General Statistics of the Hospital

I beg to present a general view of the statistics of the Royal Maternity Hospital from the year 1826 to August 1880. This comprises the whole time during which reliable records are to be found.

I have most carefully gone over all these records and beg leave to present Table I as the outcome of my investigation.

The records of the Hospital are very imperfect, in the earlier books and have gaps. Here and there, are gaps, extending sometimes over an entire year.

For my table I have given only those facts which can be observed over all the period mentioned.

In the latter books much more accurate have been observed.

The table has been constructed as clearly and accurately as lies.
A Clinical and Experimental Study of the Bladder during Parturition

The object of the present enquiry is to ascertain the extent and manner in which the bladder and its contents are influenced by parturient efforts.

The means taken to ascertain this will be hereafter described. Before reaching the main issue several questions naturally fall to be discussed.

It is therefore convenient at the outset to arrange our study as follows:
1st To examine the question of uterine pressure. During parturition.

2nd The pathological anatomy of the bladder during pregnancy and parturition and some clinical observations connected with it.

3rd Experiments to establish bladder pressure during labour - its amount - distribution of force.

4th The results arrived at.
The estimation of uterine pressure, that is, of the intensity of the uterine contraction, is a question upon which very considerable attention has been paid by Poppeh, Haughton, Duncan, Snell, Schatz, Rebermont, Puleh and others.

It forms no part of my present task to enter in detail into this question yet it is essential that these investigations should be steadily worked up in order that two points may be established:

1st. The amount of force exerted during parturition.
2nd. How that force is applied or distributed.

First. The amount of force:

Different methods have been adopted by different observers in order to arrive at a solution of this problem. Poppeh, Haughton, Duncan, Rebermont, have estimated this force necessary to expel the membranes and have considered that force as representing approximately the rectility of the uterus.
of the uterine contractile

Poppel found that on an average

a force of 4·245 kiloponds was required to

rupture a surface of membrane having

5 centimetres of diameter.

The lowest number was 1·301 kiloponds.

The highest number was 6·802 kiloponds.

He made the same researches upon a

surface of 10 centimetres in diameter

and found:—

The highest figure 9·876 kiloponds.

The lowest figure 2·134

Average figure 6·162

He concludes he draws from these
calculation is that in normal delivery

a force from 2 kiloponds to 9·5 kiloponds

is requisite to effect the parturition.
Mathaeus Diessens judging by his
own experiments conducted in the
same line as Poppell "concluded
the almost certain conclusion that
a great mass of flax and hemp
merely the easiest labour are
terminated by a power little if any
of that required to rupture the burl
gumma homo. The strongest muscle
found in this experiment indicated,
by the pressure required to break
it, an extending force of 37 1/2 lb.

We may therefore, Steinke, safely
continue to assert as a highly probable
conclusion that the general majority
of labours are completed by a
propelling force with exceeding 20 lb.

If we regard the figure
of 3 lb. given by Poppell as equal
to the power exerted in the easiest
labour he has observed, or the
respective figure of 6 lb. according
to my calculations, and keep in
mind that the average weight
of the adult foetus exceeds either
of these weight, we are led to the conclusion that, in the easiest labors, almost no resistance is encountered by the child; that it glides into the world propelled by the smallest force capable of doing so.

Duncan in an essay on the extreme power of labour further states: "Having had extensive access to varied experiences in the care of the people in difficult labours, and having also made some rough experiments with the dynamometer, to ascertain the power I have applied by the instrument," regarded the Soudan estimate of a hundredweight as the maximum force of the particular function as too high.

I do not deny that, in very rare cases, such a force may possibly be produced; but I am sure that it is nearer the truth to estimate the maximum power of labour — including wit—
"the uterine contractions the resistive effective effort — as with exceeding 80 lbs."

Ribbert made his experiments with great care and found that over an orifice of 10 centimeters the membrane ruptured with a mean pressure of:

10.300 kilopascals = 23.3 lbs.

The maximum of resistance

11.179 kilopascals = 24.4 lbs.

The amnion alone resisted up to

8.935 kilopascals = 17.3 lbs.

whilst the chorion and decidua without the amnion ruptured under a pressure of:

5.660 kilopascals = 12.3 lbs.

Souliez by means of forceps to which he attached a dynamometer found the maximum force about

104 lbs.
Schaly has endeavored to extend the previous creation of labor in a different way. He made the following apparatus which he denominates a tophiometer. This consists of a little balloon of coagulated serum filled with water which is introduced into the uterus between the foetus and the uterine wall, and which by means of a syringe is kept in communication with a manometer. This has attached to it a corresponding register which traces, on paper, curves similar to those of a graph; tracing indicating the variations to which the balloon is subjected in the uterus under the influence of external forces.

I embrace this opportunity of pointing out what appears to me an obvious fallacy in their method of investigation and which I refer to more fully in my communication as to bladder pressure.

It consists in the fact that the
force was conveyed through an apparatus of elastic material. Before any actual deduction can be made from the movement of the mercury its position has to be determined. The addition to the force produced by the elastic unless of India rubber bag. This has been done indeed it would have been difficult to see how it could be done. This would constitute the entire result.

He found that the pressure exerted by the uterine and abdominal muscles at the end of labor varied from 80 to 250 millimeters of mercury pressure.

At 3.2 to 10 inches of mercury pressure.

According to the statement of the foetus requires a force of from 8,000 kilopounds to 27,500 kilopounds.

E.g. 17½ lbs to 60½ lbs.
Poulet de Lyons attempted to settle the question of literary pressure by means of an instrument which he called the 
Tecograph. His observation was con-
ducted by means of two balloons, one of which was inserted into the stomach and the other into 
the uterus. In this chamber, as he 
supposed, the entire apparatus was free 
employed in particular. On the one 
hand the balloon in the uterus 
showed the effusion of the pressure of 
the organs while, on the other hand, 
the balloon in the rectum showed 
the effusion free of the abdominal 
pressure. I need not add that each 
of these balloons were attached to the 
each of which was connected with 
a column of mercury and a registered 
scale. The results were open to the 
same objection as others: they are 
very uncertain and need not be recorded 
in full here. They are to be found 
in the Bulletin de la Société de 
chirurgie 1879 p. 8.
Reece's Samuel Haneghön approached the subject from an entirely different point of view. 

Studying first the force of the uterine muscle he finds the mean weight of the muscle derived from Haskell Montgomery and decr. to be 1.56 lbs.

Its mean thickness of the muscular wall to 0.1319 inch, and the tensile strain of uterine wall per inch to be 15.577 lbs; and from these data he concludes that the maximum hydrostatical pressure produced by uterine contraction is 3.4 lbs on the square inch.

He cites the experiment of Harcourt on the pressure necessary to rupture the membrane, who found the greatest pressure was 3.1 lbs and the least 0.26 lbs giving a mean 1.2 lbs, and combining this experimental result with his calculation, he concludes that the uterine muscle are capable of rupturing the membranes, in every case and nurse in general nearly twice its power to complete labou
The extreme force of uterine contraction
be estimated produce or rather is
equivalent to a pressure 54.1 lbs
differing, it will be observed, very
considerably from insulin and
Duncan.

Houghton then discusses the force
brought in by the abdominal muscles,
which are four in number viz.
Rectus abdominis, obliquee externus,
obliquee internus and Transversali.
The force by experiment upon
three young men, multiplying the
curvature into the tension of the abdomi-
nal muscles at the navel, that the
result was an effective force of
32.926 lbs on the square inch, available
to assist the uterus in completing
the second stage of labour.

Adding combined force we get:

Involuntary Muscle 54.10 lbs

Voluntary Muscle 528.65 lbs

Total 577.75 lbs. av.
Between 577.75 lbs of Haughton and 80 lbs of Dunceau, there is obviously a marked difference even if it came to the question to ascertain how this remarkable difference has arisen.

As I have just shown the two observers approach the subject from different stand points. The one calculation from the data I have mentioned, the other from the nature of the uterine and abdominal wall contraction, the other by observation, or the body being effects of the force of contraction on the.

Is it possible then to explain this discrepancy? I think it is. So the explanation I am brought directly to the subject of my enquiry.

First, then, of the three elements entering into the Haughton calculation, if one is the tensile strain of the uterine muscle, muscle must be taken with very great reservation. The calculation is on the 'tensile strain'. Such may be the least amount of tensile strain, but there such strain is not a fair calculation. Take one
analogy from engineering a square and of good iron will rupture in ten applications of a force of 50,000 lbs but an actual work 10,000 lbs, would only be allowed for square wire to give a factor of safety of 5. It is necessary to be supposed that nature will work at the "breaking strain" that nature does work up to the "breaking strain" i.e. of course assuming a fact. This is shown in cases of fracture can interior rupture. Even here, however, the rupture does not take place in the least tensile by Hertz but at the weakest part of the organ - the union of capsule and body. What factor of safety nature allows it is, I presume, impossible to say. Physicists believe 10 as a factor of safety in a dynamic load and 5 as a factor of safety in a static load. It must be at least very obvious that in the majority of labours the work done must be at a strain
very much within the breaking strain and therefore a very considerable deduction must be made in the heart alone.

from Haughton figure.
But I will not press the point to its utmost limits; for although Dr. Duncum has shown that Haughton has overestimated the explosive power of the uterine and abdominal muscles in ordinary labors and ridiculed his statements that "on an average, somewhat more than a quarter of a ton of pressure can be brought to bear on a respiratory child which refuses to come into the world in the usual manner," yet it is not impossible that Haughton's figures may approximately describe the "breaking strain." It must be kept in view that even in cases of rupture of the uterus the rupture does not accurately represent the breaking strain of the healthy uterine muscles.

My point is simply this, allowing a factor of safety in Haughton's experiments, it brings his figures, in proportion as the factor of safety is large or small, very considerably down.
But secondly, and this is a point

to which so far as I know no allusion
has been made and which, to some
extent, go to reconcile the general
discrepancy in the results of
Hawshon on the one hand and
Duncan, Smith and others on the
other. While Hawshon, from the
Halli I have alluded to, calculated
the entire pressure of the vessels
and arteries Duncan and
other estimates only the pressure on
the portal. It is obvious, therefore,
that from Hawshon's total from his
figures to be deducted the force lost
on the hand of the pelvis. In other
words, allowing Duncan's 80 lbs to
considerably allowing a large factor
of safety, some Hawshon figures the
difference between the two may be
account to the sum of the difference
between a single girth of the back
and whatever else, for the
time, may happen to be. That
such figures are ever with respect
upon part of the contents of the pelvis, and in consequence of this very considerable injury of the enlarging umbilical hernia. If it is feasible to calculate the pressure, which is the difference between the entire uterine pressure and that of the bladder during parturition, further experiment may be made to ascertain approximately the amount of pressure that upon other portions of the pelvis and its contents. It is only then that a true estimate of uterine force can be obtained for what Buerger is, no doubt, right in the truth, when he estimates the amount of pressure at 80 lbs in laborious cases and 60 lbs in easy labor. Yet it must be very clearly kept in view that this is an estimate of the entire amount of uterine force exerted in any given labor, but merely the pressure exerted on the head.

