if we had, it is not probable that medical means could be directed to prevent the fatal results.

Shivering or syncope, on the part of the mother, will be relieved by æther, ammonia, and other means of increasing or renewing the heart's action.

Where defective oxygenation exists, various modes of supplying this necessary principle in larger quantity must be had recourse to\*.

The removal of the various diseases, and other inordinate actions of the maternal system, which have been enumerated as tending to deprive the foetus of its vitality, or to actuate more immediately the uterine fibres themselves, comprises an extent of practice too general to enter further upon in the present sketch.

\* See the Author's "Essays on the Female Economy."



## CHAPTER XV.

## ON ABORTION.

WHEN the contents of the womb are expelled before the end of the fifth month of pregnancy, the process is termed abortion.

Another characteristic of abortion is, that if the foetus is alive at the time of its expulsion, it dies soon afterward, its evolution being too imperfect, and its powers of life too weak, to allow it to exist externally to the uterus.

Three leading features especially require our attention in the process of abortion.

1. The expelling action. This consists, as alluded to when speaking of premature expulsion generally, of paroxysms of uterine contraction, attended by the ordinary expulsive nismus.

2. Abortion is generally accompanied by more or less pain of an acute grinding nature, affecting the back, belly, hips, and thighs, and entirely distinct from the expulsive nismus. This I am disposed to assert, like similar kind of pain in labour at the full time, is chiefly metastatic, and that in the same manner it protracts the process, and increases the sufferings of the patient; hence where the action



is only expulsive and not painful, the ovum will be rapidly and propitiously expelled, while painful abortion is always lingering and comparatively unfavourable.

3. The more important feature in abortion is the hæmorrhage which so generally attends it, and upon which the danger of the case almost exclusively depends. The only circumstances under which it is not considerable are, when genuine and energetic contraction presses the sides of the womb closely against the ovum, and expels the latter so rapidly as to allow little time for effusion ; so that lingering cases are not only more painful, but more dangerous.

The hæmorrhage arises from the unavoidable detachment of the vessels which connect the ovum with the uterus, and will be proportionate to the diameters of those vessels, and the extent of surface detached. The vessels are minute in the early stages, but, as pregnancy advances, gradually increase in size ; hence it will naturally be supposed that the danger from hæmorrhage is in the same ratio proportionately increasing. To a certain degree this is true ; but there is an apparent anomaly with respect to it, which requires explanation.

It is this ; that although the danger and extent of hæmorrhage, from the rupture of any given set of vessels, increases in proportion to the increasing diameters of those vessels, yet, when premature



expulsion takes place after the third month, the occurrence of hemorrhage will be found proportionately to diminish, so that at the sixth month it is seldom, if ever, experienced.

This fact admits of a ready explanation. After the impregnated ovum is received within the cavity of the uterus, it forms a connexion with that organ by the intervention of the decidua membrane. At this time the decidua, and the chorion membrane of the ovum, are vascular throughout their whole structure, and enter into a reciprocal adhesive kind of union at every point of superficial contact; hence at this time no separation of their parts can take place, without a rupture of vessels and consequent hemorrhage. This general vascular connexion, however, is not permanent; the vascularity *increases*, indeed, at the point of placental formation, but *diminishes* at every other part, so that by the end of the third month, or soon after, it becomes concentrated, as it were, upon the placenta, while a complete absorption or obliteration of vessels takes place with respect to both the decidua and chorion membranes; consequently after this time hæmorrhage seldom occurs, unless it be from a separation of the vessels of the placenta itself.

The same facts explain also why abortion is so much more prevalent before the third month than afterward. Previous to this time no relative ac-



tion, or motion, can take place between the ovum and the uterus, without the risk of rupturing some of the delicate vessels common to the chorion and decidua. This we have already seen will tend to excite expulsive action, and it must therefore be evident that, before the obliteration of these vessels, the probability of abortion taking place is much the greatest.

