

1852

On
Criminal Abortion
as it occurs in
Great Britain.

James Comant.

~~This is a good Essay~~

In judging of the age of a fetus all notice of the position of the mesial point is omitted though this is, needed by most writers in the last half of the page

This is also a good Essay
but in judging of the age of a fetus, all notice of the best indication the position of the mesial point is omitted

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The Production of Abortion was, at one time, not considered a crime by the laws of England, if it were accomplished before the period of quickening, or time when the fetal movements are first considered perceptible to the Mother. This generally speaking occurs about the fourth month of utero-gestation, it is however, liable to great and frequent variation, appearing in some cases much earlier, while in others not until a later period. Although, not reckoned a crime, to employ means to procure the destruction of the infant before this, yet it would appear that it was, if attempted after, as is clearly shown in the old English law as stated by Blackstone: that "If a woman is quick with child, and by a potion or otherwise, killeth it in her womb, or if any one beat her, whereby the child dieth in her body, and she is delivered of a dead child, this, though not murder, was by the law homicide, or manslaughter." It was not considered a crime under the innocent supposition, that the fetus was not until that period endowed with the powers of life, and therefore, not a living being. We now know that this doctrine was totally incorrect, the fetus is alive from the earliest moment of conception, and then

is little doubt but that movements take place some
time prior to their being felt by the parent.

Another law was enacted in the year 1803, called the
Ellenborough act, by which it was ordained, that
"if any person shall wilfully and maliciously admini-
ster to, or cause to be administered to, or take any Me-
dicine, Drug, or other substance or thing whatsoever, or
use, or cause to be used or employed, any instrument,
&c., with intent to procure the miscarriage of any wo-
man, not being, or not being deemed to be quick with
child at the time of committing such thing, or use any
such means, then, and in every such case, the person
so offending, their Counsellors, aiders, and abettors,
shall be, and are declared guilty of felony, and shall
be liable to be fined, imprisoned, set in and upon
the pillory, publicly or privately whipped, or transport-
ed beyond the sea for any term not exceeding fourteen
years." By the same law it was ordained, that
administering Medicines, Drugs, &c., with the intent
to procure abortion after quickening, shall be punish-
able with death.

Now by this statute, it will be seen that death, was
the punishment to be inflicted on those, who admini-
stered Drugs, Medicines &c., after the period of
Quickening

Statutes at Large. George III. Cap. LVIII.
Passed in the 24th Year 1803.

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quickening, while the penalty was commuted to transportation, if accomplished before that time, clearly showing that that the same error existed in regard to the vitality of the infant. Another very glaring defect occurs in it, relative to the use of mechanical or instrumental violence, before, and after quickening. According to the law, if instruments were used before, the employer was to suffer transportation, but if used after, no punishment could be inflicted, for their use at that period was entirely omitted. This striking omission in the statute, was fully illustrated in a trial which took place in England, in the year 1808. * The case was that of a man named Pivry, and a woman named Mary Codd, who were indicted for having administered to Ann Cheney, various Drugs, to cause her to abort, but without producing the desired effect. It appears that a few days before her delivery, Pivry took her up stairs alone, and introduced an instrument into her womb, this operation not succeeding on the first attempt, was repeated by him, after which, according to the woman, the child ceased to move. During the trial, the Counsel for the prisoner objected to receiving any part of the evidence which related to his manual operations, as not relevant to the administration of the Medicines, which alone

Edinburgh Medical and Surgical Journal.
 Volume VII. Page 344.

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alone constituted the Capital crime, the having quickened. The prisoner was only tried for the giving of medicines which had no effect. while the mechanical means employed, and which caused the infants death. Could not be noticed by the Court as proving the intention with which the Medicines were administered. The jury, however, acquitted the prisoners, expressing themselves not fully satisfied with the evidence, to convict.

Another statute was passed on the 27th June, 1828. intitled "An act for consolidating and amending the Statutes in England relative to offences against the person," in which this omission was made up for, and the whole law thoroughly revised. It runs thus. "If any person, with intent to procure the miscarriage of any woman, then being quick with child, unlawfully and maliciously shall administer to her, or cause to be taken by her any poison or other noxious thing, or shall use any instrument or other means whatever with the like intent, every such offender and every person counselling, aiding, or abetting such offender, shall be guilty of felony, and shall suffer death as a felon; and if any person with intent to procure the miscarriage of any woman, not being, or not being proved to be, then quick with child, unlawfully and maliciously shall administer to her, or

Cause

9 George IV. Cap. 31. Article XIII.

Passed 27th June 1828.

5.
cause to be taken by her, any medicine or other thing, or shall use any instrument or other means whatever with the like intent, every such offender and every person counselling, aiding or abetting such offender, shall be guilty of felony, and being convicted thereof, shall be liable to be transported for any term not exceeding fourteen years, or less than seven years, or to be imprisoned, with or without hard labour, in the common gaol or house of correction, for any term not exceeding three years, and if a male, to be once, twice, or thrice publicly or privately whipped (if the Court shall so think fit), in addition to such imprisonment.

This act comprehends the using of instruments, in both cases which have, and have not quickness, it likewise lays down the penalties to be inflicted in such cases, but unfortunately they are not, as they should be, alike in both. Formerly, as in the previous law, that the same penalties existed in regard to the infants vitality at these periods.

In the one case, that in which it could be proved that instruments &c. were employed with intent to procure the destruction of the child after quickening, the person convicted was to suffer death, while on the other hand, if proved to have been used before, the convicted party or parties, were to undergo the minor punishment

6.
Punishment of transportation or imprisonment, with
additionals, as the Court might deem necessary. In
another act passed in the year 1837, this absurd dis-
tinction was entirely done away with thus. "Be it enact-
ed that whoever with intent to procure the miscarriage
of any woman shall unlawfully administer to her, or cause
to be taken by her, any poison or other noxious thing, or shall
unlawfully use any instrument or other means whatso-
ever, with the like intent, shall be guilty of felony, and
being convicted thereof, shall be liable, at the discretion of
the Court, to be transported beyond the seas for the term
of his or her natural life, or for any term, not less than
fifteen years, or to be imprisoned for any term not ex-
ceeding three years."

This statute not only does away with the distinction be-
tween cases which have, and have not quickened, it com-
mutes the punishment to transportation or imprisonment,
and appears to embrace and lay down penalties for almost
all cases of this nature, in whatever manner they may be
procured. The woman in all these instances being fully
aware, unless rendered previously insensible, with what
intent the agents are employed, is equally guilty of
the crime, and therefore subject to the same punish-
ments. Although nothing definite appears to be stated
in

* 1 Vict. Cap. LXXXV.

Passed 17th July 1837.

7.
in this last, or any of the previous statutes, regarding
the penalties to be inflicted on females who wilfully,
and without the intervention of other parties procure
or tries to procure her own abortion, yet it must be
understood that the same law inflictions apply
as strictly to her in such a case, as to the parties
specified. Cases however, might occur in which
the female being rendered totally insensible by
the administration of powerful Narcotic, or Anesthe-
tic agents such as, Chloroform or Morphine, may
have the strongest abortive means employed for the
destruction of the fetus, without her knowledge or
consent. In such a case, the woman would of course
be acquitted, and the convicted parties punished
with the severest penalties the law could inflict.
Some uncertainty may exist in regard to the strict
meaning of the word noxious:- it certainly implies
something that will affect the system injuriously;
but differences may arise among witnesses with
respect to its application to certain substances, - as
for example, with respect to Opium or Iodine. Iodine and
Opium are inert; and become noxious when given in
large doses, or in small ones frequently repeated.
Castor oil and aloes are innocent when taken in small
doses

doses; but they acquire noxious or injurious properties when administered frequently or in large quantity, to a frequent female. Sulphate of Potash in small doses is given as a mild cathartic, but when administered in large quantities it acts as a powerful irritant poison.

A case illustrating this is mentioned by Mr. Taylor in his work on Medical Jurisprudence, "it was that of a lady, who about a week after her delivery, took, by the prescription of her medical attendant, about ten drachms of the sulphate of Potash in divided doses, as a laxative.

After the first dose, she was seized with severe pain in the stomach, nausea, vomiting, purging and cramps in the extremities. These symptoms became augmented after each dose, and she died in two hours."

A substance must be regarded therefore, as injurious or noxious to the system according to the form, quantity, or frequency with which it may be administered. To confine the term noxious to what is strictly speaking a poison, would be giving a scope to attempts at criminal abortion which would plainly render the law inoperative.