The pressure dissipated on the passage is entirely left out of the
calculation. This brings me directly to the task I have set myself. We have to ascertain the amount and distribution of the pressure exerted on the bladder during parturition.
Following on the plan laid down at
the commencement of this paper, it becomes
my duty to examine into the relative and
condition of the female bladder. It would
be prejurious to the present subject to enter into
a lengthy description of the vices. I shall to
confine my remarks entirely to the relative
of the bladder so far as they affect this
inquiry on hand.

In the unaffectuated condition
It is necessary to state generally that the
female bladder lies lower in the pelvis
than the male; placed between the pubes
anteriorly, the uterine posteriorly the vagina;
and the intestine superiorly
When empty, it lies forward on the symphysis
occipital but the space above and slightly
over tops it.

When partially or entirely filled
it rises above the pubes to a varying
extent. It is consequently a pelvic
or pelvic abdominocele according
to its position.

Beyond these general facts there
are some points to which attention
must be specially clean and which are characteristic of the female bladder.

1st. It is flatter in women than in men. I have spoken of the moderately dented organs. I mean it is obvious to few female admittance. I mean the in women owing to the obvious arrangement of the vagina and pelvic organs generally. A glance at the accompanying diagrams will show this. These diagrams are especially valuable as showing this fact, because they were drawn with a totally different object, and only incidentally show this point. In fact, they are taken from Petigpous monograph on the muscular fibres of the bladder and were sketched to show their arrangement. In these diagrams this flattening and broadening of the female bladder as compared with the male come out very clearly defined.

The fact is noteworthy that this flattening and broadening of the bladder is more marked in multiparous women. In those the whole organs
has more heads than height.

This was noted by Haller. It may be accepted as a fact. Indeed it would a priori seem to be natural.

For if the normal bladder is normally bowl shaped, it is hard to be expected that, in repeated pregnancy, the weight of the uterus pressing on it, and interfering with its expansion upwards will tend to make it expand laterally.

With the repeated occurrence of pregnancy, this lateral expansion will become more and more marked. To the clinical observer nothing is better recognized than the first condition of the bladder in multiparas. In making a bimanual examination the difficulty of mapping onto the bowl moderately distended bladder, admits of ready demonstration.

The explanation just offered seems a feasible one. Bacteri, however, doubts its value. He has found that the want of pyramids in some or flattening occurs in men as well as women, so that causes
will account for it. In some multiple women he has not found their condition.

He mentions one case of a bladder of a woman who died of phthisis at 41 after bearing ten children. In this case he expected to find broadening and shortening, but he did find an oval bladder.

Barkow offers a different explanation. He attributes this peculiarity of form less to the effects of pressure of the pregnant uterus than to the movements of the uterus and its contents which lie behind the bladder. There was an oval bladder, being about contraction of the organ and cause shortening. Barkow simply mentions the fact. It seems to me that a. the free movement of the pelvic uterine b. its fixed weight.

c. its lower situation. d. The frequency of displacement: both of the urethra and vaginal walls all seem to give great weight to his observation. It is scarcely possible to exclude the
frequent action as a factor in the production of this shape. Both influences do not appear to be involving this shape to the organ. Whichever predominates the fact remains that the female bladder is markedly flat and tall in certain women the prevalence of height over length is remarkable.

BURTON DE LA FENDE.

The female bladder is marked by lateral asymmetry.

The accompanying diagrams taken deflected from bladders depicted by Barks show this.

The following observations are from that author.

Out of 35 bladders of adult women

In 10 asymmetry was minor

In 21 it was major

Out of 35 only 4 were completely asymmetrical.

I wish to draw special attention to the fact that this asymmetry is much more marked on the
on the right twice on the left.

Right .... 18
Left .... 7

Again this asymmetry, though characteristic of the female bladder generally, is so constant present in the bladder of some women that it may be regarded as the normal condition.

Sure it a fallacy however is assuming that a bladder will distend when removed from the body or even in the body when the viscera have been removed, in the same way as it would have in the fluid abdominal cavity. For instance in a section of a female pelvis of a girl aged 18 by surgeons the show the bladder distended like as one might expect in a young girl. Shown this probably came from the bladder being distended after the viscera had been removed.
3rd. In regard to the relative capacity of the male and female bladder, there is a very great difference in opinion.

For example:

Haller says it seemed to be the practice in women to tend it contained the urine longer.

Rosenmuller: It is surprising more bladder urine in the male.

It is brother Rosenau, broader and roomier than in the male.

Krause: He is roomier than in the male.

Hegel does not striking certain much less urine than in the male.

Encyclopedia: It is generally very capacity in women especially those who have borne children.
Such are a few of the opinions with regard to the relative size of male and female bladders. The weight of opinion seems to be that the female bladder, especially that of multiparae, is more capacious than that of man.

Barlow found in making experiments to which reference has already been made [35 adult females] that female bladders contained a quantity of urine equal to that contained by the male bladder.

The flattened appearance, shortened as it is in its vertical diameter, which the female bladder presents, has no doubt given rise to this difference of opinion in its capacity. Clinical observation will hardly bear out those who would limit its capacity to less than the male. A reference to retention of urine in the female would seem to show that scarcely any limit can be assigned to the capacity of the female bladder. Rupture of the bladder from electrocoagula is practically unknown.
The natural capacity which women have retains a very small one of being able to satisfy the desire to satisfy than longer than men can, and, however, he urged as an argument in favor of the female capacity of the female organ. This is not a matter of capacity. Habit no doubt has some thing to do with it. Its shape, situation in the pelvis, its broad base, its appearance literally must be kept in view in studying the question. It is a part of my present purpose to discuss generally the capacity. It varies much under different circumstances, for example in addition to sex and habit, age, function of the body health and idleness, especially the latter — from a few drops to a pint — exert a marked influence. A further examination of this point would lead beyond the scope of the present enquiry.
I am now led to examine the influence exerted on the bladder.

B. By Pregnancy

a. In the earlier months

Among the most prominent effects of early pregnancy is a diminution of the capacity of the bladder. The humble weight of the heavy uterus is of itself sufficient to cause this.

The early pregnant uterus lies in a state between relaxin and placien. It is easy to satisfy oneself by a bi-manual examination of the intimate relation existing between the pregnant uterus and the posterior bladder wall.

The true position of the early pregnant uterus is well on its weight will check at once the upward distention of the bladder and it would appear probable that to long as there were any normal position maintained the relation very for the first three months, the bladder will not contain an amount of urine beyond that which can be accommodated by the ureter distending
Intimately is the function taken in by the vesica. While the bladder, like all other sac containing fluid, will oppose in the direction of least resistance; once thus, in the case of the bladder, will be transversely. Whenever the bladder begins to distend longitudinally, the weight of the urethra will act by increasing the resistance and hence on directly or reflexly require the expulsion of its contents. If it, therefore, only in physiological circumstances, that the bladder becomes an abdominal organ in early pregnancy. It is, as a rule, pelvic, as the uterus ceases to be a pelvic organ even with advancing pregnancy rises into the abdominal pelvis and the bladder lower than the cure will be made. Clinically this is so for frequent micturition is more common in the first months than at mid term. Still are through pregnancy the surrounding space of the vesica is limited. But if, as it often the case, the pregnant situs is inclined backwards without
being in a state of relaxation or tension the bladder will be interfered with in two ways.

As the urine accumulates around the bladder and when rectal distention begins the bladder must of necessity drag on the cellular tissue lying between it and the uterus. From the position of the uterus this tissue will only be put on too stretch and an early check will be placed on the capacity of the bladder. The bladder will probably be emptied. If not it will distend further and act on the rectum. The posterior displacing作用 of the bladder will be felt far试题 Remedies and the whole uterus and how serviceable and closely applied to the posterior surface of the bladder will rise as much with the |  

Dop far distension of the bladder will have the effect of rectifying a backwards inclination of the uterus. The observations of Scanzoni and Denis show this. These were conducted on cadavers and showed that while the utero-vesical duplications were severed once the bladder...
distended marked reversion was the result, but when they were left intact; dilatation of the bladder only seemed to place the anterior wall of the uterus and the posterior wall of the bladder in clearer contact. Such a case has been under my observation.

A young multipara pregnant 6 months consulted me officially on account of frequent micturition. Unusually I found the uterus slightly inclined backwards and this being no other condition present I concluded this was the cause acting in the way I have just described. I instructed the patient to incline the first curve to micturate. She did, and after the uterus was drawn forward on the bladder and had its posterior and cervix so far remedied, the patient was able to retain her urine for hours. The result of distention of the bladder on the uterus, when the latter organ is drawn normally situated or slightly inclined backward, is to displace the latter organ further back, the cervix and fundus meanwhile retaining their

31
relatives position. In the figures referred to
by Dr. Auer, he finds difficulty in account-
ing for the 68 backward displacement of the
uterus, whether it was ante or post
mestum or how brought about. However, it
may have brought about in this particular
case whether by the violent death of the
patient or by post mortem favour I cannot
say. This much I know clinically that
while a position of the uterus in early
pregnancy is by no means rare, lately
in any case of early pregnancy when
I have been consulted and where sick
frequent micturition has been a symptom
I have, on occasion offered, made one
examination and been struck with the
frequency of this displacement.

The minor forms of rapid retroversin a
well as rapid retroversin generally as a
rule right themselves. In other cases
with rapid retroversin, though a small
capacity of the bladder is interfered with as in retroversin, and frequent
micturition is an early symptom, but
if detachment takes place the uterus is less
likely to be drawn into position and the
well known phenomena of circumcution
and retention are the result. The position
of the bladder during this period.—Daily frequency
varies according to its distention. If elevated,
become an abdominal organ. Compressed on its
side by the uterine body or its distention inter-
sected with by the spine, it is usually in the
form of a somewhat triangular
form or else it assumes the form of an
irregular oval.

The exact shape of the bladder
of some, a matter difficult of accurate
determination. The only section with which I was
acquainted was Braunt's and it shows the
bladder contracted and flattened against
the tube. Clinically the bladder cannot be
regarded as having any definite shape,
as least when moderately distended
it; outline are not sufficiently differentiated
and are easily changed by the presence
of the finger. It can be regarded only as
a little cushion into easily susceptible
place, once into it: outline is constant
change.
The main points concerning the bladder in early pregnancy are:

1. That it is a pelvic organ.
2. That it extends transversely.
3. That its antero-posterior extension is limited.
4. That its vertical extension is limited.

In the meantime, the reasons described for these reasons in capacity of very material, considerate.

2. Throughout Pregnancy

The bladder in its moderately distended or deeply condition remains a pelvic organ. Its capacity is interfered with but in a different way. The uterus has risen out of the pelvis. The bladder, when even considerably filled, will descend fairly transversely, turn upwards, and ultimately the base of the bladder will lodge the vaginal wall before upward expansion takes place. The distention, therefore, of the bladder during early and late pregnancy is somewhat different. In the former case, the capacity is diminished by the
pressure of the uterin body which still
remain a pelvic organ in the other the
anterior deflex of the pelvic uterus
is the main factor in limiting the
capacity of the organs. This is shown
in diagrams in the accompanying volume.