There is another point connected with abortion which I shall take this opportunity of noticing; viz. the state in which the ovum is expelled; before the fourth month it almost universally passes away in one mass, comprising the foetus and its appendages; after this time the ovum commonly ruptures, the foetus escaping first, and the appendages afterward following it, so that the process in some measure resembles that of natural labour.

With respect to the professional attentions required in abortion, it will be right to consider, in the first place, whether it be possible to arrest its progress by any of the attentions laid down for the prevention of premature expulsion generally.

If, however, uterine contraction has been decidedly established, and more especially, if it has produced any material detachment of the connexion of the ovum with the uterus, it will be vain to expect this result, and in such case we need only contemplate how to conduct the process, through its different stages, in the easiest and safest



manner. With this view the chief attentions required will be,

1. To promote the expulsive action ;
2. To relieve pain ; and
3. To diminish the risk of hæmorrhage.

The expulsive process may be promoted by the different means of exciting and strengthening uterine action, which have been so frequently recited. The various mechanical modes of effecting it, however, notwithstanding they might be very efficacious, do not admit of being used, since it is deemed improper to make use of manual interference in cases of this nature, unless dangerous symptoms imperiously require it.

The effecting of the second indication, or the relief of pain, will tend most materially to promote uterine action, since this pain is most commonly of the metastatic kind, and detracts, in proportion to its severity, from the disposition of the uterus to contract. It may be relieved in the same way as similar states of pain in labour ; viz. by opium, fomentations, friction, and various antispasmodics administered internally or applied externally to the parts affected. I have repeatedly witnessed the happy effects of friction, applied on this principle by the hand of a female attendant, in giving ease, and getting the patient quickly and safely through her miscarriage.



As the danger in abortion depends chiefly on the accompanying hæmorrhage, the last indication is an important one.

The patient should be kept quiet, observing the horizontal position ; heat in all its modifications, as well as the various stimuli which tend to increase the action of the circulating system, must be abstracted, or regulated, so as to lessen the tendency of the vessels to effuse blood ; and this intention may also be promoted by the application of cold, both locally to the uterine system and its neighbourhood, and generally to the whole system.

Astringent and styptic injections may also be thrown up per vaginam, either with a view to constrict the vessels, or favour coagulation.

The effusion may sometimes be arrested by mechanical means, as plugging the vagina with a handkerchief or soft linen rag, and I am satisfied that, in one or two instances of uterine hæmorrhage, the life of the patient has been saved by my having instructed the nurse to introduce her hand, as a plug, into the vagina.

Much good I am persuaded may be done in these cases by medicine given internally, as by the infusion of roses, and various astringents, as alum, gum, kino, and catechu ; but I am more particularly partial to the superacetate of lead, of which from half a grain to two grains may be adminis-



tered every six hours, giving immediately after it, two ounces of the infusion of roses, prepared with a double quantity of sulphuric acid \*.

The effusion from bleeding vessels has a tendency to stop of itself, either in consequence of the action of the vessels being lessened by the loss of blood, or by the supervention of faintness; or otherwise by the blood coagulating upon, or within the bleeding orifices, so as mechanically to check the discharge.

Faintness, therefore, is a symptom which, to a certain extent, ought not to be interfered with, particularly by throwing in stimulants to relieve it, as these will only aggravate the disposition to hæmorrhage, give a deceptive appearance of strength, and increase the danger. If it extends, however, ad deliquium animi, it is not without risk, and must be regarded with a watchful eye, that it go not too far.

The disposition of the blood to coagulate will be

\* I am not unaware of the chemical objection to this combination; but do not consider the presumed decomposition of the superacetate of lead by the sulphuric acid, as any reason for varying the formula while the effects as respects the patient's welfare, are satisfactory. I have employed the superacetate in this way, in almost every case of uterine hæmorrhage which has come under my exclusive care, and have never witnessed a fatal result; nor has the medicine, in such a form, produced any unpleasant effects on the bowels.



promoted by such means as lessen the impetus of the circulation, and place the circulating fluid more at rest. It may, however, often be effectually secured by attempts to entangle the blood, and delay its motion at the instant of effusion; by the application of certain styptics and mechanical impediments, as the agaric, lycoperdon or fuz-ball, cobweb, sponge, lint, &c.; or by plugging the vagina.