Various opinions have been entertained regarding the lawfulness of inducing premature labour, an operation which is sometimes adopted by Medical Practitioners

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in cases where there happens to be deformity of the female pelvis. Dr. Puzos states that he was informed by Dr. Kelly that about the year 1756, there was a consultation of the most eminent men at that time in London, to consider the moral rectitude of, and the advantages which might be expected from, this practice, which met with their general approbation. The assembly decided in favour of the morality of such interference, and a short time after the operation was successfully performed by Dr. Macaulay. In France the proposed operation was by no means so readily adopted. Certain Doctrines of the National Church, or at least the interpretation of them by the Doctrs of the Sorbonne, regarding the importance of fetal life, seem to have aggravated the risk of the operation, and to have deterred Professional Men from making the attempt. Capuron has stigmatized it as "un attentat commis envers les Lois divines et humaines." Even so late as 1827, on the occasion of a memoir by M. Coste demanding if it would be allowable to bring on labour prematurely in females labouring under curvature of the heart, the Académie Royale de Médecine pronounced the question "inconvenient et presque impossible." Since then, however, it has been recommended and practiced by Ferriut.

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Cesareo, Dubois, Coste, Stolz, Palfrau, &c. It has been recommended and practiced in Germany by Weidmann, Siebold, Kluge, Krause, Ritgen, Falck, Kuegel, Kilian, Wenzel, Spiering, &c. &c.; but it was opposed by Stein, Wilsdorf, Sen., Berustein, Obermaier, Gumprecht, Pisinger, Berg, &c. In Italy it appears to have met with less opposition; or at any rate, less aversion has been expressed. Cases which terminated successfully have been published by M. M. Ferrario, Corati, Bongiovanni, Bili, &c. &c. It has been performed by Crul School, in Denmark, Solomon de Seyden and Professor Molik, in Holland, and M. Manius, in Belgium, have each advocated the practice.

Dr. Ferrario's remarks upon the propriety of the operation appear very conclusive, he says: "With regard to the morality of the practice, the principle being commendable - that of making an effort to preserve the life of a child, which must otherwise be lost, and nothing being done in the operation which could be injurious or dangerous to the Mother, but on the contrary, a probability of lessening both her danger and suffering. I apprehend, if there be a reasonable prospect of success, no argument can be adduced against it, which will not apply with equal force against

against

against any kind of assistance at the time of Parturition; against inoculation, or Medicine in general; and in fact, against the interposition of human Reason, and faculties in all the affairs of life. 11.

The Law, nor any of the numerous Statutes, make any exception in favour of Medical Men who adopt this practice, unless they be exempted by the word "unlawful means". Some eminent authorities have objected to the practice upon the grounds that 1st There are few cases in which Parturition, if left to itself, might not take place at the full period; 2nd That it is attended with danger to the Mother's life and to the child; 3rd That the toleration of the practice might lead to great criminal abuse. Now in regard to the first of these objections. There can be no doubt that Parturition will sometimes come off safely, even where the deformity of the pelvis is so great, as to lead accoucheurs to believe natural labour impossible, but at the same time there are undoubtedly cases in which the distention is so great as utterly to preclude the possibility of delivery by the natural powers. These cases are luckily few, but it is in those few, that the operation is demanded and ought to be performed.

In regard to the second objection; it is now perfectly established

published that a fetus is viable at the completion of seven months of Utero-gestation, and many instances are on record of children born at that age being more than ordinarily talented, and living to an advanced period of life. Mr. Chaussier (of Dijon) and his wife were both seven months children; his Majesty George III. was also a seven months child; Newton and Hamilton were likewise seven months children; and Mr. Ferrius relates the case of the wife of a judge, whose pregnancies always terminated at the seventh month. Concluding, therefore, from all the evidence proposed of the viability of seven months children, that premature labour, accidentally or artificially induced, at the completion of the seventh month, does not involve much danger to the child from the immaturity of its growth merely.

As to the actual risk of labour to the fetus, as ascertained by an estimate of facts, the following testimony may be adduced. Of twelve cases mentioned by Dr. Ferrius the majority of the children were saved. Dr. Conquest says, that out of nearly one hundred cases, about half the children were born alive. Mr. Meir and Dr. John Meir induced labour twelve times on six women. Nine of the infants were born alive, and the cause of the death of the three still born ones, could not be attributed to

to the operation." Mr. Ferrario saved five children out of six; Mr. Kluge nine out of twelve; Mr. Colman thirty-four out of sixty-seven; Mr. Bueckhardt thirty-five out of fifty-two; Mr. Siebold two out of three. According to Mr. M. Veljean and Tiliou, one hundred and fifteen children were saved out of one hundred and sixty-one cases.

Mr. Figuiera has collected two hundred and eighty cases from different sources, in which one hundred and sixty-six children were saved.

It may be concluded from these different data, that more than half of the children were saved, notwithstanding a great cause of failure, the greater frequency of mal-presentations in premature labour, than in labour at the full time.

There is doubtless some risk incurred by the Mother, but not more than by an accidental premature labour.

Dr. Ferrario after mature deliberation, concludes that "it is perfectly safe to the person on whom it is performed." Dr. J. Merivian seems to think that its safety was rather overrated, but he adds, "at all events, the method in question, if carefully conducted, cannot be more hazardous to the Mother, perhaps is much less so, than the operation for lessening the head of the fetus in utero, and it is incomparably less

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less painful than the Caesarian operation, or the division of the symphysis pubis." Out of his forty-six cases, not one proved fatal. Dr. Blundell observes, "with all the faults about it, the practice is of great value, and there are now living in Society individuals whose heads have in this manner been preserved from the execution."

The statistical reports given by Velpeau, Figuiera and others show pretty plainly, that the operation is attended with but slight danger to the Mother. Velpeau states that it has been performed,

- In Great Britain. 72 times.
- In Germany. 79 times.
- In Italy. 7 times.
- In Holland. 3 times.

Making in all a total of 161 cases, of which number eight only of the Mothers died, five of them, however, from causes unconnected with Parturition.

Dr. Figuiera has collected two hundred and eighty cases, of which only six Mothers died. Dr. F. H. Ramsbotham has had recourse to the operation sixty-two times, and it does not appear that the Mothers suffered in any of them. Dr. Solomon operated sixty-seven times, Dr. Kluge twelve, and Dr. Ferrario six times.

times successfully. J. N. Lee lost three Mother out of thirty-one cases. M. Reisinger lost one in fourteen.

M. Manius states that, "if these facts be true, it is established that females undergoing this operation incur no immediate danger; and if we pursue our researches still farther, we shall find that those same females were not attacked by pure lesions of the uterus, as has been advanced; several of them underwent the operation two or three times, with as much safety as if they had been delivered at the full term of utero-gestation."

In regard to the 3rd objection J. Churchill says, "do not, in truth, see much force in this objection, nor do I anticipate any such prostitution of their power on the part of the members of our Profession; and beyond the Profession, the operation is not likely to be much known."

The class of cases demanding the operation, are those in which there is always a considerable diminution in the cavity of the Pelvis, or at the least from bony distortion, so that it would be quite useless, to attempt to deliver by the forceps at the full term of utero-gestation: the only alternatives, therefore, if the forceps were allowed to remain to that time, would be the

* Dr. Churchill's Theory and Practice of Midwifery. Page 246.

Operation,

16.
Cesarean, Symphysiotomy, and the Cesarean section, all of these operations which are attended with the most fatal consequences both to the mother, and child. Now the cases for which the induction of Premature Labour was first proposed, and in which it has been most frequently employed, are those in which the diameter of the upper outlet of the Pelvis are too much reduced by Distortion to permit the passage of a fetus at the full time, and yet not so much diminished as to prohibit the passage of a child at an earlier, but still "viable" age. There are cases, however, where the distortion of the Pelvis is so great, as to render the passage of a seven months child impossible, and others again in which no reduction of the child's bulk will enable it to pass.

In such cases it would certainly be justifiable to induce Premature Labour, for we know very well that if the pregnancy be allowed to run on to the full time, that the Labour could not be completed by the natural without placing the mother's life in imminent danger, that one of the three operations already mentioned, would have to be resorted to, operations which in nearly all cases prove fatal to both mother, and child. Hale in his work on Medical Jurisprudence,

Remarks in regard to the operation," that it is surely both legally and morally right, rather to save a certain and valuable life, than risk it for an uncertain one, its propriety is sanctioned by humanity, Policy, and Justice. Fr Churchill says "I do not see why abortion should not be induced at an early period in cases where the distention of the pelvis is so great as to preclude the possibility of its being born at the full time. The life of the child must inevitably be sacrificed, and the safety of the mother alone regarded; and surely, after the calculations I have adduced, it cannot be pretended that Caesarian Section, the alternative in these cases, offers such a chance to the mother and child, as would justify our preferring it." and Dr Taylor says "The question respecting the illegality of the operation, cannot be entertained: for the means are administered or applied with the bona fide hope of benefiting the female and not with any criminal design."

