"Spontaneous Evolution" or a Compound torsion, doubling, and expulsion of the body of the Child. (Shoulder presentation.)

That unnatural presentations, or Cephalotho as they are termed, were well known to the Ancients is proved to us from their Writing. As far back as the time of Celsus we find him stating in case the child be dead, that it is the duty of the Physician, by the introductions of the hand to turn the child either upon its head, or on its feet, if it were placed otherwise, and if nothing hindered to lay hold of the hand or foot to place it in a straight position. For the hand, being laid hold of, turns it upon its head. and the foot upon its feet. Then if the head be nearest, a crutch should be introduced, pinioned in every part, with a short head, which must be tightly fixed in either the eye or the ear or the mouth and sometimes even the forehead, which, being drawn downwards, brings away the Child.
It is equally clear the plan of treatment was not attempted while the fetus was living until many centuries after Cleopatra lived, as we learn from the Writings of the Ancients, that their mode of proceeding was to endeavour to alter the position of the fetus by causing the patient to assume a variety of postures.

This object was attempted to be effected by causing the suffering woman to turn successfully, from lying upon her side to her back, thence to rest upon her knees and elbows, thence to be rolled, and afterwards to be shaken by a number of persons, and often after a variety of similar efforts, without advantage, she would be suspended by the head, with her head downward over the bed chamber door or from the step of a ladder, with the design of causing the infant to present itself head to the world.

Appropriate also not only relates such cases, but recommends them. He says, "If the arm or leg, or both of a living child present, they should, as soon as discovered, ..."
he returned into the Womb and the
child he brought into the passage with
its head downwards." To effect which
he advised to roll the Woman, shake her.
We have good authority for believing that
these absurdities were not confined to the
time of Hippocrates, for Smellie related
a case as occurring in the last century.
He says," Being called to a Watchman's
Wife, the Midwife told me that the Water
had come off in a large quantity on which
the Arm was forced down into the birth,
and the hand appeared without the external
part. She had tried different methods to
make the child withdraw up its hand
into the Womb, and change itself into the
natural position, by dipping its hand in
a basin of cold Water and also in vinegar
and brandy, but finding these fail, she
had recourse to the last remedy, before any
assistance from a man-practitioner was thought
necessary, she directed the Woman's husband
to take hold of her legs over his shoulder, and
lift up her body, three times, with her back to
his, and her head downwards, being of force.
that although the former methods failed of success, this would answer expectation. The preceding quotations will be amply sufficient to show the various methods, formerly used with the hope of converting a cephaloposition into a natural labour. The time when turning was first employed seems involved in great uncertainty, it would have been natural to infer that as Celsus had directed cephalopositions (when the children were dead) to be turned and brought down by the legs, that this method would have been applied to living children; but, certainly this plan does not appear to have been adopted until many centuries after Celsus wrote—there seems good reason to believe from writings of Etius—that Philumenus discovered a method of turning and delivering children by the feet in all unnatural presentations.

Little is known of the history of turning up to nearly the close of the 16th Century, when Ambrose Paré conceived the design of introducing his hand into the uterus, taking hold of the legs of the child and completing
delivery, as if it had been a force presenta-
tion. This mode of delivery at first met with considerable opposed, and it is perhaps not to be wondered at, as we have abundant evidence that its application was not re-
stricted to suitable cases, but was employed in many cases in which it could not have been attended with success.