3. At the time of Pregnancy
the capacity of the bladder
is diminished owing to the low position
of the lower uterin segment and foetal
head and in multiparae, just at the
end of pregnancy, the result is decidedly more
much less marked) owing to the ascent of the
uterus.

In any case it is to be observed that
just before labour the bladder is
entirely a pelvic organ and thus, subject
under unusual circumstances, it remains
so. It expands laterally, inferiorly and
antero-posteriorly to the uterus
superiorly because in that direction it
meets with less resistance.
I was come to look at the bladder

During Parturition

The main point to be observed is free and easy

presentation. By consequence is the fact that

the uterus is elongated and the bladder
collected. This is once shown in Brown's

section and has been specially drawn attention

to by Dr. . It is a fact which readily admits

of clinical demonstration.

The direction of the uterine

The length of parts is required

The small quantity of urine

Thus drawn off, unless it is,

the result of a special examination

sufficiently prove that, unless normal

circumstances, during the 1st and 2nd

stage of labour the bladder had ceased
to be a pelvis and became an abdominal
organ.

This is the case not only under circum-

stances of delivery, but in Brown's

plate abundantly shew in the simply

conditions as well. The course of this alter-

ation is the position of the bladder is to be

found in a study of the pelvic floor
during parturition and especially if the relation of the fetus. The intimate relation between the cervix and the bladder posterior bladder wall sufficiently indicates the cause of the displacement. During the first and second stage of labour the cervix is stretched, stretched and correspondingly drawn up. As it advances, the change in the bladder alters its position once more until it - a movement outside of which it is capable owing to its loose pubic attachment. From being pelvic it becomes abdominal.

This is the case not in part but in whole - whether distended or empty. The altered position of the bladder during parturition is a fact of interest as bearing on various obstetric operations and manipulation. A reference to these points could lead me away from my present object. I am contented with placing attention to the importance of keeping this position in view as in relation to bladder forenoon

Clinically the disturbed bladder is readily recognized by inspection and
palpation forming a distinct tumour
superficially broader above than below
separated from the surrounding uterine
tumour by a transverse or oblique furrow.
Its tension and fluctuation will further
decide its nature.

Such is the true opportunity of pointing out
a further diagnostic point. The condition
has not been drawn attention to. I may be
and no doubt is familiar to practical
acconchisms but if it is recorded, many utter
it have escaped my observation. The con-
dition in postpartum is due to the
former relation of the tumour is the most
marked in the præsacral. I mean the alteration
in the vaginal walls by which owing to the
dragging up of the bladder a circumscrib
contraction is formed — most marked in
front but extending all round the vagina.
The degree of the contraction varies with the
amount of urine.

Let me illustrate what I mean by a
few clinical examples: —

Case 1. I. a præsacral had been in
labour nine months saw her at
Case 1. A patient has not passed urine for one week.

Case 2. Vaginal ring disappeared.
Urinary stream on the first day of menstruation.

Case 3. Patient was brought into the maternity hospital a little having come a long distance by train. The patient was detained as being a crown piece. On further inspection, the vaginal ring was not visible. The patient being less than three weeks postpartum.

The patient had passed a small
marked suprapubic tumour

Enquiry by urine for many hours
Boys drawn off into a catheter
Result: This disappeared.

So can serve as good precept to
multiply examples, and as I have
not kept a record of all the cases in
which the condition was observed, I am
ask in a patient to give a trial.
This can be on the point which I think
care for notice.

1st. I have observed that the condition
is most marked in primiparae at the 3rd
crude in multiparae

2nd. It occurs in the first stage

3rd. It does not occur in the
non-pains. This can be
proven by experiment. I have
again examined the vagina
in cases with full bladder and
found as such being.

In primiparae cases in the first
stage, this ring is pathognomonic of
dehiscence. It is contrary of a certain that
a marked ring will be caused.
even if the bladder is not distended to any very remarkable extent it is to say a
have them in the case recorded – it will
do it. – I have not noticed it. not less. Of
course regard must be had to the condition
of distention in labour and in the non-
David for though may be allowed
as an average moderately distended
bladder can term half that frequency
must be regarded as moderately distended
bladder in labour. Indeed distensions
even moderate distension is a very rare
thing in parturition. Although constantly
referred to it must strike the practical
accordance as a fact. Time spent a
thereout since letters with questionable
benefit the cordalis is temporarily seldom
regarded in labour. The condition is
deserving of a little clear study.

1st. The bladder has been seen to be
abdominal

2nd. The condition of distention seemed
to be convex and sagittal.

In alluring shapes of the above and
the contractions prevent anterior posterior
3. The swelling forms supra pubically by the moderately or markedly distended bladder in one or might be at the first phase upon central.

I have observed this at the hospital. Out of 15 cases of which I have kept notes the following is the result: parturition in 15 cases of pregnancy in which during inspection the characteristic swelling of the distended bladder was observed and in which after the case of the foetus it did appear.

In 8 swelling to Right of median line

- 4 " Left
- 3 " was Central

Of the 8 in every case the presentation was cranial and the mother L.O.A.

Of the 4 in 3 body was to Right

- 1 presentation mistake

Of the 3 two were pelvic 1 cranial L.O.A.
In looking for an explanation too consider-
tions must be kept in view.

That position decisive is to a certain extent prevented by the position of the
head and body, and the too whether the
head is engaged or not.

The natural position of the foetus,
I have already alluded to elsewhere.

In addition to the fact that the foetus's
presentation in oblique, it is important
to keep the two points, I have just mentioned,
in mind as applying additional as part of
the linear measurement required to
make a supra-pubic vesical tension
during labour.

It is first of time is very fully born until
by ten short tables I have given in which
out of the 15 cases 11 were apparently
influenced by the head near body or
feet. The remaining 4 were too
indefinite to draw conclusions, but it is
striking that in both of the head
case the foetus was central.
Following the arrangement laid down at the commencement of the thesis, I have now to describe the method adopted of arriving at an estimate of the amount of precursor excreted in the bladder during pasturization and the results of that enquiry.

First:

The method adopted is making the experiments.
A bent U tube 3 joined to calculate was 
connected by the end A with a horizontal 
tube C in which a T branch F closed with 
a pinch cock D.

To the further end of C was attached 
a piece of india-rubber tubing of the same 
calibre. This was about 3 feet long and 
terminated in an soft rubber cathet. No 8 J.

At the point of junction of the 
tube C and the catheter another T branch 
D was connected. This was also closed 
with a pinch cock H.

A Scale diuised in both diiuchi 
was procu for between the limits of the U tube 
and was capable of accurate adjustment 
to the mercurial level.
Same height remained as existed between the level of the mercury in B and the horizontal tube C.

This ensured an equal weight of fluid in both limbs.

The scale was then carefully adjusted till the zero corresponded to the mercury level.

The catheter was then introduced into the bladder and the manometer placed on a support two same height as the bed.

The pitch cocks H and D were opened and a little urine permitted to flow so as to secure complete exclusion of air and equalize the pressure on both sides of the mercury.

Both cocks were then firmly secured and alterations in the mercury level during each pain were observed.

When it was desired to ascertain the amount of urine in the bladder the tap H was opened and the urine was allowed to flow out.
In these cases, when the bladder
was found to be slightly or nearly so
filled with water, were injected. This was
done by connecting a rubber syringe to
the tube.

Table I shows that the observations
extended over periods varying from
5 to 40 minutes and included
from 2 to 8 observations.
The table to which I now draw attention No. 1, indicates the condition generally — showing the state of:

1. The weather
2. Distance of the boat
3. Duration of the observations
4. Latitude of observatory
5. Longitude of observatory
6. The amount of wind

This table gives a precise of the whole scope of the observations and from this table all the others have been constructed.

These observations were made exclusively in cases of head presentation.

The examiner position being:

L.O. A...19
R.L. C...6
The Condition of the Ethmoides:
Ruptured 16, Unruptured 17

The Condition of the Eye:
Dilated 19, Undilated 18

In making these observations care was taken to observe in eliminating any sources of fallacy more especially in the observations made during the early period of parturition. One such fallacy has partly arisen out of the notion that arises from the use of some drugs to which I refer in the possibility of taking a reading during that first stage while the patient is making active exertion such as coughing, bearing down, vomiting, and the like. Once exertion ceases the readings become falsified voluntary efforts at once remove the reading from that of a first to that of a second stage. So the enlarged pupil I have endeavoured to make ample allowance for this.
Among the first points which require to be

treated in the receding of the mercury during

the interval of a pain, where un influenced

by any of the factors of labour. This is

uniformly 1/2 inch. We set this receding

curve all circumstance during the interval

of a pain. The condition of the bladder as
to elevation makes no difference. The

mercury remained the same as a

woman with true labour in her bladder,
or in the case of a woman suffering

from a acute melancholia, etc., from whom

early the fluid was drawn off.

A very slight alteration in the position

of the manometers will raise the mercury

a point or two. When the patient is ill

and the bladder manometers are the same

the level the rise of the mercury is really

insignificant and cannot be included in our calculations or

in any way influencing the results.

A series of experiments were tried

with non pregnant women and the

results were that constant, and an

accurate portion of patient and
Pneumometric leaves the mercury column unaffected. The munt altitude, then, renders accurate the intervals to the fact that the mercury was on a nearly lower level than the patient.

At such a condition of matters, it could hardly be avoided from his fact of the patient lying on a non-very rigid bed or from the varying thickness of the patient's thickness.

It, therefore, follows that during the intervals, in an average pressure, amounted to 116.
Such being the condition of the foetus during the interval of pains and absence at Table II our next step was to examine the influence which particular effects have on the bladder. The table shows a range of readings varying from 3.2 to 4.1. With the scale it was found possible to show a closer examination it was found that the highest reading occurs in a woman aged 37 with a labour pains.

L.O.A. position and D. ruptured membrane were bleed in the second stage of labour and the lowest reading occurs in a primipara at 27 weeks present. L.O.A. position on the one hand if a shifting ruptured membrane and bleed at the time early, thereafter, in the third stage of labor.

Such results is precisely what were expected. Between the two extremes, the reading vary either way. Classical condition after labor. In the meantime the fact is established that pressure near the top to a very considerable extent is harmful to act on the bladder during labor.
Having seen the limits of pressure of the highest and lowest readings, it is convenient here to examine what the equivalents of these readings are in actual pressure.

Take, for example, the maximum in which the manometric column rose 3.2 in.

All these readings refer only to the rise of one limb of the manometer. They require to be doubled in order to represent the actual height of mercury supported by the bladder pressure for the time being. Accordingly 6.4 inches of mercury will represent the corresponding intra-vascular pressure in this observation. Now as 30 inches of mercury represent approximately a pressure of 15 lbs. on the square inch it becomes a simple question of proportions. The amounts of pressure come from being to 6.4 inches.