In Ireland the Laws relating to this subject are the same as those used in England.

In Scotland the ancient law appears to have differ-
ed a good deal from the English in regard to this
subject, for according to Mr. Hume's work on the Crimi-
nal Law of Scotland, the Statute then in force does
not seem to have considered it a crime worthy of pun-
ishment. It was stated by the law that, "The
Slaughter must be of a person or existing human being.

Whence is excluded all producing of abortion, or
destruction of a future birth, whether quick or not, be-
cause though it be quick still it is only "Caus Dis-
crucus Matris" and not a separate being; nor can
it be said with certainty whether it would have
become a quick birth or not."

This law when compared with the one in force at the
present day in England, appears excessively defective,
for on reviewing it, it will be seen that one of the argu-
ments in favour of non-punishment is "that we can-
not with certainty say whether the child will be born
alive or not." It is very true that we cannot say whe-
ther the child will be born alive or dead; the person
who employs means to procure abortion is in the same
state of ignorance, he does so however, under the conviction
that the infant is at the time alive and of causing its
death if so, which would be quite sufficient, according to
the

the English Statute now in force, to render him guilty of felony. In regard to the fetus being *Quasi Vivens* Mr. Tindal's little need be said, it is now well known that the infant is quite a separate being, endowed with a separate life, and only retained within the womb of the parent until by a series of changes it is sufficiently formed and strengthened to live independently, when it is extruded from that organ.

Some time after Mr. Home wrote a case occurring in the High Court of Justiciary, the subject was fully discussed and decided. The case was that of a Surgeon and Midwife, who were indicted for the violent procuring of abortion, they were both found guilty and sent to Botany Bay for fourteen years.

Mr. Alison one of the latest writers on Scotch Law states it to be as follows: "If a person gives a potion to a woman to procure abortion, and she die in consequence, this will be murder in the person giving, if the potion given was of that powerful kind, which evidently puts the woman's life at hazard." And again, "Administering drugs to procure abortion is an offence at common law, and that equally whether the desired effects be produced or not."

This is, I understand the last act passed in Scotland

in regard to this subject. No definite punishments are laid down by it to be inflicted in these cases, it being left entirely at the discretion of the Court to decide, and allot what they consider suitable penalties. Cases occurred in 1886 and 1893, where persons were sentenced to transportation for using instruments to procure it; and in 1894, another was condemned to the same punishment, for administering arsenic with a like design. In these cases the Court acted by that power which they so competently possess to punish (with exception of life or limb), every act which is of decided criminal nature although it may not before have been the subject of Prosecution. The same omission exists in this Statute regarding the induction of Premature Labour by Medical Practitioners, as in the English. In the first part of the act where it states that, "If a person gives a potion to a woman to procure her abortion, and she die in consequence, this will be murder in the person giving, if the potion given was of that powerful kind which evidently puts the woman's life at hazard" it is to be considered murder if the woman die in consequence of the administration of abortive agents. In this respect the law seems to coincide with the Criminal, which is thus stated in regard to this subject. "If man strike and hurt a woman with child, so that her fruit depart from her, and yet

* Evidence. Chap. XXI. 23 & 23. Revised.

get

yet no mischief follow, he shall surely be punished, according as 21.
the woman's husband will lay upon him, and he shall pay as
the judges determine; and if any mischief follow, then thou shalt
give life for life." A case illustrative of this law occurred at
Stafford in the year 1811; when a man was executed for the
murder of his wife, whose death he occasioned by inducing
abortion, through extreme violence, as by elbowing her in bed,
rolling over her &c.

Various means have been resorted to for the purpose of 22.
destroying the fetus in utero. These have been divided by
Beck, in his excellent work on Medical Jurisprudence into
two kinds or classes, the general, and the local. Amongst
the former of these he includes, Venesection, Bleeds, Eme-
tics, Diuretics, Cathartics, and Emmenagogue. Amongst
the latter, Blows and injuries of different kinds on the
loins and abdomen, and the introduction of instruments
into the uterus for the purpose of rupturing the membranes
and thus bringing on Circulation action of that organ.

A few words may be said in regard to each of these, a tho-
rough, and perfect knowledge of whose properties, and ac-
tions, are of the utmost importance to the Medical Witness.
Venesection has from the earliest period been supposed to
exercise some peculiar deleterious influence upon the fetus,
when resorted to during pregnancy, and was at one time the
most popular method employed to procure the destruction
of the child, under the erroneous supposition that blood ab-
stracted from the Mother, removed an equal quantity from
the infant, and that if it were continued for any length of
time, the child would perish from loss of blood. In some
cases the blood was taken in the usual manner from the bend
of the arm, but it was considered far more efficacious, if
drawn from the veins on the dorsum of the foot. Experience
shows

Shows us, that bleeding except in certain states of the constitution, however frequently repeated and copious, has little or no effect upon the life of the fetus. Numerous cases illustrative of this are on record, J^r Rush mentions the case of one woman who he bled eleven times in seven days during her pregnancy, of another who was bled thirteen times, and of a third who was bled sixteen times while in the same state.

All these women he states, recovered, and the children they bore were alive, and in good health. ^{**}Mauicau relates the case of a female who was bled ten times from the foot during pregnancy, without any bad effects resulting to the infant.

Several other cases are recorded by different authors, showing the inefficacy of bloodletting as an abortive agent; the result appears the same from whatever part of the body the blood be abstracted. It must be borne in mind, however, that when the constitution is naturally feeble and unstable, or has been weakened and debilitated by long standing disease, or want of proper sustenance, the loss of large quantities of blood in such might prove fatal to the fetus.

The application of Leeches to the verge of the anus, inner side of the thigh or Cubit, has been supposed by some to have the power of exciting uterine action. The practice is so very uncommon that it is difficult to form an opinion on the subject. A French author states, that he has applied them to

Medical Observations and Experiments. Vol. II. Case 302.
 Difference between the Menses in Midwifery. Page 236.

to these parts during pregnancy, in cases of intestinal affections, 24.
and in no one instance did he find any bad consequences result
from the practice. He at the same time recommends great cau-
tion in the use of them especially, in females who are at all liable
to abort. * We may infer from this that Leeches, like general bleed-
ing, seldom or never succeed, unless there be a constitutional
weakness acting as a predisposing cause at the time of their
application.

Emetics. From the fact that many women are troubled with
distressing nausea and vomiting, during the whole, or part of
their pregnancy, and yet are safely delivered of living children
at the proper period, it has been imagined that the fetus
could not be injured by the use of these substances. It would
appear, however, that although the vomiting attendant upon
pregnancy, very rarely produces abortion, yet, that which is
produced by emetics is not unfrequently followed by conse-
quences the most serious, both to the mother and child. The
reasons of the difference in the two cases, according to J. Beck,
may be the following. In the first place he says, "the vomit-
ing of pregnancy is less violent than that which is excited
by artificial means; and in the second, it occurs, as a ge-
neral rule, only in the early months of pregnancy when less
danger attends the operation. Last in proportion to the size
and development of the uterus, is the danger to be apprehended
from.

* *Obstet. Chirurgie von Dr. Emmerich Augustin* Art. 1. c. 1. p. 34.
Chirurgie von Dr. Emmerich Augustin.
Vol. 1. p. 34.

from the spasmodic contraction of the Muscular and Abdomi-
nal muscles pressing upon the womb and exciting it into action.
In the latter months of pregnancy therefore, they prove much
more dangerous than in the earlier ones, then administration
should be avoided, then, as much as possible, at this period.

They do not, however, always succeed. * A case is related by
Wolfean in which fifteen grains of Tartar Emetic were taken
to procure abortion. Although violent vomiting efforts were
repeated the progress of pregnancy was uninterrupted.

The principal Emetics used for this purpose are,
Iquills, Sulphate of Copper, Sulphate of Zinc, Hellebore,
and Tartarous Antimony.

Cathartics. Pregnant females in general, are not
apt to be injured, by gentle and moderate purging. When
labouring under disease they may be freely purged with-
out risk. ** During the Yellow Fever of 1793, Dr. Rush states
that he gave large and frequently repeated doses of Ca-
lomel and Calop. to a number of women, in every stage
of pregnancy, and in some of the cases so treated, did
any injury ensue to the children; he mentions further, that
out of a great number of pregnant females, whom he
attended in this fever, he did not lose one to whom he
gave this medicine, nor did any of them suffer an abortion.