But the risk from hæmorrhage will not be done away with so long as the ovum remains unexpelled; if this is delayed, and the patient becomes faint and debilitated, so as to excite alarm, an examination must be made, when the ovum may be found either lying in the vagina, or so far escaped from the cavity of the uterus as to admit of its being removed in some obvious way.

In all cases of premature expulsion, except indeed towards the very latter months, when the process resembles natural labour, I should recommend that the ovum or membranes on no account be ruptured, where it can be avoided, for in this case the child escaping first, the subsequent expulsion of the placenta and membranes is apt to be attended with much protraction and risk of flooding: the patient is not to be regarded as out of danger until the whole is expelled, for any considerable part of the mass remaining, if it does not



renew the hæmorrhage, will be liable to excite a dangerous irritative fever. In some cases it may be necessary to introduce the hand within the cavity of the uterus, and separate the placenta in the same way as has been recommended in similar cases of retention at the full time.



## CHAPTER XVI.

## ON PREMATURE LABOUR.

WHEN the contents of the uterus are expelled after the end of the fifth month, the process is termed "premature labour."

A further characteristic of premature labour is, that if the child is born alive it is not impossible for it to survive.

The process of premature labour, and the various practical attentions required in it, are almost precisely the same as in labour at the full time. It is equally, or probably more obnoxious to the difficulties arising from the parturient energy, and also to many which originate from accidental circumstances; but, for obvious reasons, is little liable to become implicated with those that are dependent on mechanical obstruction.



## CHAPTER XVII.

## A SYNOPSIS OF PARTURITION.

THE utility of synoptical arrangement, as an adjuvant in the discrimination of disease, or in facilitating our study of it, is generally admitted. I am, therefore, induced to attempt a classification of the different varieties of labour, founded upon the principles which have been advocated, or are implied, in the present Treatise.

In order that such arrangement be most useful, it is indispensable to deduce it from correct views of the actions of nature, and of the different derangements to which she is liable. That upon this basis, ground exists for the present attempt, it is presumed will be admitted, when it is considered that all previous classifications of the subject in question, have been founded, either upon the specious symptoms that have presented themselves, or the nature of the practical attentions required with respect to them.

In forming the present synopsis, it has been my anxious wish not to deviate unnecessarily from the arrangement and nomenclature of previous authors ;



it has been impossible, however, to avoid innovation, and the introduction of new terms and definitions.

The adoption of the English language to express the distinctive titles which have been selected, has necessarily required a greater or less detail of words, as no terms exist in that language sufficiently comprehensive to denote them. It was indeed easy to coin from the Greek and Latin languages, a nomenclature which would effect this object more compendiously, but that I was unwilling to introduce the great number of new terms which would thus become necessary. Nevertheless, as I am persuaded that the brevity such a nomenclature affords, is a desideratum in systems of this nature, I have been induced to attach to the Table comprising the series of classes, orders, and genera (in the form of a parenthesis), correspondent terms derived from such sources, the derivations of which will be seen by reference to the foot of the page. I have frequently found the convenience of this abbreviated nomenclature in my private practice, and to those who may be disposed to take up my peculiar views, it may occasionally be useful.



THE SERIES  
OF  
CLASSES, ORDERS, AND GENERA.

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## CLASS I.

NATURAL LABOUR. (Eutocia<sup>a</sup>.)GENUS I. LABOUR WITHOUT PAIN. (*Hilaosis*<sup>b</sup>.)