The I find to be 3.2 lbs. per square inch of bladder area.

In tables 6.7.8 the manometric readings are converted from inches into lbs. of pressure and these to be shown...
the actual pressure per square inch of helioctes to each of the separate observation modes. The lowest reading, which was obtained was 0.041 which referred to inches of a mercurial column and ten again is equivalent to 10 of all of pressure on the square inch.

Such being the highest and lowest reading it would be possible to determine the entire intra-vascular pressure provided always it were practical to obtain exact

1. In small quantity of fluid contained in the veins.

2. Sufficient data as regards the displacement of the walls to calculate the entire intra-vascular area.

Such a calculation would serve no

poor purpose in indicating any relation as to the distribution of interior force because


will well be shown the chief factor in

the summation of the pressure is a variable and resulting as it does from the action of an unknown segment of the interior on an unknown area of the arterial
wells and tubs, since the bladder a rigid cylinder and the uterine fluid acting directly upon the fluid contained within it, it would be easy to estimate the pressure from the free oxygen in it, but it will be seen above that the elastic resisting it would be necessary to determine its. So the two chiefs were fought of which elasticity as a basis of any calculation in their direction, Aim for such calculation are used at our disposal and then we must in context into having accompanied the amount of uterine pressure eliminated on the bladder at various periods per square inch.
In the presence, then, let there be caution in abstraction. If the fontanelle is it, due to the abnormality of the child, that it is not so evident from the face that its present during the 2nd stage of labour when the head has, as I have already shown, passed below the level of the bladder. The bladder has been drawn out of the pelvis into the abdomen and, therefore, away from direct pressure from the fontanelle. The pressure remains, therefore, he said to be the result of the fontanelle, coming in direct contact with the viscera under observation.

This fact is worthy of special notice because, unless the history of the bladder during labour is kept clearly in view one would very naturally attribute the pressure on the bladder in a direct result of the advancing fontanelle itself forming on it. Such a pressure is clearly erroneous, better, if any, pressure is thrown on the bladder from this source.
Here remains, therefore, the source from which their presence may arise.

1st. The contraction of the uterus.

2nd. The contraction of the abdominal muscles.

3rd. Visceral peristalsis.

I have just shown that these do not arise through the systemic circulation but immediately from the head to the kidney vessels. This source of pressure must, therefore, to a great extent be diminished. uterine contraction have a certain and important influence on the bladder. This is evident as the urine

By altering the shape of the uterus.

The effect of uterine contraction is altering the shape of the uterus is well recognized. So words like end of frequency, the uterus is voided in form during a pain the reason more in less globular.

The longitudinal muscle transverse diameters dimniished while the uterus, uterine is elongated in often words, while the bladder from above diminishes in length and content posteriorly or in the direction of the bladder.
Fascia is much be noted that with a distended bladder the effect of the "force-restitution-power" must be more Hawkins became, as a matter of fact, owing to the tightening of the broad and round ligaments, the fascia uteri is known somewhat forward so that the circumference of the umbilicus becomes progressively greater than that between the umbilicus and symphysis.

The case stands thus.

During a contractions in early labour before the abdominal muscles either reflexly or voluntarily have begun to act, the "force-restitution-power" of the uterus exerts a pressure on the bladder to which the muscles are unresisted and the abdominal wall weak. This influence is felt. Symptoms from will be observed early in labour.
Vesicule uteri contracts thus much presently; be a certain amount of pressure from the allowing after of the uterus itself. This of course will be felt as the abdominal muscles are tensed and the form of pressure will be much marked in proportion as when this condition is more pronounced.

For the ten presence of the liquer amni i will modify the form of pressure considerably, for its presence will increase the size of the uterus, especially in its lower segment, and so will the more unceaseful movements of the fetus expected by the force of pressure will be greater than after the liquor has escaped. Amaur. Table IV, therefore, shows the case to this table. I draw attention.
But 2ndly, another influence arising directly from uterine contraction must not be overlooked viz. the pressure induced by the stretching of the cervix. As the cervix dilates it draws up and widens the posterior bladder wall. Now this dilatation of the cervix and not in regard to simply or even perhaps mainly as a result of the pressure of the fetal head or the amniotic fluid but specially to the contraction of the longitudinal fibers of the lower uterine body or diameter of the cervix and uterus as the bladder to where posterior wall is firmly attached by the perineum and uterine back. In this last comparative thickness of the two uterine walls - anterior and posterior - during labor shows the anterior to be the thicker owing to the fetal head being constricted. This is a very important factor in bladder pressure ensuing during pressure on the vesical and reflexly giving rise to contraction of the bladder and, under certain
circumstance to spasmus effusivus of its contents. This question of spasmus effusivus during labour is an interesting one. I have actual traces of the following facts with regard to it. I have never seen it occur except during a pain when, therefore, both uterus and bladder are at their Stretch. I have not observed it to occur during a pain except during the following circumstance.

1. During the introduction of forceps when a pain occurs. In this case two factors probably are at work of the removal of pressure from the uterus by the hand and of the dynamic action of the hand in the vagina.

2. During internal rotation, when this occurs especially when it takes place during the pain.

3. In women with a low vaginae and when the vulva is at the pelvic segment of the pelvis floor with not sufficiently to drag the bladder out of the pelvis.
In the multifaceted case of a ruptured uterus,
we come into a large uteri
and a small foetal heads.

This case may, I think, be at
work in producing pain I have briefly
indicated which have come
under my own personal observation.

A further discussion of this question,
would lead me away from the object
of my present study. We have been
the muscular operations of pressure
exerted by the uterine contractions on
the bladder. We shall see further
what this pressure amounts to.

In the meantime regard must be
had to another source of bladder pressure
during labour viz 3 times contraction of the
abdominal wall. As the table shows
this pressure during the second stage
pierced the highest readings and as during
the second stage the membrane are
ruptured and the head in the fairly
the abdominal contraction would seem
to be the source of the foetal pressure.
the influence of the abdominal muscles will be brought to bear directly on the bladder pressing it against the resistant body of the foetal for it must be admitted that the voluntary efforts are not confined to the fourth second stage actually are to act it is hardly possible to conceive that reflex contraction of these muscles will take place before labour is well advanced. It then to be naturally how to try to estimate the amount of pressure from these sources. A scrutiny of the table shows

1st. The lowest reading where the OB is not slightly dilated say to the size of a Shilling

2nd. The increasing amount of pressure with an increasing size of Shilling

Now it appears to me that this enables us fairly to estimate the amount of pressure which may fairly be credited to the first two named factors. Which let us remember about the size of a Shilling the contraction
of the uterus will alter its shape and to bring about pressure in the way I have previously described while on the cervix gradually eburns the bladder the pressure by the bladder may be brought into play. A reference to Table 11 is sufficient to demonstrate this. The table shows the relation between bladder pressure and cervical dilatation and phase time the pressure on the bladder is in direct ratio with the diurnal cycle of the patient. Some tests are questionable to this in only which might be naturally explained. With readings of Ripple point under exact circumstances absolute uniformity can hardly be obtained. In tests made the patient indicated by the I mentioned in an earlier part of this paper unusual rise in the readings are to the found here and true occurring through some accidental voluntary effort on the part of the patient. They much, therefore, be elicit in order
It will be observed that three
such high readings are usual and
occur when undilated cervix. In one
such case there was a very unusual
and unexpected for effort on the part
of the patient. There then high readings
on or near the back the tones when
voluntary effort gone in.

From these facts I think it can be
assumed that the pressure during the
last stage of labour i.e. when the undilated
 cervix varies from 1 to 2 in. (1 to 6 cm)
Here low readings occur equally in
pariapanes and multiparous and were
taken when the sensation noted, when the
patient was still and on the back.

The increase of pressure, therefore, can
only be accounted for by the altering
shape of the uterus pressing the bladder
against the abdominal muscles, or as in
the case in very early labour against the
symphysis pubis and in the labour
advanced by the bladder being drawn
and forced on by the cervix.
The following are examples of the
readings refer to

**Multiparæ**

<table>
<thead>
<tr>
<th>Cervix</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**Præcipitans**

| Shih-ti   | 1       |
| Crown     | 2       |
| Crown     | 3       |
| Flavin    | 3       |
| Würzburger| 6       |

It is Shih-ti that these readings correspond so entirely in Præcipitans and Multiparæ. It seemed, I think, he, a prince, expected that the readings, even at an early stage, would be stricter in Præcipitans than Multiparæ. This is not the case. They are apparently the same. Presumably the name of the uterus being more tense and consequently in Præcipitans ten times would have a greater tendency to focus against seven times against ten
comparatively low abdominal curve, of the multiparae. Oft as the labour, however, do not support this. It became necessary to look for an explanation of this. Now the relative position in primiparae & multiparae seems some light on the question. For while in the multiparae woman the head is early labour becomes comparatively high in the primiparae, woman long before labour has taken in the heart into the lower uterine segment been sent deep into the pelvis. Hence what in primiparae gained by tense under the loss by the fact that the heart has been herniated toward the reach of the bladder whereas in the multiparae the whole lower uterine segment remains tense contained has for the remaining high at or near the time the whole influence of the four-pedal thrust power upon cervical dilation time to bear on the bladder. It must be further kept in view that in condition
of moderate distention the pressure will not be against the yielding irregular abdominal wall, but invariably against the symphysis.

This being the case it is asked whether for purposes that tend to look into the multiparae and primiparae should be the same.

I have not yet set up experiments to show whether the tendency is the same in multiparae and primiparae or the same with distended bladder where, of course, the pressure will be between the uterine wall on the one hand and the abdominal parietes on the other. As will be seen from my table, all my experiments the bladder was moderately distended.

All the tables have a urine column in which this is indicated.
It becomes desirable to define the term 

...scious a little more minutely.

There are four conditions under which 

... bladder may be met with:

1st. A condition of Total Consciousness, in 

which the bladder under rests in deep 

appetite. This appetite during parturient 

will be one of anterior and perineal wall 

wall mass of rubber and 

lawn as it some time that fur in 

the semi-preparatory condition.

2nd. A condition of moderate Consciousness, in 

which the bladder will have begun to 

separate away and take a definite outline. 

A very small quantity of urine is 

sufficient to do this.

Written of these conditions 

are recognizable by any special clinical 

feature. Such such can only be diago-

nosed negatively.

3rd. A condition of Distension 

This differs somewhat in particular 

and in the non-preparatory condition. 

For while 3xx may be regarded in 

a moderately distended bladder.
in the non-pregnant condition half
that quantity will be sufficient to
produce moderate distention in this
parturient woman. In this weak
woman little more than 35 will give
the characteristic tumour supra-pubically
in parturition. The cause of this has
already been drawn attention to by
Huck; and I have sufficiently referred to
it in speaking of the anatomy of the
bladder.

3. A condition of over-distention

Between moderate distention and
over-distention no absolute clinical
line can be drawn but a simple
to manometric experiment will
illustrate the point.