One of them had twice miscarried in the course of the
two

Praxis Medica. Page 336.
** Medical Observations, and Enquiries. Vol. III. Page 249.

two or three last years of her life. She has a healthy three months after her recovery from the yellow fever. There can be little doubt, however, that if the Purging be carried too far, or be too long continued: if the article used be very drastic in its nature: if it act particularly on the Rectum (between which and the mouth of the uterus, there appears to be a peculiar sympathy), or if the female be of a nervous irritable temperament, the Purging may be, and is frequently followed by the death, and expulsion of the fetus.

Croton oil, Gamboge, Aloes, Blaterrum, Jalap, Scammony and some other drastic purgatives have been used for the purpose of inducing premature labor, by females, in some cases their administration has been attended with success, but in others not.

Diuretics. These agents have long been supposed to be capable of producing abortion, and have accordingly been frequently resorted to for the purpose. It appears that they have occasionally been attended with success, but generally speaking have failed. Mr. Brown seems to have thought them capable of inducing premature uterine action, and advises them not to be used during pregnancy. On the other hand, there are many facts which go to prove that diuretics may be taken with impunity by pregnant women. Tacchia mentions the case of a female, who, after an in-
terval

by an acute fever, which reduced her to great weakness, yet no signs of miscarriage appeared, and about five months afterwards she was delivered of a healthy child. Cases however, have occurred in which the administration of Cinthoides has been followed by abortion. * J. Cruise Johnson mentions the case of a woman who was caused to abort by its use. ** A case is related by J. Davis of a woman living in Edinburgh, who having swallowed by mistake a large quantity of Nitre, suffered abortion in about twenty minutes.

Emmenagogue. Several articles require notice under this amongst the most important of which are Mercury, Turpentine, Myrrh, Sassafras, Pennyroyal, Scilla Composita, Actaea Racemosa, Ruta, and Digitalis.

Crude quicksilver was believed at one time to have the power of occasioning abortion. It was ascertained, however, before long, that large quantities of it might be taken by pregnant females with perfect impunity. Matthews mentions the cases of several women who were pregnant, taking as much as a pound of it for a dose, to procure abortion, without any bad consequences arising to the children. Calomel is the preparation which is supposed most generally, to exert a specific influence upon the uterus. That it does possess the property of producing miscarriage

* Medical Chirurgical Review Vol. XIII. Page 98.
 ** Medical Chirurgical Review by Cruik and Gulliver Vol. III. p. 94.

is counteracted by Bismuth, who therefore, advises that a full 29.
course of Mercury should never be given during pregnancy.

Numerous and conclusive facts, however, are on record, which
prove, that a pregnant female may go through a long course
of Mercury without the least injury either to herself or child.

* Dr. Benjamin Bell says, "It is a prevailing opinion that
Mercury is apt to occasion abortion, and it is therefore, sel-
dom given during pregnancy. Much experience however,
he adds, has convinced me that this opinion is not
well founded, and when managed with caution, that it
may be given in sufficient quantities, at every period of
Pregnancy, for curing every symptom of Syphilis, and
without doing the least injury either to the Mother or child."

** Dr. Clark says, concerning the use of Calomel in the Yellow
Fever of 1793, "in not a single instance did its use prove
injurious to pregnant women." Bartholin, and Mercurius,
relate several cases in which Mercury was given to Salivation
to pregnant females affected with Syphilis, and who all, at
their full time, were safely delivered of healthy children.

Although these cases go to prove, that Calomel may be given
to a large extent during Utero-gestation, without proving in
any way injurious, yet there can be no doubt that if it be
given to women of nervous habit, or in any way predisposed
to abortion, and especially if it be carried to profuse salivation,
that

* Bull on the Venereal. (American Edition)
* See, Cathartes page 25.
* *

that its administration may be followed by that Result. 30.
Serpensubina. This is a most powerfully stimulating
article, and has been frequently employed with much success
as an emmenagogue. It has been long used for the purpose
of procuring abortion, and there can be little doubt but
that it possesses considerable power that way. * In the
present day it is said to be constantly employed by the
Physicians in the Ill of France for the purpose of inducing
Abortion. It does not however, always succeed, this is evi-
dent from a case mentioned by Fodere. ** In the year 1790,
a poor imbecile, cachectic girl, in the sixth month of her
pregnancy, took from the hand
of her seducer a glass of wine, in which there was mixed
a large dose of powdered Serpensubina. She became so ill that
report was made to the Magistrate, who ordered Fodere
to visit her. The Patient stated to him, that on taking the
drug, she had felt a burning heat accompanied with
hiccup, and vomiting. This was followed by a violent fe-
ver which continued for fifteen days. By the use of the
proper restoratives she recovered, and at the end of two
months was safely delivered of a living child. ***
Christison relates, on the authority of Mr Cochrane, the case
of a girl who to procure abortion, took a strong infusion of
Serpensubina. She was attacked with violent pain in the
Abdomen

* Dictionary Medicæ Juris, III. p. 696.
** Fodere, Vol. II. p. 631.
*** Lecture on Crimes, p. 531, 532.

abdomen, followed by distressing stranguary. This crumage took place about two days after she had taken it, and in four days after that she died. In the case of Miss Brown, for whose Murder Angus was tried in the year 1808, there is every reason to believe, that Iverine oil had been administered to procure her abortion, and which was followed by her death.

From these cases we may be led to infer, that Iverine may, or may not produce abortion, according to circumstances. It is a strongly irritant Omen when given in large doses, and it is only in these doses, it would appear, that it is likely to bring on abortion, and is in consequence always attended with danger to the Mother's life. Professor Christian says, in regard to it, "This drug is believed by the vulgar to possess the power of inducing miscarriage, and is sometimes used by them for perpetrating this crime. But, he adds, it cannot act in such a way without violently affecting the bowels and stomach, and so bringing life into extreme distress."

Rhigala Sneya has been used in this country and in America for the purpose of acting on the Uterine system to restore the menstrual secretion. *** Dr. Ascher states, that it is much used by the common people in Maryland, for the purpose of procuring abortion. It is a substance which is not, I believe, much used in this country for the purpose of inducing abortion; it may be inferred, however, from its acknowledged

*** Dr. Christian's Dispensatory, Page 608.
*** Medical Juris. by C. Calverly, M. D. Vol. II p. 201.

Common

known as an exciter of all the secretions, that it does possess these qualities.

Mentha Pulegium. Pennyroyal. This species of Mint is reputed to be a very active abortive agent. ^{*} Dr. Witem relates the case of a delicate female in whom abortion was procured, in the fourth month of her pregnancy, by merely inhaling its odor. ^{**} A case was also tried at the Chelmsford assizes in which a man was indicted for administering Pennyroyal water, and steel filings, to a female with intent to procure abortion. He was found guilty and sentenced to fourteen years transportation.

Scalae Cornutum. Smart. Spanish Fly. was first introduced into this country by Dr. Stevens of New York, as a means capable of accelerating the process of Parturition. It excited much interest, and as subsequent experience confirmed its virtues it rose into unlimited popularity.

^{***} At a somewhat later period it was urged by the authors of the New England Journal of Medicine and Surgery, that while fully convinced of its efficacy in promoting Parturition, yet they were apprehensive that its use was not infrequently followed by the death of the child; an evil of sufficient magnitude to counterbalance all the good effects that might be derived from its administration. This statement was subsequently corroborated by the

* Coxe's Medical Museum. Vol. II. p. 431.
** Coxe and Embury. Vol. III. p. 108.
*** Vol. I. p. 40.

The testimony of numerous highly respectable Men. It can scarcely be denied by any one acquainted with the operation of Ergot, that if given in very large doses, or at improper periods it will certainly prove detrimental to the lives of both Mother and child. * Dr. Churchill states, that he has witnessed in five or six cases in which it had been employed, Cerebral Disturbance in different degrees, from a severe headache up to Delirium, Coma, and insensibility. It is said by some to disorder the Stomach, and if given in large doses to cause gangrene. Gerardus Bonnus, Morvan and others state that the child is much more frequently still-born after its use, either from some poisonous influence indirectly exerted upon it, or by the greater pressure of the Uterus upon the cord. Dr. Beatty has published a paper showing that in certain cases, the Ergot does exert a poisonous effect upon the fetus, and he concludes that the infant is not safe unless the labour be concluded within two hours from its administration. It has been doubted by some whether the Ergot is capable of producing an abortion, or whether its action is limited to the full period of Utero-gestation, and when the Uterus is commencing to act itself for the purpose of expelling its contents. Dr. Chataud records a case of abortion induced in a female at the fourth month of pregnancy

* Churchill's Practice and Theory of Midwifery p. 203.
 ** New York Medical Repository Vol. XXXI. p. 16.

unary

American Journal of Medical Sciences, Vol. 8, p. 227.

nausea, by twelve grains of opot. * On the other hand Dr. 34.
Cobb states, that instances have come to his knowledge,
in which the opot was employed to the extent of several
grains a day, for the express purpose of inducing
abortion, but without exerting the least effect upon the
uterus. In all these cases, gestation continued for the
full period, and the females were delivered of living
children. He also states that he has known the opot
to be given in large and repeated doses, by ignorant
midwives, whose pains simulating those of Parturition
have occurred towards the termination of utero-gestation,
in order to quicken the labour; but so far from doing
this, the pains have actually ceased under its use,
and labour has not occurred for several weeks subse-
quently. From these cases it will be seen that opot is
no more infallible as an abortive than any of the agents al-
ready mentioned.