## CLASS II.

DIFFICULT LABOUR. (Dystocia<sup>c</sup>.)ORDER I. FROM DERANGEMENT OF THE PARTURIENT  
ENERGY. (D. Nervosa.)GENUS II. LABOUR, WITH PAINFUL CONTRACTION OF THE UTE-  
RINE FIBRES. (*Metrodyne*<sup>d</sup>.)GENUS III. LABOUR, WITH PAIN FROM UTERINE PRESSURE.  
(*Oxytocesis*<sup>e</sup>.)<sup>a</sup> Ab ευ, bene, et τοκισω, pario.<sup>b</sup> Ab ιλαω, propitius sum.<sup>c</sup> A δυν, male, et τοκισω, pario.<sup>d</sup> A μητρα, uterus, et οδυνη, dolor.<sup>e</sup> Ab οξυ, acutaè, et τοκισω, pario.



- GENUS IV. LABOUR, WITH EXTRA-UTERINE PAIN. (*Odinerosis*<sup>a</sup>.)
- GENUS V. LABOUR, WITH CONVULSIONS. (*Cataspasmus*<sup>b</sup>.)
- GENUS VI. LABOUR, WITH MANIA. (*Tocomania*<sup>c</sup>.)
- GENUS VII. LABOUR, WITH HYSTERIA. (*Hysteriasis*<sup>d</sup>.)
- GENUS VIII. LABOUR, WITH FEVER. (*Pyretocesis*<sup>e</sup>.)
- GENUS IX. LABOUR, WITH SUSPENSION FROM DEFECTIVE IRRITATION. (*Aneréthismus*<sup>f</sup>.)
- GENUS X. LABOUR, WITH SUSPENSION FROM DEFECTIVE PARTURIENT ENERGY. (*Apenergia*<sup>g</sup>.)
- GENUS XI. LABOUR, WITH DIFFICULTY IN THE EXPULSION OF THE PLACENTA. (*Opseplacia*<sup>h</sup>.)
- GENUS XII. LABOUR, WITH PREMATURE EXPULSION OF THE CONTENTS OF THE UTERUS. (*Protocesis*<sup>i</sup>.)

## ORDER II. FROM MECHANICAL OBSTRUCTION. (D. Mechanica.)

### A. AS RELATING TO THE STRUCTURE OF THE MOTHER.

- GENUS XIII. LABOUR, WITH OBSTRUCTION IN THE SOFT PARTS. (*Emphraxis*<sup>k</sup>.)

<sup>a</sup> Ab Ωδινηρος, summo dolore in parturiendo affecta.

<sup>b</sup> A κατασπασω, convello.

<sup>c</sup> A τοκειω, pario, et μανια, furor.

<sup>d</sup> Ab ύσθηρια, hysteria, et ισος, similis.

<sup>e</sup> A πυρετος, febris, et τοκειω, pario.

<sup>f</sup> Ab α, priv., et ερεθίζω, irrito.

<sup>g</sup> Ab απο, ab, et ενεργεω, operor.

<sup>h</sup> Ab οψι, sero, et πλακους, placenta.

<sup>i</sup> A προ, ante, et τοκειω, pario.

<sup>k</sup> Ab εμφρασσω, infarcio.



GENUS XIV. LABOUR, WITH OBSTRUCTION IN THE BONY PARTS.  
(*Peristenosia*<sup>a</sup>.)

B. AS RELATING TO THE PRESENTATION OF THE FÆTUS.

GENUS XV. LABOUR, WITH MAL-POSITION OF THE CHILD'S  
HEAD. (*Dyscephalis*<sup>b</sup>.)

GENUS XVI. LABOUR, WITH PRESENTATION OF PARTS DISTINCT  
FROM THE HEAD. (*Heterophasis*<sup>c</sup>.)

C. AS RELATING TO THE FORM OR STRUCTURE OF THE FÆTUS.

GENUS XVII. LABOUR, RENDERED DIFFICULT BY MALFORMA-  
TION OF THE CHILD. (*Cacogonia*<sup>d</sup>.)