Given a bladder containing a
quantity of urine such as to
stretch the walls to their fullest extent
and give a certain external pressure
on the viscera, no effect need be
produced on the mercury column
provided that the walls have still
Sufficient room to accommodate the altered shape of the fluid mass.
But sufficient will: the same amount of pressure on the bladder walls are tense or have no room to distort,
then each pressure will, at once, be indicated on the column.

Such a condition is one of distension.
It comes to this: just as long as the resistance of the bladder walls is less than the resistance of the column of mercury,
the manometric reading will be unaffected.

The pressure of blood on the bladder follows it auto-potentially, more so long as the bladder walls are tense,
longitudinally or transversely with the pressure team is necessary to affect the mercury's column: the reading will be large and small amounts will be the same.

Suppose for example that the point of over-distension is say 3 mm, and that the viscera contains that amount: the result will be different: for, in that case a very small pressure will
cause a high reading, because owing to the rigidity of the walls the column of mercury will be more easily detached from the smaller portion.

Table V shows this graphically. The abscissa shows the amount of urine while the ordinate shows the corresponding pressure and it will be found that the highest readings obtained were with quantities of urine varying from 3½ to 3¾ while with 3½ and 3¾ ounces respectively the readings were comparatively low. The former gave an average of 3¼, while the latter gave an average of 1¼. So this remedy and, for the reason I have just shown, it makes no difference whether the bladder contains more or little urine provided always the fluid is fresh when it is applied.
Conclusions.

The main points of this paper may be summed up as follows:

1st. That pressure is brought to bear on the bladder during labour.

2nd. That during the interval of pain bladder pressure amounts practically to nil.

3rd. That in ordinary labour the maximum pressure is about 3·2 lbs. on the square inch.

4th. That this pressure is obtained during the second stage of labour, but that equally high readings may be got during the first stage, when, by accident, any voluntary effort is interfered with.

5th. That in ordinary labour the minimum pressure amounts to 1 lbs. on the square inch and that this is found during the
first stage of labour

6. That the average reading during the first stage of labour amounts to:

a. inclusive of accidental high readings
   92 lb on square inch

b. exclusive of accidental high readings
   82 lb on square inch

The latter may, therefore, be regarded as the correct estimate.

7. That the average reading during the second stage of labour amounts to

   108 lb on the square inch

8. That when regard is had to the position of the bladder during parturition, the source of the pressure are three:

   a. change of shape in the uterine cavity

   b. stretching of the cervix

   c. pressure from the abdominal

   muscle

9. That of these three sources that derived from the abdominal
10. That pressure cannot in any way
to be influenced by the patient’s
being in an excised or multiple.

11. That the quantity of urine in
the bladder does not influence pressure
provided always the point of
overdistension is not reached.
The experiments from which the
forecasting conclusions were drawn
are presented in a tabular form.

Table I

is a general statement of the experiments.

The results showing
age, no. of labours, commencement
of labour, condition of OS and membranes,
presentation and position, situation of head,
birth of time during which the observation
was conducted, no. of observations in
each case, minimum size, maximum size,
quantity of amniotic.

Table II

shows the experiments arranged in a
descending line. The pressure being
indicated in inches of mercury

Table III

shows the experiments arranged according
to the number and stage of labour.
Table IV

shown experiments arranged according to the number of labours and the condition of the membranes.

Table V

shown experiments arranged according to quantity of urine in the bladder

Table VI

given indices of recovery converted into pounds showing presence of apparent width of bladder area in undilated primiparous.

Table VII

shows the same in dilated primiparous.

Table VIII

shows the same in dilated and undilated multiparous.
It is well to point out that the maximum pressure of 3.3 lb. represents the pressure brought to bear on the bladder by the force of contraction through some part of the uterine muscle, not however by the points of attachment by the utero-ovarian ligaments. If the utero-ovarian ligaments are taken away, the bladder forms a part of the vault.

Quadrants of the foetal head I have at considerable length endeavored to show that in ordinary labour, in the second stage, the bladder never forms any part of the vault.

Note

It must seem at first sight an easy matter, given the pressure on one part of the pelvis to calculate the pressure on the rest. Such, if it were possible, would be a ready method of determining the resistance of passage and the force used in
These are two difficulties:

1st. It is impossible to ascertain the amount of surface included in the field of contact.

2nd. The rubbing does not pass from front of another figure.
It is a somewhat remarkable fact that the figure 3.2 lbs per square inch of bladder corresponds so nearly to Humphry's 3.4 lbs per square inch as a result of the extreme force of the uterine contractions. It is necessary to point out that there is but a coincidence then being no relation whatever as to cause or effect between the two pressures. The absence of relation between the two will become apparent when we consider

1st. That Humphry's figure represents the sum of uterine pressure brought to bear on the foetal head.

2nd. The figure 3.2 as a result of the maximum force to bear by the action of the voluntary muscles on the bladder.
Senic Haemorrhage during Labour

Interference with social life through haemorrhage from the placenta, whether it is partial or in its normal position, is often not recognized and unfortunately comparatively frequent occurrences. Direct bleeding from the umbilical cord is, however, very rare and has received correspondingly little attention.

Such haemorrhage may take place in cases where women are suddenly taken by labour once they are delivered in a standing position. In such cases the foetus falls to the ground and by its weight or the firmness of its feet the umbilical cord is torn. Parts of the uterine may take place at any part of the cord and sometimes even a portion of the placenta is torn out with it. The haemorrhage is now profuse. The modes reticular. The edges of the wound are ragged. Now time remains the bleeding is
among slight cases it comes to term.

The presence of this condition for a long time has occupied a prominent place in the medical history of obstetrics, and among these cases which destroy the child by asphyxia in extrauterine life to its death, destruction by anesthesia.

Hemorrhage of this kind is a subject of interest for medical jurisprudence rather than for obstetrics.

As it can hardly be included under the Evans hemorrhage during labor of various in the interest to determine the form of this hemorrhage which is often to occur in cases of fatal abortion of the fetus into the placenta.

There are four instances:

1. Central

2. Lateral

3. Marginal

4. Vascular of true vasa profunda and are usually may be referred as the ordinary type, while the marginal...
In a communication on the irregularities observed in the fetus, Velamentos gives the following account with regard to the relative frequency of the insertion of the cord of the fetus.

Out of 2471 labours in which the condition of the placenta was noted, the cord of the cases was, according to the following tabulation:

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inseptum</td>
<td>1930</td>
</tr>
<tr>
<td>Central</td>
<td>342</td>
</tr>
<tr>
<td>Marginal</td>
<td>158</td>
</tr>
<tr>
<td>Velamentos</td>
<td>21</td>
</tr>
</tbody>
</table>

The separation of the funiculus prevails to the entry into the placental substance - Inseptum Velamentos - is a well-recognized condition but it influences as a factor in the production of hemorrhage during labour has scarcely contemporaneously little attention.

This is scarcely matter for surprise when the rarity of Velamentos insertion of the cord is considered.
That it is but rarely met with may be gathered from the following facts. Birkle out of 502 deliveries observed 3 cases

\[ \frac{1}{160} \]

Cornelius found 1 per 1000.

Chiarai, Braun, Spaetta found 4 in 1835 deliveries

\[ \frac{2}{1000} \]

Charvier remarks on these figures that among them where apparently most affected the proportion is even less.

Valenta, as I have mentioned, gives 21 in 2471 cases.

From the above figure I find that the average occurrence of this condition is nearly 5 per 1000. Now if valvementus incontinence is in general a condition so rarely met with in obstetrics it follows that a disposition of the sacrum which on the membrane is such a way as to be a cause of haemorrhage must be a combination of the
This is universally admitted to be the case for whilst our English writers scarcely make any reference to the subject the latest writers of foreign text books, 
by Spiegelberg, Kleinwachter & Tschereb,touch on the question very briefly in a sentence or two and all agree in remarking on its rarity.

As far as the subject of

funicula hemorrhage, it becomes necessary to consider the arrangement of the

vessels in Verumontanum direction.

The distance at which the
tissues enter the membranes from the
placenta is very variable

Here are given the following.

| 18 times | 3 centimeters |
| 2       | 3            |
| 1       | 4            |

Witberg mentions a remarkable case where the cord was fixed into the membranes exactly opposite the placenta.

Again it has been
observed that the vessels bifurcate a very considerable distance before they reach the membrane. The arrangement of the vessels is of interest.

The umbilical vein after its separation from the cord even before it reaches the membranes divides into two branches.

From these there are given off one or two large veins.

When the principal branch reaches the membranes it again into many small branches. The largest of these is about the size of a very small nut.

It is worthy of remark on the subject of the present paper that at the points where the branches from the principal trunk diverge it is divided into a sort of sheath and further that both branches and arterial vessels are cut throughout of the same calibre but at one point contract into small tube and at another spread into larger one. Such a condition favour

when the umbilical arteries
reach the menisci. They break up into numerous bundles of varying calibre. The cut ends grade the anxious between two of the largest bundles of the menisci. It must further be observed that these vessels do not run straight on to the nearest point of the menisci, but pursue a circuitous course traversing a large area of the region. This circumstance bears no tie present subject increasing or diminishing very considerably the risk of bone union and further increasing the chance of the development of this foramen being interfered with by pressure on the vessel from the growing meniscus. It is also a fact that the vessel is more apt than the anterior to pursue a deviated course a circuit. Hence favorable to the production of hemorrhage owing to the unfavorable thickness of the menisci which, their dilatation and various conditions, and their consequent greater liability to separation.
The actual insertion of a reclamation may vary.

1. It may be marginal i.e. the vessel may run off the placenta into the substance of the placenta at the time.

2. It may be eccentric i.e. the vessel may run over the placenta a considerable distance before they slip into its substance.

3. It may occasionally be both marginal and eccentric i.e. one part of the placenta may run in at the rim while another may run some distance over the placenta before it finally slips into its substance.

Hath in his essay made a suggestion as to the course of development of this reclamation in ectopic. He points out that those who would account for the insertion of the cord into the placenta by the theory that the reclamation is carried into the cervix only to the decidua serotina are in error. It is a fact.
that is early over the whole chorion is surrounded by the remdle of the allantochorion. Wuter says that, before the appendix of the villi is free to differentiate, the chorion becomes free from the chorion leave there is one /%

The fusion arises is nearer than the rest. Some the remde cells to form the umbilical cord. Obviously, when the remde cells is formed at this point, when the chorion is united to the decidua basalis the emb will have its insertion into the placenta here. On the other hand, when this remde

spot is formed opposite decidua or after the term this will be attached to a part of the chorion which at some later period will be bare. Hence the insertion will be anomalous.

Another explanation has been offered by Schulte in which he suggests that a contractile rotation gives in the part of the foetus during the formation of the umbilical umbilical sheath occurring
account for this. In this way wing 
to adhesion between the endometrial 
and amnion of the foetal membranes. 
a secretion sheath is the result and 
the result permitted to discharge are 
distributed to fluids more or less 
result from the placenta.