Actea Racemosa, the Populus Racine for which is the
Black Cohosh, or the Squaw Root. It is a plant found
in almost all parts of the United States; the root is fre-
quently used by the American Practitioners. It has been
recently brought into notice as an article possessing pro-
perties analogous to those of opot. By the Native In-
dians it appears to have been long supposed to possess

Abortive

abortive Properties, and Mr. Rafinesque states that it is much used by them in facilitating Parturition, whence its name - Squaw Root. * J. Kelly, in a paper on this subject, has recorded the testimony of a number of respectable Physicians, who have used the article for this purpose, and, as they state, with decided success, acting very much in the same way as the next. A fluid Extract of the Saturated alcoholic tincture acted as a sufficient Med., without being repeated.

Digitalis. The following case is mentioned by J. Campbell, showing the effects of this drug upon the uterine system. ** A married female aged 36, fair complexion, delicate habits, but not spare, the mother of several children, had accites in her former confinement, and applied for the same complaint, when in the eighth month of this her fourth pregnancy. In the course of twelve days, she took six drachms of the tincture of Digitalis. On the twelfth day, at two A. M., the fetus still born was thrown off before assistance could be afforded to her; and in twelve hours and a half afterwards, the woman herself expired, although she was in the most favorable state when left after her delivery. The child seemed to have been but a short time dead, for it exhibited no traces of Putrefaction. The body was examined twenty-five hours

* British Medicine and Surgical Council for April 10, 1833.
 ** Introduction to the Study and Practice of Midwifery, p. 141.

hours after death; it was running rapidly into putrefac- 36.
tion. About three ounces of water were contained in the
chest; in the pericardium were found a few ounces of sero-
sanguineous fluid; in the abdomen, the effusion was
very trifling.

Ruta graveolens. This drug has been frequently em-
ployed for the purpose of procuring abortion. In some
cases its administration has been followed by the ex-
pulsion of the child, but in others, and by far the
larger number, no injury has occurred to either
the mother or child. In large doses it is an emetic,
but in smaller, an antispasmodic, and emmenagogue.

These are the principal means of a general kind which
are resorted to by the common people for the purpose of
destroying the fetus in utero; of the local ones two only
need be mentioned viz. 1st Blows and injuries of
other kinds on the loins and abdomen. 2nd The in-
troduction of an instrument into the uterus for the
purpose of rupturing the membranes, and thus bring-
ing on the natural action of that organ.

Now in the first of these cases when the blows have been
very severe, and have been received on the back, the dan-
ger of abortion is always imminent. It is very rare for
a female who has suffered such injuries to go on to the full

full time. Blows inflicted on the abdomen are equally dangerous; considerable haemorrhage in most of these cases preceding the death of the child. * Belloc relates a case which serves to illustrate this. A young woman, robust and healthy, between the third and fourth months of her pregnancy, had received, from a robust man, several kicks and blows with the fist, the marks of which were very evident. Immediately after the accident, she was put to bed, bled, and various remedies given to her by a Surgeon. The haemorrhage, however, continued, with pains in the loins and abdomen, and on the following day she had an abortion. Belloc on being examined, declared that the accident was owing to the violence which had been inflicted. ** In another case, a female brought forth a dead fetus, four months advanced, two days after a quarrel with her husband, in which she said he had struck. Instead, however, of lying down or at least keeping quiet, she walked a league that day, and on the next a quarter of a league, to a place where she was to aid in bringing in the harvest; nor was it until her arrival there, that she was forced to go to bed. In this case Belloc decides that it is very possible, had she remained quiet, and called for proper aid, the abortion would not have taken place. Particularly

* Belloc p. 71.
 ** Cas de Médecine Légale par C. A. Belloc. p. 88.

* Mexico-Ching Review. Vol. 7. p. 528.

39.
her bed on the 2nd of July, and from that period made up
her mind that she must die, making use of various ex-
pressions to that effect. She died on the 23rd. During her
illness, she declared that was with child by a married
man; and he, being fearful, should she be brought to bed,
that the knowledge of the circumstance would reach his
wife, advised her to go to the puerper, who was a mid-
wife, to take her advice how to get rid of the child - being
at the time five or six months gone. The delivery took place
on the 10th of July, three days previous to which a per-
son saw the deceased in the puerper's bed chamber, when
the puerper took her round the waist, and shook her
in a violent manner five or six different times, and toss-
ed her up and down. She was afterwards delivered at
the puerper's house. The child was born alive, but
died instantly; and it was proved by surgeons to be
perfect. There was no reason to doubt but that the de-
ceased had died by the acceleration of the child; and on
opening the womb of the mother, it appeared that there
were two holes caused by wooden skewers, one of which
was mortified, and the other inflamed. Some other addition-
al symptoms of injury were also discovered. * A case is
mentioned by Ferrius and Rottlander, in which rupture
of the uterus and death were occasioned by the introduc-
tion

* A Practical Compendium of Midwifery by P. Gougeon M. D. p. 94.
* * * The Lancet, Vol. VIII. p. 38.

tion of a squaw with a long iron pipe, for the purpose of 40.
Procuring abortion. On dissection, a fetus of about two
months was discovered in the abdomen. ^{1st} Dr Gougeon re-
lates the following interesting and instructive facts, in
regard to this subject. "Dr William Hunter attempt-
ed this operation (introducing an instrument to punc-
ture the membranes) in a young woman at about the
third month of pregnancy. He found that he several
times punctured the Cervix Uteri, and the case termi-
nated fatally. If this happened to me of so much ana-
tomical knowledge and skill, how much more probable
must it be in the hands of those ignorant men by
whom, for the purpose alluded to, the operation is
sometimes undertaken.

A very curious manner of causing abortion occurred some
time ago in France which may be appropriately noticed
here. ^{* * *} The subject was a married woman, who had
four children, and was pregnant of a fifth. At the
commencement of her pregnancy she was persuaded,
by the representation of another female, to inject Sul-
phuric Acid into her vagina, as an easy mode of in-
ducing abortion. As can be imagined, excessive in-
flammation of the parts took place, together with
great general constitutional disturbance; the final

Result

Result was almost complete obliteration of the vagina. 41.

"The Medical Men, on examination, found that a kind of irregular band surrounded and obstructed the vagina, beyond which, and on the rim of the pelvis, the head of the infant was distinctly felt, pressed forward by the uterine contractions. It was resolved to make an incision through the dense membrane; but when this was done it was found it had adhered to the bladder, which the incision had completely divided. The delivery was not at all facilitated, and the attendants felt themselves compelled to perform the Caesarian operation. The infant was extracted dead, apparently for some time, and the Mother immediately expired."