GENUS XVIII. LABOUR RENDERED DIFFICULT BY DISEASE OF  
THE CHILD. (*Nosogonia*<sup>e</sup>.)

GENUS XIX. LABOUR, RENDERED DIFFICULT BY THE DEATH  
OF THE CHILD. (*Necrogonia*<sup>f</sup>.)

ORDER III. FROM ACCIDENTAL CIRCUMSTANCES. (D.  
Accidentalis.)

GENUS XX. LABOUR, PRECEDED BY HÆMORRHAGE FROM THE  
UTERUS. (*Hæmatochoe*<sup>g</sup>.)

GENUS XXI. LABOUR, WITH LACERATION OF PARTS. (*Spara-*  
*gma*<sup>h</sup>.)

GENUS XXII. LABOUR, WITH INVERSION OF THE UTERUS. (*Me-*  
*tralasis*<sup>i</sup>.)

<sup>a</sup> A περι, circa, et στενωσις, angustia.

<sup>b</sup> A δυσ, male, et κεφαλή, caput.

<sup>c</sup> Ab ἑτερος, alius, et φαινομαι, appareo.

<sup>d</sup> A κακος, malus, et γονη, fœtus.

<sup>e</sup> A νοσος, morbus, et γονη, fœtus.

<sup>f</sup> A νεκρος, mortuus, et γονη, fœtus.

<sup>g</sup> Ab αίμα, sanguis, et χον, libatio.

<sup>h</sup> A σπαρασσω, lacero.

<sup>i</sup> A μητρα, uterus, et ελαυνω, abigo.



GENUS XXIII. LABOUR, WITH PLURALITY OF CHILDREN. (*Diplosis*<sup>a</sup>.)

GENUS XXIV. LABOUR, WITH PRESENTATION OF THE NAVEL STRING. (*Omphalophasis*<sup>b</sup>.)

GENUS XXV. LABOUR, WITH EXTRA-UTERINE CONCEPTION. (*Ecmetria*<sup>c</sup>.)

<sup>a</sup> A διπλωσις, duplicatio.

<sup>b</sup> Ab ομφαλος, umbilicus, et φαινομαι, appareo.

<sup>c</sup> Ab εκ, ex, et μητρα, uterus.



## CLASS I.


## NATURAL LABOUR.

THE labour proceeds in conformity with the principles which nature has established ; no deviations, originating from the action of the parturient energy, from structure, or from accident, occur to interrupt or derange it.

## GENUS I. LABOUR WITHOUT PAIN.

THE vertex of the foetal head presents, the occiput inclining towards the pubis ; the paroxysms come on with regularity and energy ; during their continuance, the uterus forms a tense contracted viscus ; the accompanying sensations are not of the nature of pain, but consist of forcing or bearing down impulse.

- \* Natural labour. Variorum.
- \* Easy labour. Cooper.
- \* Eutocia simplex. Merriman.

 The asterisk prefixed to a synonym denotes that it is partial or imperfect.



## CLASS II.

## DIFFICULT LABOUR.

THE process of labour deviates from the principles of nature, and is, consequently, in some or other of its circumstances, rendered more or less unpropitious.

ORDER I. DIFFICULT LABOUR FROM DERANGEMENT  
OF THE PARTURIENT ENERGY.

## GENUS II. LABOUR, WITH PAINFUL CONTRACTION OF THE UTERINE FIBRES.

The circumstances of the case resemble natural labour, except that the contractions of the uterus are attended by pain.

- \* Natural labour. Variorum.
- \* Easy labour. Cooper.
- \* Dystocia simplex. Merriman.



## GENUS III. LABOUR, WITH PAIN FROM UTERINE PRESSURE.

The circumstances of the case resemble natural labour, except that the pressure from uterine contraction occasions pain affecting the os uteri, vagina, perineum, or adjoining parts.