Such being the disposition of 
the umbilical vessels in relation 
to the function of the gland the 
concluding part arises. Is the function accom 
pnied by any special causes in 

Two sets of dangers have been 
described:

1st during pregnancy
2nd during labour.

It is with the latter that we are 
at present specially concerned.

A short reference, however, to the 
first set will not be altogether foreign 
to the subject.

It has been alleged by some authors 
that this condition interferes with the 
development of the foetus.
Chastened alludes to this and says that while in some cases he has observed the feature to be ill-developed, in other cases it does not seem to differ and is bow. He draws a distinction as far as required this question between those cases where the separation is near the placentia and those where the distances between the separation and insertion is prodigious. In the latter condition the condition of the feature is interfered with owing to the long and circuitous course which the vessels pursue; but especially because, in cases of distant insertion, the vessels have to pass over a great portion of the circumference of the membranes they are forced on proportionately by the growing feet of the ovum. Whether this is the case or not I can not in position to say. Such a question can only be settled by the observation and record of cases.

So adding some slight support to the theory advanced I have two cases.
If premature labour during my connection with the maternity hospital
in both of which the inversion of the
end was voluntary and taken for
a considerable instance before suturing
the membranes placenta. In both the
foetal death and in one very
much Sherrinwell Sherrinwell.

I have observed this also in a
case of twins which occurred in the
out patient of the maternity during
my time in 1830. Both a double
placenta the second placenta was small undeveloped and only survived a few
weeks the first was vigorous and
healthy. In the former the case was
relaminant and inserted marginally
into the placenta. It is right to say
that Cade refuted the idea elliptic
and distinctly says that he has
never observed that the arrangement
of the placenta has any effect on the
foetal results.

I now turn to the danger
accompanying this condition of the placenta.
during labour.

The main danger is haemorrhage.

The relation between placentaion, infection and haemorrhage was recognised by

Sibelein pointed out the relation between placentaion, infection of the foetus and haemorrhage, involving the death of the

foetus.

Buchan in a thesis discussed rela-

tionship between haemorrhage and infection. He especially refers to the relation between

these elements and certain haemorrhages.

Rheuvala Web described several

cases of bitches and pla-

etea in which the uterus was inverted

with the placenta being attached to the placenta. In these cases, the

sperm was introduced into the uterus. The

placenta was then removed with a curettage.

He gives a short account of the

infection in placentaion, infection

and haemorrhage.
an idea into words I am acquainted
who fully discuss haemorrhage produced
in this way.

I shall refer to the subject shortly
Shoemaker devotes a paragraph to the
subject in which he himself and
succinctly describes the form of
haemorrhage.

Ruge mentions several cases of
abnormal extravasation of the umbilical
tense and describes haemorrhage
due to being a source of damage
to the placenta

Spiegelberg, Klinischen, Zweih
such make a short reference to this
subject.

The record of individual cases of
haemorrhage is frequent, but
of those associated with haemorrhage
have been able to collect only the
following

Poullet of Lyons records two cases,
one in the fifth and the other
in the sixth month of pregnancy, in
both of which, without any previous
Pains or the slightest indication of labour, the membranes suddenly ruptured. In both cases marked placental insinuation of the face was found. He argues that this condition is a cause of very early rupture, and may for this reason give rise to forcible labour.

Plaschke describes a case of interest.

The umbilical cord of a foetus, about to deliver, was divided 15 centimetres from its insertion into the placenta. At the apex of this angle there was a small pocket containing a brown mass. The whole mass weighed three ounces. The foetus was exsanguinated.

Lamastra records a case of normal labour except that there was a small quantity of blood at the birth of the foetus. The membranes were ruptured two hours before delivery. The child was born dead. Surprised at this, Lamastra examined the placenta and found that the vessels of the face were inserted into the membrane and were free from labour.
around for a considerable distance

On making close enquiry of the patient

he found that just before the onset of

labours she had an abundant haemorrhage,

followed at once by active labours.

Oedema refers to a case of rupture

of the placental vein

Baily shewed a placenta to the

anatomical Society of Paris and said,

the cords separated in the chorion

10 or 12 centimeters from the placental cords.

From this point, the vessels spread

out and radiated over the membranes,

he distinctly adds apparently a century

thi application, this disposition was

not fatal to the child which was born

alive

Valenta relate a case of a woman

who was delivered of a child at full

term. The woman stated that the pains

ended before labour pains set in, and

from that time till the completion

of labour this was continued incessantly.

On examining the placenta it

was found to be six inches in diameter,
and situated high in uterus. The vessels were firmly fixed to its lower margin. Before cutting to form the cord they ran upright on the surface of the placenta for about 1/2 inch. The cord measured 1 1/2 inches long. There were four series running from the placenta, which formed two severe trunks. At their junction to form the main trunk there were two rents. There was also a slight rent in a small artery running from the vessel. The vessels were situated over the 20 uteri and two feet of the dead.

Two cases have come under my own observations. The one is occurring in the maternity hospital and the other one year ago in private practice. The placenta from the first case was retained and a drawing made with the time. The drawing I reproduced as a chrome-litho plate.

Case I 1904. A multipara fell into labor on Sunday 24th October. T. delivered my then resident at the
...aternity hospital. We decided to use cesarean section due to the severe and obvious abnormality. On examination, I found the uterus dilated, the membranes ruptured, and there were distinct fetal parts coming through between the perineum and into the peritoneal cavity. The head was high up beyond reach. The woman had a pendulous abdomen. Our careful examination revealed that the cervix was once exposed, once that the edge of the placenta could be felt low down in the left side of the uteri.

The diagnosis was a placenta previa, invasion of the fundus into or through the posterior and a slight placental previa. As the 60 dilated, there was some slight hemorrhage from the edge of the placenta. We waited till the 60 was fully dilated, and there, in the woman was a multipara and no obstructions in the pelvis and at the head was high up beyond...
not turns. I ruptured the membrane during the interval of a pain, at a point between the rectus, and turned and delivered easily. The child was alive. The point of interest lay in the fact that the insertion of the cord was vehement. The vertex curved for some distance over the membrane before their final insertion into the placenta at its margins. As will be seen from the chorionic-litho-graph the veins are the more tautness. At the point where the first two threads of the umbilical vein joined there was a real cannot return through my hand while turning or through the delivery of the fetus. It may have occurred at the time of rupture of the membrane. There was no escape of blood, however, when I introduced my hand into the uterus. The cord was 24 inches long and was marginal. Case 11, of which I have built a brief note, occurred in private practice.
A patient called to hunt for me as labour had been going on for some time and she was having very considerable haemorrhage. When I saw her the membranes were ruptured, the head low down and haemorrhage ceased. Shortly after my arrival the child was born dead, pale and anæmic. The placenta was delivered easily into some cloths in 10 minutes. I put the face down as one of accidental haemorrhages. On enquiring further I found that the membranes ruptured one hour before my arrival, and from then rupture until the time of birth the discharge of blood with a distinct brownish green appearance was continuous. On examining the placenta I found a remarkable position of the cord. The veins before reaching the placenta cut the lower margin of which they were attached separated and ran for some inches over the membranes. The veins then broke, were much haemorrhage.
as well as long and tortuous. Two of these at their union were torn apparently at the side of the rupture of the membrane, instead of its production.

It is only under exceptional circumstances that Helenaneous inversion of the face is associated with hemorrhage. It may arise, first, when the vessels forming the base of the expanded fascia-like and more or less the membranes come to be over the central segment which corresponds to the obutirri, such as Vasa Praesae. Much less circumstances hemorrhage is not unavoidable, and long enough to have the membrane reach between them the child may pass through the rent to force and the brain without injuring the fascic vessels at all. The main of safety will consist in the vesse running a long course, for if the bifurcation of the vesse takes place outside the humor of the vesse, the vesse will...
involve this bifurcation when as I have pointed out the vessel is 
shrunken and weak. Again, if the 
vessel is small and nar nar 
compensated by the foetal head at its 
perineum, no bleeding takes place and 
no harm results. On the other hand, 
if the vessels are already diluted or 
short and if the membranes rupture 
near the site of the vessel one of them 
may be involved in the rent and 
the child die from haemorrhage. 
Under such circumstances the child 
is born blanched & anaemic probably 
dead with all the signs of loss of 
bloods. In the alternative already 
mentioned above the vessels are 
compensated and haemorrhage in 
this way controlled. Safely of the 
child is not assured. The foetus 
is rather exposed to fresh risk for 
this very pressure may render the 
foetus asphyxiate more to destroy it. 
Such a result may take place 
without rupture of a vessel at all,
and must be regarded as one of the
ripe attendant on their disposition
of the forceps used. It is indeed perfectly
conceivable that such a result might
rare place without the intervention of the
management.

There is, however, a second condi-
tion, as illustrated by case 2, where
lumbar, haemorrhage may take place
from the cord more especially from
the root. In such a case the placenta
is situated low down of or near the
margin of the os and the cord is
inserted into the edge of the placenta.

Under such circumstances whether
the insertion is relaxant or not:
the dilated end of a vessel may give
way either from the effect of labour
or from artificial interference into
the labour. Still the presentation is the
funis, not a true foetal cord but the
root of the funis attached to a
bottlelike and previa placenta
associated with the condition.
the end proper can be felt within
the meatus, and if not managed
carefully may complicate the case
by becoming protusaid in front of
the head and add to the risks of
the child by being compressed.

This protusaid of the end is an
occasional complication of velame-
tum insertion. The end has been
pointed out by Scanzoni, Stuler
and others and must be descerned
in treating the case.

Here is a third innerv
of Serri's haemorrhage to which little
if any attention has been directed.

Such haemorrhage may arise
from a set of vessels which
Syrris has depicted and described
as near Varum aberrantia.

The subject is deserving
of some attention

Since varieties of this Varum
aberrantium are described by Syrris,
1st. Real placental
vessels.
2nd Subsidiary Vessel.

3rd Vasa Nutriciae Chori.

The Rete Placentale Vessels differ from the ordinary placental vessels in this extent that they do not range throughout their whole course along the extensive surface of the placenta. They leave the surface and make excursion to speak for a varying distance along the chorion beyond the margin of the placenta and return again to the placenta and pursue the course of ordinary placental vessels. The vessels seem only tracks in the way with very marked ascendant direction of the cord. Hence that in binoid and bipartite placentae these rara aberrantia are seldom if ever noticed. It is noteworthy that the Vasa aberrantes are always the first branches given off from the main trunk and that the more central the insertion the larger the vessels.
although haematoma from rupture of such a vessel cannot be called direct haemorrhage yet the effect on the fetus is the same and the source of the bleeding is foetal.