These cases are sufficient, I think, to show the prejudicial effects of using instruments to procure abortion, both to the Mother and infant. In cases where the miscarriage has been the result of involuntary causes, and where every prudent measure has been adopted for obviating its consequences, it is well known that the Mother frequently falls a victim. How much more likely is this to happen when it is occasioned by great, and unnatural violence done to the system, and that, too, under circumstances which generally precludes the sufferer from

* *Pricks Medical Casuistry* p. 342.
* *Pricks Med. W. p. 436.*
*** *London Medical Casuistry Review Vol. II. p. 487.*

from the benefits to be derived from Medical assistance. 42.
From what has been said concerning the means employ-
ed for destroying the infant in utero, it will be seen that
in the first place, "they are all uncertain in their operation
upon the fetus"; in the second, "they always endanger
the Mother's life; & thirdly, they sometimes destroy the
Mother's life without affecting the child." A case of
this kind is related by *Flore*. ^{**} A Case finding her-
self pregnant, and not being able to conceal it any longer,
obtained half an ounce of powdered caustic acids, and
mixed it with an ounce of Sulphate of Magnesia, and
swallowed them in order to induce abortion. A few hours
after she was attacked with violent colic, and brought
forth a living child, in the most frightful agony. During
the succeeding night she expired. In all probability,
if it were more generally known, what danger the Mother
runs, in all these attempts at feticide, the practice
would be much less common. These remarks cannot be
too forcibly impressed upon the mind for they apply
both to the local, and general means employed for this
purpose. To show how exceedingly difficult it is to
perpetrate abortion, and how uncertain the means em-
ployed, are, at times, the following case will serve to
illustrate. ^{***} A young woman seven months gone with
child

part in such cases. Diseases of various kinds, as Cholera, 44.
 Small Pox, Measles, Scarlatina, typhus and yellow fever,
 Syphilis, Rheumatism, Peritonitis, gastritis, hysteritis,
 enteritis, cystitis, hemorrhoids, Conductions, Pertussis,
 Chronic Catarrh, Cholera, Menstrua, Dysentery, gonorrhoea,
 Scabies, leucorrhoea, Oxytoc, retention, Dropsy; habi-
 tual delicacy of health; Menstrual disposition, or debili-
 ty of constitution; excessive sensibility; and too great con-
 tractility of the neck of the uterus; rigidity of the fibres of
 the body of the organ, or laxity and flaccidity of its neck. &c.
 violent mental emotions; the fright caused by loud noises
 such as thunder and artillery; sight of frightful objects;
 too much exercise, as walking, riding, dancing, jumping,
 the agitation of carriages or other vehicles; accidental falls;
 or blows on the abdomen; immoderate laughter; excessive
 weeping; the intemperate use of spirituous liquors; haemorrhage
 from whatever source, and at any period; the death of the
 fetus; the attachment of the Placenta over the os uteri;
 and indulgence of any violent passion of the mind, whether
 joyful or sad: all or any of these causes may give rise to
 abortion, without the imputation of the least criminality
 to the female.

* The influence of the Passions upon the uterine functions
 are exceedingly striking. It is a strange fact, that the
 Melancholy

Scorbutus

* Probe Medical Emipondance p. 244.

Melancholy and Sadness caused by some great evil which 45.
is known and expected, are much less injurious to a plea-
sant woman, than the announcement of some important
good, or even a trifling misfortune which is unexpected.
*Folien relates the cases of some pleasant women, who,
during the hours of the French Revolution, were con-
fined in dungeons and condemned to death; their ex-
ecution was, however, delayed in consequence of the pe-
culiarity of their situation. Yet, notwithstanding the
actual wretchedness of their condition, and the more ter-
rible anticipation of future suffering, they went on to the
full time, during which period a fortunate change in the
state of parties rescued them from unmerited punishment.

*Folien, Vol. IV. p. 428.

The proofs to establish whether the fetus in utero has ac- 46.
tually been destroyed, are to be derived from two sources, viz.,
— from an examination of the Repeated Mother, and an ex-
amination of the product of abortion. If the substance
expelled is not seen, and carefully examined, a satisfactory
opinion cannot be given.

Examination of the woman. It is exceedingly difficult, and
in fact often impossible to conclude in the first three
months of pregnancy, whether abortion has or has not
occurred. The embryo, at this early period has scarcely
had time to make those firm attachments which sub-
sequently unite it to the womb; nor has it attained to a
size sufficient to produce those general changes in
the constitution of the mother, nor those local alterations
from the distention of the uterus and abdomen, which
are afterwards occasioned. Its separation is therefore,
not attended with violence, and the traces left, are in con-
sequence, but slight. Again, if an embryo be expelled at
the end of the first or second month of pregnancy, the
hemorrhage will be inconsiderable, the uterine vessels
not having increased much in size, they will readily con-
tract, and not allow of any bleeding. It has happened
that abortion has occurred at this period, and in an
hour afterwards it was impossible to drive it by physical
Violence.

47.
evidence. After this period, and just in proportion to the
approach to the full term, will the signs be more conclu-
sive and satisfactory.

The signs of abortion to be deduced from an examination
of the female, are to be derived from three different sources.
from the condition of the organs of generation themselves;
from the condition of the viscera of the abdomen, - and
from the condition of the breasts.

1 Condition of the organs of generation. The Labia will
be found, on examination, to be swollen, painful, and of a
dark red or purple colour; while in almost all cases the
perineum will be lacerated. When the finger is intro-
duced into the vagina, it will be found preternaturally
relaxed and enlarged, and exceedingly tender. On ap-
plying the hand to the abdomen immediately after delivery.

The uterus will be detected in the form of a round, hard
ball, just above the Pubis. A discharge of blood likewise ac-
companies delivery; it continues for some time after; but in
a short time, the character of the discharge changes, and
it can no longer be considered a mere escape of blood, but
exhibits all the character of a secretion. For three, four or
five days, it continues of a red colour, but a good deal
thinner, and more watery than blood; it then sometimes
becomes yellowish like puriform matter; but more frequently
maintaining

Maintaining its serous consistence, it changes its colour 48.
successively to greenish, yellowish, and lastly to that of
Spiced Water. Attending this discharge there is an odour
so peculiar that it can always be recognised by those
who have once smelt it, and which is not present in
any other discharge from the uterine organs. On exami-
ning the *os* and Cervix uteri immediately after delivery, the
former will be found soft, moist, and very much dilated.
the latter will be drawn out and very indistinct. X

Condition of the abdominal Muscles. On examining the
surface of the abdomen after delivery, it will be found soft,
relaxed, and often thrown into folds. This relaxation of the
Muscles is sometimes so great, that they may be al-
most folded around the hands. A number of shining white
Lines, proceeding generally from the groin to the Anus, may
be observed on the surface of the belly. These are called the
Lineæ albæ. They are supposed to arise from the
great distention and cracking of the skin during Pregnancy,
and remain frequently permanent for life. They can-
not therefore be looked upon as the evidences of recent
delivery. X

Condition of the Breasts. In ordinary cases the Breasts
remain quiescent for about twenty-four hours after delivery,
but soon after that they commence to grow larger, with

Stings of Pain. At the end of the second, or beginning of 49.
the third day, they are perceptibly larger, heavier, and more
tense; the female usually suffers from rigors, pain, heat
of skin and soreness of the breasts, the pulse is at the same
time quickened. At this time the secretion of milk generally
commences, at first slowly and with difficulty, but afterwards
more freely, and in greater quantity. It must be borne in
mind, however, that the presence of milk in the breasts can
not alone be considered as an indication of pregnancy or
Delivery, nor should too much stress be laid upon it, apart
from other signs, inasmuch as it frequently takes place
independently of either. Dr. Blundell relates the case of a
female who had not had a child for three years; she
had not suckled for some time previously, was not preg-
nant, but yet the secretion of milk was so abundant,
that on the slightest pressure the milk flowed freely
from the breasts. He likewise mentions the case of a
nurse whose breasts continued to secrete milk for twenty
years after her pregnancy. Baudelocque has likewise re-
corded the case of a girl of eight years of age who milked her
breasts in presence of the Royal Academy of Surgery Oct. 16.
1763. and before another; in both the secretion was
apparently the result of the application of a child to
the breasts. Milk is also sometimes secreted at each

Certain cases return and may remain very long after weaning, and Ferris 50.
states that he has frequently known it to be secreted at the
first cessation of menstruation.

In the virgin state the colour of the nipple and areola dif-
fers comparatively little from that of the surrounding skin,
but after conception a striking change is observed in most
women less marked in those of very light complexion. The
first change that takes place in the areola is, that it be-
comes broader and darker, and forms a circle the diameter
of which averages from an inch to an inch and a half.

The colour and extent of this areola differs very much in
intensity, according to the particular complexion of the in-
dividual, being usually much darker in persons with
black hair, dark eyes, and sallow skin, than in those of
fair hair, light coloured eyes, and delicate complexion.

Beck considers that this is one of the most certain of all
the individual signs of delivery, and he says "it may be
depended upon with a good deal of confidence, provided
the discoloration be very decided, and the female has
not borne children previously." After a first pregnancy,
it must be remembered that this change in the colour
of the integuments remains more or less permanent; it
cannot therefore, be looked upon as a sign of recent deli-
very. If the fetus should happen to die the changes in the
areola

are arrested and gradually decline.