- \* Natural labour. Variorum.
- \* Easy labour. Cooper.
- \* Dystocia simplex. Merriman.

## GENUS IV. LABOUR, WITH EXTRA-UTERINE PAIN.

The paroxysm is unattended by proper contraction of the uterine fibres ; it affects parts distinct from the uterus, producing pain in them.

- \* Dystocia diutina. Merriman.
- \* Dystocia anenergica. Merriman.
- \* Tedious labour. Burns.
- \* Lingering, slow, painful, and difficult labour. Variorum.
- \* Laborious labour. Hamilton.

## GENUS V. LABOUR, WITH CONVULSIONS.

The labour is attended by convulsions of the epileptic kind.



Eclampsia parturientium. Sauvages.  
Complicated labour. Order IV. Burns.  
Complex labour. Sect. 4. Hamilton.  
Dystocia convulsiva. Merriman, Young.  
Puerperal convulsions. Variorum.

GENUS VI. LABOUR, WITH MANIA.

The labour is attended by paroxysms of mania.

GENUS VII. LABOUR, WITH HYSTERIA.

The labour is attended by paroxysms of hysteria.

Hysteria a partu difficili. Sauvages.

GENUS VIII. LABOUR, WITH FEVER.

The labour is attended by febrile excitement.

\* Dystocia inflammatoria. Merriman.

\* Tedious labour. Order I. Burns.

GENUS IX. LABOUR, WITH SUSPENSION FROM DEFECTIVE ORIFICAL IRRITATION.

The irritation applied to the os uteri is insufficient to excite proper contraction of the uterus.



- Sp. 1. From deficient sensibility of the orifice of the uterus.
- Sp. 2. From imperfect insensible contraction of the uterus.
- Sp. 3. From an oblique position of the os uteri.
- Sp. 4. From improper discharge of the liquor amnii.
- Sp. 5. From relaxation of the abdominal muscles.

GENUS X. LABOUR, WITH SUSPENSION FROM DEFECTIVE PARTURIENT ENERGY.

- Sp. 1. From deficient production of nervous principle.
- Sp. 2. From exhaustion of nervous principle.

GENUS XI. LABOUR, WITH DIFFICULTY IN THE EXPULSION OF THE PLACENTA.

*Dystocia retentiva.* Merriman.

- Sp. 1. Retention of the placenta from simple want of action.
- Sp. 2. Retention of the placenta in consequence of extra-uterine paroxysms.
- Sp. 3. Retention of the placenta, with partial separation and hæmorrhage.



- Sp. 4. Retention of the placenta from irregular contraction of the uterus.
- Sp. 5. Retention of the placenta in consequence of an unnatural induration of its structure.

GENUS XII. LABOUR, WITH PREMATURE EXPULSION OF THE  
CONTENTS OF THE UTERUS.

- Sp. 1. Abortion; the expulsion taking place before the termination of the fifth month.
- Sp. 2. Premature labour; the expulsion taking place subsequently to the fifth month.



## ORDER II. DIFFICULT LABOUR FROM MECHANICAL OBSTRUCTION.

## A. AS RELATING TO THE STRUCTURE OF THE MOTHER.

## GENUS XIII. LABOUR, WITH OBSTRUCTION IN THE SOFT PARTS.

Dystocia ab angustia. Sauvages.

Dystocia obturatoria. Merriman.

Sp. 1. From rigidity or want of dilating principle.

Sp. 2. From cohesion of parts.

Sp. 3. From contraction of the vagina.

Sp. 4. From gibbous tumors.

## GENUS XIV. LABOUR, WITH OBSTRUCTION IN THE BONY PARTS.

Sp. 1. From a relatively small pelvis.

Dystocia ab angustia. Sauvages.

Sp. 2. From deformity of the pelvis.

Dystocia ab angustia. Sauvages.

Dystocia amorphica. Merriman.