2° Subsidiary Vessels:

These vessels represent the radiating vessels of the book of the cord which run to a subsidiary placenta. It is striking that these vessels do not run to the nearest point in the rim of a subsidiary placenta, but curve rather in the shape of a bow ending over to the side of the subsidiary placenta which is furthest removed from the main placenta. Such small subsidiary placenta are never separated from the main placenta. Such small subsidiary placenta are never separated from the main placenta by any isthmus of chorion, but touch it: here or may indeed mingle with it. hẹp to displat a very superior explanation of the method by which this apparently remarkable change...
The subsidiary placenta was originally far removed from the chief placenta; a bundle of the umbilical vein and artery was conduction to it. At their time the vessels went directly from the main placenta to the nearest point of the subsidiary placenta, however, by the route of the placenta the chorionic isthmus became narrowed while at the same time the vessels are much shortened but travel in the form of a bow sideways. Now if by the route of the chief placenta, the subsidiary comes in one track or in one file into it, and if the connecting vessels preserve their original length they there vara aberration will occur in the bow form through the placenta and appear as if connected with the further site of the subsidiary placenta. Now such vessels if placed in convenient circumstances harmonically may take place. Then again the
Haemorrhage is not just directly from the umbilical cord but insofar as such vessels form a subsidiary cord to a subsidiary placenta the haemorrhage is umbilical.

3. *Vasa Nutricia Chorii.*—

These vessels are very inconspicuous in size. They may be seen in early life as mere capillaries in maturer placenta. They are obviously Vasa aberrantes. They are fine though not capillary tubes. In contradistinction to the Vasa truly aberrantes already described they pursue a direct course. They are generally thirteen in number. Hyrtl says that when these *Vasa nutricia* are present in numbers they are associated with a thin rimmed placenta and in their absence the placental edge is thick.

I have only referred to them in cases to complete the description of aberrant placental vessels such as their basal

wigs and their course exclude them.
as causes of any considerable haemorrhage.

The diazepsin will be easy, difficult or imperceptible according to the duration which the diazepsin-associated syncope pursues. If the placenta is in its normal position and if the uterus, thence and spread out high up in the uterus, then any diazepsin of this the condition must be an impossibility. In such a case, there are no symptons and the haemorrhage and the placenta and will only be recognised post-partum.

If, however, the vasa praecox or vas aberrans in their course over the membranes pass over the segment situated at the os uteri, they will then be easily accessible to the finger and the vessels can be felt moderately thick and firm. Their number will vary. They may be spread out fan-shaped over the os; then may be one or two or perhaps but a single vessel.
They are apt to be and have been mistaken for the protuberant and postural ends. Especially it will be observed that the vertex cannot be pushed back into the bicornut acetabulum. Hemorrhage, however, is the most frequent and serious symptom and may take place under any of the circumstances which I have already described. Still in the absence of the actual feeling of the vertex accurate diagnosis of the cause of the hemorrhage will be difficult if not impossible.

The time when the hemorrhage takes place varies very much in some of the cases recorded it took place many hours before delivery and sometimes the longer before delivery the safer the danger to the foetus. Usually, however, the vertex traumatic hemorrhage is the result of the birth of the child.
occurs in fortun.

The risk, attendant on this abercrombic condition of the female os uteri, would be incomparable were no reference made to the occurrence of accidental delivery by which is fortunately rare.

It is scarcely likely to occur in the hands of a properly taught practitioner. Hence, concept of the result ensuing delivery of the placenta, if此时 to be made on the and when the efforts are to be continued from this time solution and attendance they are able to give way.

Such an accident is likely to occur only in the hands of unproperly taught midwives. For delivery of the placenta by means of traction on the cord is abandoned as contrary to the mechanism of labour. It is an accident of punctuality insufficient. As occasional occurrence after a retention of cord is an additional means for impressing upon midwives the necessity for leaving the cord alone.

Such result once ask avoid embarrassment might arise to theaccoucheres when a.
happens as a case recorded by Rhene.

date where a retention occurs and as a
bathroom placenta occurs with one of the
facts if a twin placenta through its
accidental tearing away from its attach-
ment.

Vitelline insertion of the first rate twin
has been noted repeatedly.

Chauveau mentions two cases one
recorded by Sommer the other Hennens
who depend proceeds to the Academia
de Medicin the placenta of Priphoe:
first just incised into the center; 
second as the margins ! Third rela-
menace:

Treatment:

In managing a case

where such a condition is present

the main point is to preserve the
membrane intact as long as possible
until the is is freely dilated so that
delivery may be effected with out
delay immediately after their rupture

Poullet's case would seem to
show that early rupture —
is a likely accident to occur.

To obviate the Scaramouche, this requires the introduction of an explosive rubber balloon. This can securely be effected with much good as prevention in many cases.

Rupture of the membranes usually allows delivery in impracticable, the child will bleed to death.

If a severe is taken after rupture of the membranes, immediate action by which order method is reached, partial can be accomplished with much ease and rapidity, is imperative in the interests of the child.

After the case is once recognized frequent examination should be avoided. The patient kept quiet, and dilatation of the is promoted by means of pethidine and meperidine.

Immediately on rupture of the membranes unless excessive the labor is very rapid, delivery should be accomplished by forceps or turning according to the exigencies of the case.
Perhaps it may be well to add that in any case where death of the foetus has occurred the placenta should be carefully examined and it may be that failure to haemorrhage will be found to account for some foetal deaths which from want of examination have been referred to other causes.
1. V. Hutin "die velamentaria insulatrix
der kabelstaufer" mon. 2. geb. 28.,
1866. S. 330

2. Schultze quanto q. Sibb. Scinae ausd
acht q. chilifidy p. 232.

Sectio 1, Tit. 2., in Nov. comment. Societ. Ag.

4. Lobstein "Notiz einer ein dipheriti
der Valineaux du cedre" Arch. de l'edil-
uler aconechm. Strasburg 1801
page 330.

5. Benenens Robert de Breslau Hein
Heidelberg 1801.

6. Hutin "heber die vorliegen der kabel
schmers geprüf" neue Zeitschrift für
geburt, 12, 1841 S. 48.

7. Chautemil der dipheriti du
ceder mubitcal.

p. 986.

15. Plunket "Haemorrhage products par deux ruptures d'une varice du cœurs" Gaz med 1866.
16. Lancaster, Chautemil op. cit.
21. Hystyl "De Blutgefänge der menschlichen Gebärmutter in normalen und abnormen Verhältnissen"
On a complication of occipito-posterior position of the vertex.

Though much has been written on the subject, occipito-posterior position of the vertex offers a wide field for study.

The frequency of this deviation from the normal standard is sufficiently marked to stimulate us to trace into every complication which may accompany the position. Without going into that which is beyond our own Hospital, I should like to draw attention to the fact that out of 414 births which have taken place in the Hospital from May 1879 up to the present time, 59 occipito-posterior positions have occurred, 13.26 per cent.

In the present study, I wish to limit myself entirely with an enquiry into one of these complications.
such calls is this form of cranial position. It may be broadly stated that the complication of occipito postver position resolves itself into two facts:

1st. There must exist in the first stage of labour.

2nd. There must exist in the second stage of labour.

During the first stage of labour occipito postver position are unquestionably a common cause of delay. This delay is, as doubt, frequently enough innocently referred to simple rigidity of the cervix. In some cases there may be rigidity as a complication; but when the parti preserve their normal tone and elasticity, and when the head alone pulsies of normal size delay in dilatation of the cervix from the position of the head alone is by no means an uncommon occurrence. The explanation of this delay is not difficult.
to elicit. If a digital examination is made early in the first stage of labour, the fingers will recognize, with the posterior fontanelle, but the anterior extremity of the sagittal suture. In other words, from the obliquity of the uterus and the resilience of the tissues in the neck, the occiput is carried against the posterior curve of the uterus, and the sincipital prominence runs a certain degree of extension in the result.

Now, it seems to me, this degree of extension, this difficulty in accomplishing flexion, cause of which is driving the placental head into the pelvis and bringing it to impinge on the Os uteri constitutes the main difficulty in occipito-posterior position, all through labour.

In the same sense, the cervix suffers to a greater extent in occipito-posterior than occipito-
outeries positions, the dilatation required in the one case being 
fisher than in the other.

This says, "When the vertex 
is to the front, it enters the os 
uteri favorably, and hence through 
the only into a circumference 
of 10½ inches, or a circle of 3½ circle 
diameter, but when in a posterior 
direction, the latter rage acquire 
a circumference of 12½ or 13 inches. 
A further complication is 
met with in the second stage 
when the resistance of the pelvic 
floor is encountered, and rotation 
takes place, both of the 
three possibilities of rotation 
are delay.

1° If forward, there is double 
the distance to travel to that 
determined in a 1st or 2nd 
position.

2° If backward, the uterine 
space allows the back against 
the floor of the pelvis. The result i
instead of the head being pushed up from the floor of the pelvis and under the pubic arch, it rolls back into the hollow of the sacrum under the sacral promontory. Here again the essential thing to do is to obtain flexion. It is as part of my present object to discuss the important practical question which has arisen, whether we can hope for a change spontaneously or by act. The main point is to secure flexion. But a third possibility may occur, again, as a result of want of flexion, that is, when the pelvic resistance behind prevents descent and flexion and when the head becomes arrested more or less permanently.

It is to the result of this third possibility that the present consideration has referred. Beyond this complication to which reference has been made the increased location of the perineum in true cases where the head is delivered perinatally posterior whether spontaneously or...
or by artificial and much less fail
to be mastered.

The following case is illustrative of the third variety of oculito-posterior
puncture, viz, those in which neither
the anterior nor posterior rotations take
place spontaneously but where the head
remains imprisoned between the lateral
jelis' wall, and where, as a result,
there is some or an extensive injury
to the soft parts in the pelvis, the injury
being uniform in its location and
nature.

In the first time this condition
was brought under my notice was
on beginning duty at the Maternité
Hospital in August 1879.

It has been my habit ever since
my appointment to the Maternité
Hospital to examine each patient
in vaginae on the 10th day post-
partum.

I am aware that objection
have been raised to this a
procedure. This is not a fitting
opportunity to discuss these. I wish only to say that I have learned much valuable information from such examination. In many cases, I believe I have been able to give useful advice to the patient and certainty in no case am I aware of having caused the patient unnecessary suffering or permanent injury.

Carried out with ordinary antenatal care, with gentleness and care, care, and respect for the patient's feelings, I am unable to appreciate the objections that have been raised. On the contrary, I would strongly advise a similar careful examination before the patient some weeks before delivery. Many complications might be forestalled and accidents avoided.

The first post-partum examination I made on a patient dying early in the hospital in August was on a patient who had been left over from the previous session.
The report by Dr. Leavitt was  
read as follows:

August 6th: Penicillium torn down  
to certain depth of bone.  
On right side of helvæ wall, in  
the region of right iliacus spine, there  
is a distinct opening; its edges  
are smooth & curved. It admits  
readily two fingers, is about one  
inches in length, and its direction,  
as encountered by a probe, is down  
and backward. Though the  
opening the iliacus spine can be  
felt  
left side normal.  
Cervix firm, but a slight protrusion,  
it's edge is ragged and tender.  
It is bilaterally firmness, more deeply  
on the right side.
The patient, a multipara in her 5th confinement, such a case was delivered on the 28th July. The presentation was vertex, and the position R.O.P.