Such are the principal signs deduced from the female, by which it is to be determined whether a delivery has taken place or not. From what has been said it is quite evident, that many of these signs are necessarily evanescent in their character, and therefore, in order to gain the greatest amount of testimony from them, the examination should be made as speedily as possible after delivery. A proper conclusion, according to most Medical Writers, can only be arrived at during the first eight or ten days after delivery, for many of the signs become too obscure after this, to be relied on with any degree of certainty. All the pregnant signs have been objected to as uncertain, inasmuch as almost every one of them may be produced by other causes than delivery. Thus, for example, the dilatation of the vagina and os uteri, and the enlargement of the uterus, may arise from hysteria; the relaxation and enlargement of the external parts may arise from simple menstruation; the flaccid and marked condition of the abdominal parts may arise from Dropsy; and even the areolæ round the nipples and the secretion of milk, may arise from other causes than pregnancy and delivery.

These objections are to a certain extent well founded; and

they

52.

they go to show that no one sign, taken alone, ought to be considered sufficient to establish the fact. In all three cases, a number of the signs should concur before any satisfactory conclusion can be formed. If this caution be observed the preceding objections will be greatly weakened. Thus, for example, Dropsy may cause great elevation of the abdomen, if the serous fluid be removed suddenly by tapping, but in such a case the other signs will be found wanting; the vagina, and external parts will be unaffected; the uterus will be undilated; the uterus itself not enlarged. No change will have taken place in the breasts, and there will be no lochia discharge. Again, Menstruation may cause elevation of the vagina and external parts, and there will be a discharge from these organs, at the same time; but, as in the preceding case, all the other signs will be absent. There will be no dilatation of the uterus - the peculiar colour of the lochia will be wanting; there will be no enlargement of the uterus; no secretion of milk; no swelling of the abdominal walls, and no areola around the nipples. In regard to the objection, founded on the existence of hydatids or Molar, it must be confessed that much more difficulty attends a correct decision. Every phenomenon that depends upon the mere distention of the uterus, and the subsequent discharge of its contents, may

64

by the presence of these bodies, be counterfeited. It is frequently impossible to decide by the external appearances alone, in such cases, whether they originate from the expulsion of a real foetus, or some of these bodies. Even when there is no wish to conceal the real condition of the person, it is sometimes exceedingly difficult to make up a positive opinion. Females have in this way been themselves deceived.

Presuming themselves pregnant, the discharge of these masses have led them to suppose it a real miscarriage. The only proper way of settling the question in criminal cases, is by an examination of what may have been actually discharged from the womb. Even in cases where the abortion terminates in the death of the female, and we have the additional signs derived from dissection to assist us, still the inquiry is by no means unattended with difficulty. This is owing to the circumstance already mentioned viz. that every phenomenon connected with the enlargement of the uterus, and the dilatation of the os uteri may be produced by Hydatids or Moles. A Mole resembling the Placental one, may even be present in the uterus, owing to the separation of the masses from the walls of that organ. In cases of real pregnancy the bloodvessels, especially those confined to the placental space, undergo a much greater enlargement than when hydatids, or moles alone, are in the uterus.

by the presence of these bodies be counterfeited. In such cases 54
it is quite impossible to decide by the external appearances alone,
whether they originate from the expulsion of a fetus, or one of these
masses. Even when there is no wish to conceal the real condi-
tion of the person, it is sometimes exceedingly difficult to make
up a positive opinion. I have in this way seen them
selves deceived. Presuming themselves pregnant, the dis-
charge of these masses have led them to suppose it a real
miscarriage. In cases of criminal abortion, where every effort
is made at concealment, it is quite out of the question to say
which was the cause, and the only way of settling the question
is by making a thorough examination of what may have been
actually discharged from the uterus.

In cases where the delivery of the female is followed by
death an anatomical inspection of the uterus and its ap-
pendages, should be made.

If the uterus be examined, several appearances will be detected
indicating the fact of its having contained a fetus. In the
first place its size will be different from that of the un-
impregnated uterus. If the woman should have died from
hemorrhage during labour, at the full time or immediately
after, the uterus will be found like a large flattened
pouch measuring from twelve to fourteen inches in length,
and about nine in breadth. In such a case little or no con-

traction having taken place, the dimensions of the organ 55.
 are but little changed from what they were prior to labour.
 It, however, the female should not have died from haemorrhage
 but from some other cause, and the uterine contraction
 should have taken place, the size of the uterus would
 of course be considerably less. If it be examined about
 two or three days after delivery of a mature child, it may be
 stated to be about seven inches long by four broad; if at
 the end of a week, about five or six inches; and at the end of
 a fortnight about four and a half, to five inches. Its ex-
 ternal surface will be found vascular, and marked by pur-
 ple patches if examined shortly after delivery, and the cavity
 of the organ will contain, in all probability, Crayula of blood,
 or a bloody fluid. The part of the uterus to which the pla-
 centa has been attached will be of a dark colour, and of a
 somewhat gangrenous appearance; the vessels leading
 to it will be much more enlarged, than those of any other
 portion of the organ. The Fallopian tubes will be found
 less consolidated - larger, and more vascular, than in the
 unimpregnated state. * It is said that the tube leading
 to the organ from which the ovum has escaped, will be
 found the most enlarged. ** Mr. Burns says, "the fallopian
 tube becomes its greater vascularity for a very considerable
 time after delivery." This vascularity is sometimes so great as

* Burns' Medical Jurisprudence p. 224
 ** Burns' Midwifery p. 564.

as to give them a purplish appearance, looking very much 56
as if they were in a state of inflammation.

The ligaments of the uterus also undergo great changes.
The broad ones will be found almost obliterated, if examined
at the full time, in consequence of the fundus, and body
of the uterus bulging and rising, so as to stretch them
into a uniform covering of the uterus. This occurs only at
the full time; at earlier periods, the condition of these
ligaments will vary according to the enlargement the
womb may have undergone. The broad ligaments become
thicker, exceedingly vascular, and more elongated than
in the unimpregnated state.

These are the principal signs that are observed after death,
which lead us to suppose that delivery has taken place.
Striking as they unquestionably are, still objection of a very
serious character may, and have actually been brought for-
ward in Criminal trials against them. These objections are,
that all the appearances just described as found on
dissection after delivery, may have been occasioned by the
expulsion of hydatids or Moles. The only way of settling
the question in such cases, is to examine carefully the
substance expelled from the womb. The manner of doing
which will be mentioned immediately, but it is necessary
first, to state the appearance of the fetus at the dif-
ferent

first periods of utero-gestation.

It has been reported that no distinct ovum containing a definite embryo can be discovered in the uterus before the 20th or 25th day. * Welfer one of the best authorities on the subject of the embryo, states that on three different occasions he has had opportunities of examining the ovum when it could not have exceeded twelve days from conception. ** Sir E. Home also mentions a case in which he found an ovum of a very minute size in the uterus, only eight days after conception.

At 14 days the embryo measures about one twelfth of an inch, at three weeks about one tenth, and at thirty days from 3 to 5 lines. At this last period it has been compared in size to a large ant, a house fly, or a barley corn. If the fetus be examined at the end of a month, it will be found to be between 5 and 6 lines in length, having a form somewhat like that of a serpent, the head indicated by a swelling, the caudal extremity slender, and terminating in the umbilical cord; the mouth indicated by a cleft; the eyes by two black points; the limbs beginning to appear as nipple like protuberances; the liver occupying nearly the whole abdomen; the bladder large. The chorion villous; but the villousities uniformly diffused over the surface.

At six weeks it measures from 7 to 10 lines in length. The face is distinct from the cranium; the aperture of the

* Embryology p. 50.
** Grew's Microscopy p. 88.

Judemann says that within the last 10 months
the Pan are unperformed.

The nose, mouth, eyes, and ears perceptible; the head distinct from the thorax; the hands and feet in the middle of the length, and the fingers distinct; the legs and feet situated near the anus; there is a distinct umbilicus for the attachment of the cord, which consists of the omphalo-mesenteric vessels, of a portion of the mesachus, of a part of the intestinal tube, and of filaments which represent the umbilical vessels. The placenta begins to be formed; the chorion and amnion are still separated; the umbilical vesicle very large. Points of ossification beginning to appear in the clavicles and lower jaw. Weight about 3 grains.

At two months the length is from 16 to 18 lines. Rudiments of the nose and lips; palpebral arches appearing; the anus and legs much larger and more projecting; the os coccygis resembles a tail, but forwards and of considerable size; clitoris or penis apparent; the anus marked by a dark spot; rudiments of lungs, spleen and superficial capsules; chorion beginning to touch the amnion at the point opposite the insertion of the placenta; placenta beginning to assume its regular form; the heart at this time begins to change its form, and the intercosticular septum to make its appearance; the liver is very large, and granular, and the stomach commences to assume somewhat of its normal form. Weight about an ounce.