Laborious labour. Sect. 3. Hamilton.

Laborious or instrumental labour. Burns.

Impracticable labour. Burns.



## B. AS RELATING TO THE PRESENTATION OF THE FÆTUS.

## GENUS XV. LABOUR, WITH MAL-POSITION OF THE HEAD.

Dystocia perversa. Merriman.

Preternatural labour. Order V. Burns.

\* Laborious labour. Sect. 1. Hamilton.

Sp. 1. The forehead turned towards the pubis.

Sp. 2. The face presenting.

## GENUS XVI. LABOUR, WITH PRESENTATION OF PARTS DISTINCT FROM THE HEAD.

Dystocia transversa. Merriman.

Dystocia perversa. Young.

Preternatural labour. Burns, Hamilton.

Sp. 1. Presentation of the breech.

Sp. 2. Presentation of the lower extremities.

Sp. 3. Presentation of the upper extremities.

Sp. 4. Presentation of the back, belly, or sides.

## C. AS RELATING TO THE FORM OR STRUCTURE OF THE FÆTUS.

## GENUS XVII. LABOUR, RENDERED DIFFICULT BY MAL-FORMATION OF THE CHILD.

Monstrositas. Variorum.

Preternatural labour. Order VII. Burns.



## GENUS XVIII. LABOUR, RENDERED DIFFICULT BY DISEASE OF THE CHILD.

- Sp. 1. From a collection of fluid within the head.
- Sp. 2. From a collection of fluid within the cavity of the thorax.
- Sp. 3. From a collection of fluid within the cavity of the abdomen.
- Sp. 4. From tumors situated on the body of the child.

## GENUS XIX. LABOUR, RENDERED DIFFICULT BY THE DEATH OF THE CHILD.

- Sp. 1. The bones of the head separated from each other in consequence of putrefaction.
- Sp. 2. The cavity of the thorax or abdomen distended with air generated by putrefaction.



ORDER III. DIFFICULT LABOUR FROM ACCIDENTAL  
CIRCUMSTANCES.

GENUS XX. LABOUR, PRECEDED BY HÆMORRHAGE FROM THE  
UTERUS.

Dystocia hæmorrhagica. Merriman, Young.  
Complicated labour. Order I. Burns.  
Uterine hæmorrhage. Variorum.

Sp. 1. The hæmorrhage occurs during the  
last three months of utero-gesta-  
tion, in consequence of the detach-  
ment of a portion of the placenta,  
which is placed more or less over  
the cervix or orifice of the uterus.

GENUS XXI. LABOUR, WITH LACERATION OF PARTS.

Sp. 1. Of the uterus.

Rupture of the uterus. Variorum.  
Complicated labour. Order 5. Burns.  
Complex labour. Sect. 5. Hamilton.

Sp. 2. Of the vagina.



Sp. 3. Of the perineum.

*Dystocia laceratoria.* Merriman.

Sp. 4. Of the labia pudendi.

Sp. 5. Of the ligaments of the pelvis.

GENUS XXII. LABOUR, WITH INVERSION OF THE UTERUS.

*Dystocia inversoria.* Merriman.

GENUS XXIII. LABOUR, WITH PLURALITY OF CHILDREN.

*Dystocia gemina.* Merriman.

Preternatural labour. Order VII. Burns.

Complex labour. Sect. I. Hamilton.

GENUS XXIV. LABOUR, WITH PRESENTATION OF THE UMBILICAL CORD.

Preternatural labour. Order VI. Burns.

*Dystocia a secundinis elapsis.* Sauvages.

GENUS XXV. LABOUR, WITH EXTRA-UTERINE CONCEPTION.

Extra-uterine pregnancy. Burns, et Variorum.



- Sp. 1. The foetus situated in the ovarium.  
Sp. 2. The foetus situated in the fallopian tube.  
Sp. 3. The foetus situated in the cavity of the pelvis or abdomen.

THE END.







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