From the writings of both French and British authors, we learn that the most extreme violence had sometimes been employed with the view of altering cases presentations. La Motte states that in his first attempt to turn the fetus, his hand was squeezed by the general compression all the parts laid under, that it was quite numb'd which forced him to withdraw it several times in order to recover its power and that he had occasion repeatedly to desist from and resume his work, before he forced a passage into the Womb and lastly he adds, he imagined he should have died after this delivery which was the most laborious he ever performed, having been put to the utmost of his skill and strength, he remained without breath.
and they were forced to lay him on a mat-ress before a great fire, and rub him with warm cloths for above an hour. Many other instances of as much or perhaps more force having been used might be enumerated, but, lest to multiply quotations, I will merely add that the celebrated Denman-mention cases in which he occasionally used very considerable force, until he met with a case of shoulder presentation in which he was unable to grasp his hand into the uterus to turn the child - and in which, by the unaided action of the uterus - an evolution took place of the child as expelled by the breech - and that (which brings me to the subject of my theme) he termed Spontaneous Evolutions. This term has been objected to by some Authors as not accurate, by Dr. Radford as not appropriate if we reflect on the apparent complication of the process, he therefore proposes to call it a “compound torsion, doubling and expulsion of the child in shoulder presentations,” but this is not free from objection to pay nothing of its length and complexity, for as
Dr. Douglas remarks the fund exsudation would rather convey the idea that the fetis is
propelled through the Os Coccygeum, each after line of it preceding each, in regular
progression, the entire retaining the form and every part each its relative position as
situated at the commencement of labour and this, as we shall afterwards see, is not the case.
So we shall retain the term spontaneous
evolution by which we know that Penman
merly meant "an evolution of the child wholly
independent of the practitioner," but that it
was produced from any impulse or exertion
in the Fetus. It was doubtless the celebrated
Penman who first noticed this remarkable
change which the Fetus somewhat undergoes
in transit the Pelvis through some French
authors with their usual discretion have claimed
the priority of the observation. In 1772 Penman
was called to a poor woman in Oxford Street
who had been in labour all the preceding
night, under the care of a midwife, an arrest of
the child presenting. He relates "I found the
arm much pulled and pushed that the exterted
parts in such a manner that the Shoulder nearly
reached the Perineum. The Woman struggled vehemently with her pains, and during their continuance, I perceived the Shoulder of the Child to descend. I remained by her bedside till the child was expelled, and I was very much surprised to find that the breech and inferior extremities were expelled before the head, and if the case had originally been a presentation of the inferior extremities. The child was dead, but the Mother recovered as soon, and as well, as she could have done after the most natural labour. In the following 2 or 3 years similar cases which occurred, which satisfied Denman that the efforts of nature alone were sufficient to effect the delivery of the Child in cases of presentation. In relating one case he says: "Having agreed upon the necessity of turning the Child head down and made repeated attempts to raise the Shoulder, with all the force which I thought could be safely used, but that the action of the Uterus was too powerful that I was obliged to desist." I quote this case especially, as it appears strange how the truly great man could have been led to believe that the unaided efforts of the Uterus could accomplish the object which he himself found
it impossible to effect; but which (as we shall see from his explanations of the evolution) he doubtless thought happened. In writing on the subject the page "As to the manner in which the evolution takes place, I presume, that after the long continued action of the uterus, the body of the child is brought into such a compacted state, as to render the full force of every returning action. The body in its doubled state being too large to pass through the pelvis, and the uterus pressing upon its inferior extremities, which are the only part capable of being moved, they are forced gradually lower, making room, as they are pressed down, for the receptacles of some other part into the cavity of the uterus, which they have evacuated, till the body turning as it were upon its own axis, the breast of the child is expelled, as is an original presentation of that part. Nor has there been anything unusual from in the size or form of the pelvis of those women to whom this case has happened, and hence the children been small or softened by just such action, because one or more children have in this way been born alive." From a careful perusal of Dr. Denman's explanation it
appears to one that either the womb or the cavity of what is now termed "Spontaneous Rotation" or else that he could not have accurately noted the changes which occurred. He appears to have thought that the Fetus doubled up could not pass through the pelvis without one part rotating to make room for another and that the Body by rotating on its own axis permitted that while one part was being expelled forward by the powerful action of the Uterus another portion of the Child was preceding to make room for the descent of the presenting part. It is strange that so experienced a man as Dr. Penman could have held such an opinion, an opinion which could only be纠正 by proof that we could believe that during the powerful contractions of the Uterus some portion of its fibers became relaxed so as to admit of a part of the child retreating yet this we know is opposed to all laws of uterine action.
One would almost imagine that the cases quoted by Penman were nothing more than changes of the position of the Fetus before it had become engaged in the pelvic cavity. We know that when the hand is presenting
(Provided that it be not very low down, and
that the head had not entered the pelvis)
that the feet in many cases are close to the
dorsum, and that after the arm has presented
some time— one of the feet may be dislodged
and descend into the pelvis. Should this
take place it is easy to perceive that the uterus
would act most powerfully on the back of the
child and consequently the feet meeting with
no resistance would be forced downward and
become the presenting part— while the portion
of the head would offer a powerful resistance
to the descent of the shoulder. It is true
that in one case related by Dr. Oenman he
precluded the possibility of our believing this
to have been the case, for he says "I found
the arm much prevelled and pushed through
the external parts, in such a manner that
the shoulder nearly reached the Perineum"
how it is evident that if the shoulder nearly
reached the Perineum that some portion
of the ribs of the child must have also fairly
entered the pelvis— for in no other conceivable
manner could the shoulder have reached so
low— at least in an ordinary sized child—
so that if Dr. Penman had noted correctly the changes which took place in this instance it is the only case of the kind ever recorded, and it certainly very different from that change which Dr. Douglas has since shown to take place. But the fact is that Penman seems to have entirely misunderstood the change which actually did occur during the passage of the Fetus under the circumstances.