At three months its length is from $2\frac{1}{2}$ to 3 inches. The 59.
head voluminous; the free margins of the eyelids are in
contact; Membrane papillaris visible; mouth closed;
fingers completely separated; superior extremities of great
or length than the rudimentary tail; clitoris or penis
very long; thyroids as well as supra-renal capsules pre-
sent; the two ventricles of the heart distinct. The pec-
toral vera and reflexa, in contact; the penis containing mu-
bilical vessels and a small quantity of the gelatine of
Wharton; Placenta completely isolated; the umbilical
vessels, allantois, and omphalo-mesenteric vessels have
disappeared. Weight about two ounces and a half.

At four months the fetus is from four to six inches long.
Skin rosy and tolerably dense; mouth very large and open;
Membrane papillaris quite distinct; nails beginning to
appear; gaiter, organs and sex distinct; gill bladder ap-
pearing; Meconium in Rudimentum; Cecal tubes visible; um-
bilicus placed near the pubis. Complete contact of chorion
and amnion. Stents of ossification in the superior part of
the Sacrum; Spicula auditoria ossified. Weight about 5 oz.

At five months its length is from seven to eight inches.
The volume of the head still comparatively great; nails
perfectly distinct; hair beginning to appear; skin with-
out sebaceous covering; heart and kidneys very voluminous;

gall bladder distinct; Meconium of a yellowish green tint occupying the commencement of the large intestines. Points of ossification in the tibiae and os calcis; germs of the permanent teeth. Weight about nine or ten ounces.

At the sixth month the length is from nine to ten inches. The skin presents some appearance of fibrous structure; eyelids still agglutinated; Membrana Papillaris still existing; Sacculi beginning to appear in the colon; face of a purplish red colour; hair silvery white; Sebaceous covering beginning to appear; Meconium in the upper part of the large intestines; liver of a dark red colour; gall bladder containing viscid serous fluid; testes near the kidneys. Points of ossification appearing in the four divisions of the Sternum. Weight about one pound.

At the seventh month its length is from eleven to twelve inches. Skin of a rose hue, thick and fibrous, and covered with Sebaceous matter; eyelids no longer adhering; the nails not reaching to the points of the fingers; Membrana Papillaris beginning to disappear; Meconium occupying nearly the whole of the large intestines; Valvulae conniventes beginning to appear; left lobe of the liver almost as large as the right; gall bladder containing bile; hair finer; testes more distant from the kidneys.

Point of ossification in the astragalus. Weight 3 to 4 pounds

At the eighth month its length is from thirteen to fifteen 61.
inches. Skin Color. Covered with fine short hairs, and with
a well marked sebaceous envelope; Nails reaching to the ex-
tremities of the fingers; Membrana Papillaris disappears.
Brain showing indications of ossification; Testicles des-
cend into the internal ring. A point of ossification in
the Sacral vertebra. Weight from 3 to 5 pounds.

At nine months or the full time the length is from six-
teen to eighteen inches. The head covered with hair from
 $\frac{3}{4}$ inch to 1 inch long; Skin covered with sebaceous matter.
Membrana Papillaris absent; white and grey sub-
stances of the brain distinct; Liver descends to umbili-
cus; testes have passed inguinal ring, and are fre-
quently found in the Scrotum; Meconium at the termi-
nation of the large intestine; Point of ossification in
the centre of the cartilage at the lower end of the femur.
Hyoides not yet ossified; parietal portion of occipital
bone remains distinct; external auditory meatus still
cartilaginous. Weight from 5 to 8 pounds.

These are the principal changes which the fetus undergoes
during utero-gestation, it is of the utmost importance that
the Medical student should be aware of them, for by them, he
is enabled to ascertain, whether it be really a fetus which has
been expelled, and if it be a fetus, to ascertain its age, and lastly,

to ascertain the cause of its expulsion.

62.

From the great difference in structure, it is scarcely possible that any mistake could be made in distinguishing the embryo from an hydatid or mole. In the earlier months, however, it might be somewhat difficult, by means of the naked eyes alone, but by placing the suspected substance under the field of a good microscope this difficulty may be easily overcome, for the difference in structure will then become so apparent, that a mistake could not readily be made. It is of the utmost importance to ascertain the age of the fetus, as it enables us to compare it with the appearances found on an examination of the female to see how they correspond, and in this way to assist in detecting any fraud which may be attempted. The most certain signs of this, are to be derived from its length and weight. It is very evident, however, that a great diversity must exist in regard to this, for sometimes a fetus of only six months will be as large as another at the full time. In this case, notwithstanding its size, we should have all the other signs of an immature fetus to guide us, and which cannot be easily mistaken. Its members will be more or less imperfect, the skin will be red and transparent, the bones of the head soft, the Membrana Pupillaris existing, the eyes still agglutinated, the hair will be scanty and

of a sallow white colour; the nails will be either wanting altogether, or else very soft; there will be constant sleep, and an absence of the ordinary cries of the child; its movements will be feeble, and the discharge of mucus from the bowels will be either wanting altogether, or very small in quantity. 63.

If the Medical Man should be called in while abortion is going on, the symptoms presented by the female will enable him to detect the fact. The woman would be in a state of suffering, and in all probability unable to conceal the fact; but as it sometimes takes place without any pain, with little or no hemorrhage, and is followed by a speedy recovery, it is the duty of the Medical Attendee to examine into her actual situation at once.

A slight discharge of blood and mucus takes place from the vagina amongst which, in the earlier stages of pregnancy, the vomit might escape unobserved. It should be carefully collected, therefore, and properly examined. On examining the vagina and external parts, they will, if the pregnancy be sufficiently advanced, present the appearances stated at page 47. Along with these local signs we generally find the female complaining of aching pains in the back extending round to the abdomen, recurring at regular intervals, and increasing in

64.
strength and frequency; in fact according to the advance
of the Pregnancy, so will these symptoms come to resemble
the Process of Parturition. As soon as the contents of
the Uterus are expelled they should be removed for ex-
amination. If on the other hand abortion should have
taken place some time before he is called upon, and the
woman has recovered, circumstantial evidence alone can
prove the fact, or it can hardly be inferred because a
former Pregnancy may be proved to have existed. Actual
examination after a fortnight or so, is of little use, for the
Parts, by that time, will have regained their usual condition,
or else they will have progressed so far towards it as to ren-
der such enquiry almost useless.

In ascertaining whether abortion has been induced by un-
avoidable Causes, or through Criminal Agency, we must
be guided by circumstances. The previous history of the wo-
man should be learned, whether she had met with any acci-
dent or violence capable of causing abortion; when Miscarriage
begins; the wantable nature of the Pregnancy as regards
the Parturition; the fact of concealment, or on the contrary of com-
plaint, and resort to Medical aid; whether she had been in
the habit of taking Medicines frequently; whether she had
endeavoured to procure any of the Ways usually given to pro-
duce Abortion; if any of them are found in her Possession, or if

She

65.

The case ^{is} convicted of actually taking them without Medical advice, we have then the strongest circumstantial evidence which the nature of the case admits of, to pronounce her intention to have been criminal. These and similar considerations require to be carefully attended to, although they do not strictly come under the cognizance of the professional witness - they are facts which must be decided upon from the testimony which may be offered by the other witnesses, who are called upon to appear in the case.

If the destruction of the child should have been caused by mechanical or instrumental violence done to the fetus itself, by the introduction of instruments &c. it should be carefully and minutely examined, more especially about the head and neck, to detect if possible any wounds which may have been inflicted.

The duties of the Medical Witness when called upon to give his evidence in a case of this kind, are to answer all questions put to him by the legal authorities with as much conciseness, and accuracy, as possible. to keep cool and collected, to give his opinion with distinctness and brevity. A Medical Man in this situation cannot be too careful for upon his answers, in many cases depends the fate of the persons; his own reputation is often likewise at stake for if he happens to make any mistake, although perhaps at the time it may have been overlooked, yet in the long run it is sure to tell against him, for in all such cases there is usual-ly lots of scandal, and his own name escapes being detected and dragged in amongst it. To avoid this he must in the first place be prepared for a close examination on the specific emergency and properties of the Drugs Adminis-tered & secondly he should have ascertained whether it had been caused by natural or improper interference. In those cases in which abortion is followed by the Mothers death, he must make a post Mortem Examination of the body; the ap-pearances by which he is to be guided here, are detailed under the Modes of detection. He should likewise examine the fetus or embryo, to ascertain if possible, if any marks of violence, produced by the introduction of instruments.

and lastly he should try and find out whether the abortion 67
was produced by accidental or intentional means, and whether
the substance expelled be really a fetus or not.