The 1st stage was completed in 5 hours; 2nd stage 3 hours. Owing to delay, forces were applied and forceps delivered with backward rotation of the occiput.

On the patient's admission home Hospital, three weeks after delivery, the pains were still frequent and admitted a probe at least 3/4 inch in size.

II. In private practice 2 multiparas

April 21, labour began at midnight. At 8 a.m. I found the

E.H. well dilated. Head R.O.P.

A9 cm. membranes ruptured.

At 9.30 the head had advanced to

8 cm. head descending R.O.P. with

expansion marked. The placenta

was expelled. At 1. Puerperal

proprum was made a careful
Examination was made by Mr. Leckey and myself, the formed the head and assumed the erect position, the occiput lying just over the right antero-lateral spine in front of the oblique diametral line.

Forceps were applied and delivery easily effected.

However, no attempt to rectify the position, but simple traction was made, resulting in the forehead coming under the arch of the pubes, and the occiput sweeping over the ischiium and perineum.

Thus was a considerable time of the perineum.

The patient, i.e., the mother, was in the 2nd stage from 10 till 1 a.m. of the same hour.

The perineum was stitched.

The patient required to have her urine removed off for 3 days.

She completed her perineum without any pelvic pain, but with a slight rise of temperature.

On the 10th day stitches were taken
of, and after repeated examination
made:

"Perineum healed.

On right vaginal wall there is a deep linear, palpable, smooth and levelled. The wound easily admits the tip of the forefinger, and is also tender. On introducing a probe it is found to pass in one circle, directing downward and backwards. Though the wound, the child's spine can be distinctly recognized. The purulent discharge profuse. At the end of three weeks: — the wound is felt almost closed. There is still a deep furrow. I had occasion to make an examination a year afterwends and found the cicatrise well marked."

III

Anstein Hospital patient seen
with Mr. Leavellock, resident
physician Royal Maternity. The
patient, a young Irish woman,
a primipara had been in labour
for 15 hours, 10 in 1st Stage, 5 in
The pain was severe, especially in the area of the right elbow. There was a considerable amount of pain in the arm, making it difficult to perform daily tasks. The patient was advised to take over-the-counter pain medication and see a doctor if the condition worsened.

curved deeply towards the right side. Between normal, with the further history of the case I am unacquainted.

IV Private practice. A lady, who had previously been delivered of her first child by a friend in the country, was recommended to me by him for attendance during her second confinement.

Her first delivery was aided by forceps, owing to backward position of the occiput. I have no other particulars concerning it. Her second labour occurred on the 10th December 1837, when I saw her at 10 A.M. She having been in labour since 6 the previous night I found the head half buried beyond the pelvis and was P. O. P. in posterior part of the head lying over the right orbital ridge.

The outlet became small owing to pelvis deep.

At 12 noon I applied forceps once delivered a persistent occipito-posterior head. The perinaeanum, which had
was considerably torn in her first labour was not further injured.

On the third day she had difficulty in making water and on the fourth she bled to show it. Off with a colostomy. This I had to do for several days.

Her desire was to know the cause of the retention. I made a vaginal examination and found:

An old tear of the perineum.

On the right pelvic wall there is a deep laceration easily admitting two fingers; the cervix is down close back; very tender; right side normal.

Cervix deeply torn on the right side.

The edge of the cervical tear is flush with the vaginal roof.

There was no constitutional disturbance worthy of note.

The vagina was well washed, but twice daily with an antiseptic solution. At the end of two weeks the wound was entirely closing but it was three months before it absolutely healed.
The next confinement took place in December 1859. When I reached the patient, the head was well down in the pelvis, close to the vulva.

The patient, who had always been averse to the attendance of a doctor only allowed me to remain to assist for an hour after the patient had been in labour 10 hours, when she was worn out and complained of having chloroform administered.

I gave chloroform once on the head was small and well down on the perineum, I allowed nature to finish the case.

The head was born ceased; backward, half an hour after my arrival.

On the third day post partum she again complained of persistent pain. Before using the patient I insisted on a vaginal examination which was permitted to with reluctance. I forced the perineum without any fresh tear.
on the right pelvic wall I found a distinct solution of continuity sufficient to admit really the tip of my finger. Its location was just over the site of the previous injury. The cervix was bilaterally fixed, the right side being the deeper; otherwise the parts were normal.

Before leaving the patient at the hospital, and I was allowed an examination when I found the laceration but not closed.

The records of these cases show a marked similarity. In each there is a special cranial position and a special pelvis lesion along with it.

Judging from the foregoing cases, given a right occipito-posterior position of the vertex, delayed in its rotation at a particular point in the pelvis, a more or less deep injury to the soft parts, resulting in a Sine in likely to occur.
Superior lacerations of the vagina are uncommon enough in labour with a contracted pelvis.

Schroeder has drawn attention to this. Landouzy in a paper on occipito-posterior position makes a short reference to laceration of the soft part. He writes as follows:—

"If the term be terminated face to face, some of the mother were multiparas and the multiparas. In these cases, which occur a face to face in one case only and then too a multipara and then occur anything other than the most trivial laceration of the soft part.

In this case the laceration which was not at all severe affected the back three of the vagina, without affecting the perineal tissues. It soon healed and gave no inconvenience.

Both Schroeder & Landouzy refer to these lacerations but give them no special location in the
pelvic cavity. They both further
open them to the use of the surgeon.

Let us now proceed to examine
the vaginal cervix in much the same
fashion recorded as was an its
consequence.

1. The position. On the right
side of the pelvis on a level with
and inclining right inferior spine.
On passing the finger into
the opening the spine can be readily
felt.

2. The exertion and direction.
In the relaxed case the spine
was from one to three fingers
long care the direction in 3. down-
wards & backwards and in 1. upward

3. The causation.
The hand should slowly, slightly extend
in the left oblique diametral, until
it reaches the floor of the pelvis, then
screw by the forward ease down.
ward inclination of the inferior and
to the erect rectified position woul
If the pelvis attempts to thrust the forefeet forward. If the pelvis be normal, and the head of average size, this is actually what takes place in the vast majority of occipito-posterior positions. If, however, the pelvic planes are nearly parallel, that is, if the normal slopes of the ilium are in line with a nearly parallel plane, it is possible that the occiput, if the birth can be aided, may descend and rotate more easily, as in the breech delivery or deep pelvis, where the advantage of ease of rotation may be more pronounced. The head descends in the oblique manner, the usual forward rotation is attempted, but the head becomes jammed over the ischial spine. The head, somewhat extended, becomes fixed, and the pelvis to some extent, reaches in a forceps which involves right ischial spine. This mechanism is somewhat resemble the assem with in a similar pelvis. If the ischial mechanism ensues, as transverse...
element and especially of the head, then to a certain modified extent. This is what we mean when we refer to the depth and extent of the thoughts and senses bearing a distinct reference to the length of time the head has remained fixed. It is clear, however, that this delay of the head in the particular position will cause a very serious deference of very considerable diminution. This is well brought out in Case II where, in a primipara, in whom 3rd stage was scarcely 3 hours, a litter of 2 infant, in length remote. Now, these infants in the particular position were deeply and more marked than one would expect from the manner in which the pelvis and the length of the present. This admits of explanation in that fact that the sharp prominence of the initial spine affects a point well above which the recto bulks of the
effortful force can be readily explained. It can hardly be
matter for doubt that the majority,
if not all, of the cases of persistant
occipito-posterior occur in cases of
an deformed pelvis. The mere
fact of their repeated occurrence in
the same patient is, of itself, a
strong proof of this. The invariable
occurrence of the lesion on the
right side in a point to be
noted. In looking for an explanation
of this reverse point one is to be
noted:—

I. Right occipito-posterior position.

is more common than the left.

ii. The occiput bearing on the

Right iliac spine exerts a

greater pressure than the

Lilaciput bearing on the left.

16th becomes the occiput

is at first more from

inert than the sacrum:

they at first because the sacrum
pressure which the head undergoes.
in this position is such that the
head is pressed in in its antero-
posterior diameters, and then the
asymmetrical wedge of shape of
the head is obliterated, so that
at the point of contact with the
pelvis anterior and of the head has
an advantage over the other, both
being equally steep.

Because the pressure of
the posterior pelvic wall acts
more on the occiput than
the sacrum, thus tending to
drive the occiput forward.

Because the occiput of
arm of B is the shorter of
the cephalic lever and the
pressure bear more directly on
the face resisting it, then on the
face resisting the longer arm.

Although, as the lever theory ac-
counting for flexion of the foetal
head, has been ably combated
by Professor Simpson, yet the
lesion I have described would
deem to justify the condition
assumed by Laco in his conception
of the mutual relations of the sides
of the skull and the parts heads.

Results. It must be
admitted true in some of the
cases I have recorded, and the
result to the patient serious, so far
as the ultimate issue was concerned.

It is more than likely that such
damage may become of grave import.

2. In two cases the patient
suffered from retention of urine,
requiring the use of the catheter.

This was, no doubt, due to
the vaginal wound, in the same
way that retention of urine
resulting from perineal tears.

2. The constitution of the unborn
was strong, and pelvic pains
and in any way records — to
such to bear — in other accounts,
such injuries are very able to be
overlooked. This is what might be
affected as a localized parametritis.
Such lesions present increase the risk of Septicaemia. They may be the starting point of sepsis and long continued parametritis.

The further points require notice:

1st. Did the forceps cause the injury? I think not.

The history of four or six hours conclusively proves that such an injury may occur without any instrumental intervention. On the contrary, I believe

2nd. that the prevention of his injury is to be looked for in early application of the forceps.

If my explanation of the occurrence of this lesion is correct, then it is clearly bad practice to delay applying force to a partially rotated occipito-posterior head.

Why are these lesions not recognized?
4. Although, after a fresh case
   every careful practitioner will
   examine the vagina, yet he will
   probably fail to detect the lesion, or
   the opening, if there is one at all,
   and be very erroneous, the injury being
   the result of prematurity, and the
   through not separating for some time.

5. Because each injury seems
   but little fabric disturbance and
   the attention of the examiner is
   not attracted to the fabric, and
   as vaginal examination being made
   the injury remains unnoticed.

To Sum up:

First. A partially established
   occipito-posterior position is
   the least common of the
   various forms of occipito-
   posterior position.

Second. Such are occipito-
   posterior position is usually
   associated with a diagnosis
of minor disproportion of the pelvis.

Third. A very frequent, if not invariable result, is the formation of a more or less deep vaginal sinus.

Fourth. The situation of this sinus is over the right ischiadic spine.

Fifth. The extent and depth of the sinus depends on the length of time that the pressure has been exerted; though a very short period of pressure is sufficient to cause a sinus.

Sixth. These sinuses do not cause very much constitutional disturbance, and their existence is often overlooked because no vaginal examination is made.

Seventh. The prevention of such injuries is to be
found in an early one of his speeches.