We wonder that Penman, acute and distinguished as he was—should have committed such an error or rather errors as he did say—For his statement seems to involve 2 errors.

1st. We must imagine that the Uterus is capable of a double action at the same time that while some of its fibres are strongly contracting to expel its contents, the other portions of the fibres is relaxing to enable a part of the Fetus to pass back into its cavity; and this, as before stated, is contrary to all the laws of uterine action.

2nd. Dr. Penman seems to have had no idea that the Fetus, doubled up, could pass through the Pelvis, for he says “Premature or very small children have often been expelled.
in a doublt state; whatever might be the
original presentation when the pelvis was
well formed or rather more capacious than
ordinary, but this is a different case to that
we are now describing. How if such a
change took place—would it not prove
that the pelvic cavity was sufficiently large
to allow the fetus to pass without part of
it retreating and in the same afterwards,
that such is really the case. The Professor
is doubtless much indebted to Donovan as
the first person who directed attention to
this change of the Fetus, but it will be
seen he only had a glimpse of the truth.
To Dr. Douglas belongs the distinguished
honour of having been the first person who
thoroughly comprehended and accurately
described the true mechanism which takes
place in such cases. So much has referred
to some remarks made by Herder on a case
which he attended and printed in 1763,
yet Dr. Douglas's claim to priority seems gene-
really admitted by English and Continental
Authorities. It is generally admitted, as we
dearm from the various statements on the
subject) that previous to spontaneous labor, taking place the shoulder is forced very low into the pelvis and that the thorax occupied so much of the cavity as to prevent the hand from being introduced into the uterus for the purpose of turning. We find Mr. Veseyau in giving a description of a case in which he was called upon, the hand of the operator could not be carried into the cavity of the pelvis; and the shoulder already with part of the chest, came in the vagina. The abdomen, then the hips and pelvis successfully escaped and the child was born without the arm having issued. In Cerut also notice a similar case. Gullenit maintains that the arm does not ascend and that the breech nevertheless come down. I mention these as confirmatory of Dr. Douglas's statement which I shall give in his own words. “In order to render as clear as possible the successive movements in the astonishing effort of nature, I will endeavor to describe the situation of the fetus, immediately prior to its expulsion. The entire of it somewhat resembles the large segment of a
circle, the head vests on the pubis internally, the clavicle presses against the pubis externally, with the Acromion stretching towards the Mont Veneris - the arm and shoulder are entirely protruded - without side of the thorax not only appearing at the Ac acetabulum but partly without it - the lower part of the same side of the trunk presses on the Perineum - with the breech cilia in the hollow of the Sacrum or at the brow of the pubis - ready to descend intact and by a few further interior efforts the remainder of the trunk with the lower extremities is expelled. To be still more minutely explanatory in this ultimate stage of the process - I have to state that the breech is not expelled exactly sideway, at the upper front of the trunk had previously been, for during the prevalence of that pain by which the expulsion is completed, there is a twist made about the centre of the curve, at the lumbar vertebrae, when both buttocks, instead of the side of one them are thrown against the Perineum distending it very much, and immediately after the breech
with the lower extremities, or we forth, the upper and back part of it appearing first, as if the back of the child had originally formed the convex and its front the concave side of the curve. Thus we see instead of the uterine efforts having the effect of carrying the portion of the fetus first presenting to retinue to make room for another portion— that the first presenting portion, namely the shoulder with the protruding arm, continues to descend until the ribs press on the perineum so that the change takes place when the fetus is wedged in the pelvic cavity—not that it is meant to imply that the fetus always presents exactly the same way. For Professor Simpson has noticed that permit its body to make a different curve. In the proceedings of the obstetrical society of Edinburgh, he has the following: 'Dr. Simpson remarked that this peculiarity of change in the presentation had taken place during ten or fifteen minutes—the fetus had made a slight turn upon its long axis, so that the fetus presented much more of the back and lye of the side.
than before, the Shoulder still however remained in its deep position in the cavity of the pelvis. The child’s body came down in other words, not with the spine or trunk bent and doubled up laterally, but bent and doubled up in a great measure anteriorly.

An entirely different opinion of the mechanism of this change has been held by Dr. Kelbie who believed that the Spontaneous Evolution happened, when the Uterus was quiescent, and not (as Denman thought) during the existence of the pains, but this opinion has never received any support.

It is the prevalent opinion that this process only occurs in very protracted labours, but in seven cases which came under the notice of Dr. Douglas, the expulsion of the child was completed in less than six hours. Sometimes it will take place in much less time than this. The time required for the evolution will of course depend on a variety of circumstances, the power of the Uterus, the size of the child, and of the pelvis and the attitude of the position of the child.
Dr. Denman remarks that if the child be much below the common size, the labor will be the evolution. I am not aware that his opinion is sustained by any other authority. As he does not bring forward any specific arguments to support this statement, I am at a loss to understand his meaning, unless he mean a case of very small stature with excess of liquor amni. giving rise to a partial state of inertia.

I may here remark that spontaneous evolution is not so uncommon as some authors would lead us to believe. Seven cases came under Dr. Douglas's notice in a very short space of time; and since he published his treatise on the subject many cases have been recorded by various authors. Seeing then that the unaided efforts of nature are equal to effect the delivery of the child, the question arises, How far ought the knowledge of this to influence our practice, and what are the circumstances which would lead us to leave a case to nature, with the expectation of such a delivery? In order to decide the first point we must endeavour to
as certain the effect on the life of the child and on the health of the mother — and here we are met by conflicting statements from the highest authorities. We find Mr. Capron stating "if we wait long, the feto will putrefy and then that part which yields just will carry down the head with it." Mr. Vulpian remarks "if you leave the patient to nature, you will have two symptoms from putrefaction of the Fetus and contusion of the part." and of 137 cases of Spontaneous Evisceration recorded by him 125 children died — so that according to his opinions we have almost certain destruction of the Child and imminent danger to the Mother. Dr. Radford after enumerating a train of evils sufficient to alarm the most practiced — such as laceration of the Uterus, vagina and bladder — says "the child is usually not always dead — for it is nearly if not quite impossible for it to sustain the long continued pressure, and undergo the flexion, contortion and compression — which it must before it is expelled" he even goes still further, and says "I am induced to consider that when the child
has been alive, a mistake has been made as to the precise nature of the case. In the contrary Dr. Rawman relates some few cases in which the children were born alive, and cases are also related of the same by Dr. Lartillor and others. From these cases we gather that the life of the child usually destroyed by the pressure it is subjected to, and that the few cases recorded of the child having been born alive, can only be regarded as exceptions to the rule. With regard to the influence on the mother, the results do not seem to have been so severe as they have (by some) been described. We have the statements of Dr. Douglas on this important point, and his authority must be regarded as most valuable, in the few cases recorded by him. He speaks of their having recovered "as speedily as after the most natural labours," and in one case (the woman's first child) she recovered "without any untoward symptom." So that although the testimony of other authors nearly agree with the statements made by Dr. Radford as to the effect on the life of the Child, they differ widely in
their statements as to the effect on the health of the mother—yes, instead of such cases being usually followed by "laceration of the uterus, vagina, etc." they speak of the frequency of such cases recurring as well or nearly as well as after ordinary births.

It is of great importance to decide the question as to the effect on the mother, as it appears to me that it must materially influence our practice in such cases.

Could it be proved that these cases are usually attended by such serious consequences as Dr. Radford describes—I do not see that we should have any alternatives left, but to evacuate the child and at once proceed to deliver as soon as we perceive that the shoulder has fallen down in the pelvis as to prevent the possibility of turning—because although we expose the mother to a terrifying and dangerous operation—yet we know that this operation, skillfully performed, is not followed by the fearful consequence already mentioned and we have seen that the child is so seldom living that the mere possibility of preserving its life should not form an element in our consideration.
Dr. Radford unhesitatingly asserts that we are not justified in trusting any care to such a termination—he says: "In all cases of cross birth we should turn the child as soon as the condition of the maternal organs will safely permit, and in three cases in which the time for the operations had been neglected, when steady persevering efforts have by us been made—after pain section and the administration of a full dose of Opium—we must then have recourse to other measures to extract the child." With the former part of this statement no one would hesitate to agree—no one (as far as I know) has ever advocated the propriety of leaving such cases to nature when the organs would safely permit us to introduce the hand and turn the child—but we cannot but think that Dr. Radford has overrated the danger to the mother for we have the authority not only of Douglas, but, of Cenman and others to the contrary, and a careful review of the termination of such cases when left to nature, induces us to conclude that in some cases it is wise to trust to her efforts—and also that by a careful examination
of the position of the child we may form a tolerably correct diagnosis of the prospect of a favourable result—In confirmation of this conclusion we have the high authority of Dr. Simpson & Douglas. Dr. S. remarks, under some circumstances that the shoulder case should probably be left to be expelled by the mechanism of spontaneous solution, assisting, if necessary, the mechanism by art, and Dr. Douglas speaking with equal confidence on the point says "According to my rationale, you can predict the event of an evolution with as much confidence as you can that of any other occurrence in Medicine." The circumstances then which would lead us to form a favourable prognosis in such a case may be briefly stated to be the following—If the ribs or any great portion of the thorax can be felt in the hollow of the sacrum—if the shoulder is lifting on the perineum and the occiput be down in the pelvis—if the uterus continues to act powerfully, and at each uterine contraction the thorax continues to advance, we may conclude that the pelvis is large.
enough to allow the child to pass, and that the evolution will take place.

The knowledge of the fact that spontaneous evolution can take place—and still more the power of forming a correct diagnosis in such cases is valuable, as while it saves us from a small amount of anxiety, it will prevent us from having recourse to any hasty attempt to accomplish delivery by evincing the child, and will also prevent our having recourse to any rash attempt to turn the child when the shoulder is low down in the pelvis—an attempt which could only be successful by causing the dilatation of the pelvis, and in doing which, we should run the greatest risk of rupturing it, cavity.

If, however, it is evident that the cavity of the Pelvis is not sufficiently large to allow the evolution of the Fetus—or if from exhaustion in the Mother, or any other circumstance, it is deemed imprudent to leave the case any longer to nature—the only alternative left us is to proceed to evacuate the Fetus—and then loosen its Grip—we may then leave it to be expelled by
the efforts of the Uterus — or if they be feebly
bratzen its delivery by pressing a blunt hook
a Crochetet on its pelvis, and drawing it
down, and then accomplish the evolution
without the assistance which the action of
the Uterus was unable to effect.

From a study of the foregoing we derive
the following Conclusions

1st. That Spontaneous Evolution in transverse
presentation is not so uncommon as some
Author would lead us to imagine.

2nd. That though the knowledge of this fact
is calculated to cause us much anxiety — it must
not tempt us to delay turning (if called to a
case of Shoulder presentations) in every case in
which it can be done with safety to the Mother
even in which it may give us a greater chance of
preserving the life of the Child.

3rd. That the danger of leaving such cases to
the unaided efforts of the Uterus, is not so
great to the Mother as some Author have stated
and that there are some circumstances under
which it is wise to leave Down and Shoulder presentations.
to be controlled by the mechanism of spontaneous rotation.

4. That by a careful examination of the position of the child, the size of the Pelvis, and by due attention to the progress of the labour, we can predict the event of an evolution with a tolerable degree of certainty.

5. That in all Arm and Shoulder Presentations in which the Shoulder is low down, and the Chest of the child is in the cavity of the Pelvis, our only plan is to lessen the turf of the fetus for an attempt to turn under such a complication would, as Dr. Simpson remarks "necessitate the sedation of the uterus; hence in all probability produce a rupture of its cavity.

I have thus endeavored to describe the true mechanism of spontaneous evolution, and the opinions held by various authors on the subject, as well as the limited source of information within my reach would allow, and although I am conscious of having but imperfectly fulfilled my task, I trust that any omission, error will not be attributed either to wilful carelessness or thoughtless indifference on the part of the writer.

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