

finger is applied directly under the symphysis pubis at the upper part of the arch. It must be evident that this mode of inquiry will be of no avail, unless the pelvis be greatly distorted, *considerably under three inches, indeed, in the conjugate diameter.* For the ordinary length of the index finger along its inner edge is less than three inches; and as the oblique line, from the promontory to the apex of the pubic arch, exceeds the direct line across, so if there be more than the space just mentioned, the finger would not be able to reach the projection, and we should consequently be in utter ignorance what amount of room existed."

Now, Gentlemen, in this case you have an instance of a deduction from an isolated fact, a theory finely drawn from "the ordinary length" of an index finger. You will do well, under all circumstances, to watch assertions like these, to take them to pieces as it were, and compare them with the facts as they exist in nature. In the case before you, the transverse diameter of the head, from the centre of the indentation to the opposite parietal protuberance, measures exactly three inches; this indentation was produced by the promontory of the sacrum, and affords an exact mould of the antero-posterior or conjugate diameter of the brim, and is "considerably under three inches." I must not, however, leave the subject, without calling to your notice the fearful consequences which would result if this doctrine were received as fact. As you have been told that the smallest space in the antero-posterior direction through which a living child can possibly pass is three inches, and as you are informed by Dr. Ramsbotham that you cannot touch the promontory of the sacrum unless that diameter be "considerably under three inches," it follows of necessity that you would consider yourselves justified in opening the head in all cases when this point could be reached; a doctrine most mischievous, nay, murderous, in its tendency.

It is by comparing facts with the assertions of authors that you are enabled to appreciate their truth or fallacy. Be not, therefore, misled by the dogmata of any man, however high his reputation, compare, weigh for yourselves; it is your high privilege that the book of nature is open to you, and so patent that "he who runs may read." Reflect, then, for as you reflect, in like ratio, shall you practise your profession with success. I may, perhaps, be considered as encroaching on the province of my respected colleagues, the lecturers on medical jurisprudence, in calling your attention to this case in a medico-legal point.

Severe injuries, as you see, may be inflicted on the foetal head by the act of parturition, which you might be disposed to regard as the consequence of violence ap-

plied after death. The circumstances of this case will teach you to be cautious in your evidence, and you will anxiously look for some corroborating facts before you determine to implicate the character or the life of an individual by a charge of infanticide.

EXCITEMENT OF PREMATURE PARTURITION.

To the Editor of THE LANCET.

SIR:—If you think the following cases of artificial induction of premature labour worthy of introduction into the scientific columns of THE LANCET, you will, by their insertion, oblige your most-obedient servant,

EDWARD AUGUSTUS CORY, M.D., M.R.C.S.
Cannon-street-road, Sept. 29, 1840.

Mrs. H., of short stature, and about 35 years of age, had twice undergone the operation of embryotomy. I attended her for the first time about six years since, when the same operation was again considered necessary, and was performed in the presence of a most respectable practitioner. The pelvic deformity was of the reniform character, the space between the sacro-vertebral angle and the symphysis pubis (conjugate diameter) being about two inches and three-fourths. It was consequently determined, should the recurrence of pregnancy render it necessary, that the premature induction of parturition at the seventh month of utero-gestation should be had recourse to, as affording the only means of saving the infant from the murderous application of the perforator. In September, 1837, she had arrived at the seventh month of another pregnancy. From some remarks and cases which had been published by a high obstetric authority (Dr. Francis Ramsbotham), it appeared that he had completely succeeded in effecting the induction of premature labour "*solum ope secalis cornuti.*" I was therefore led to employ that substance according to the formula suggested, viz.—

Ergot of rye, 5iij;

Boiling water, ʒviiij; infuse for half an hour, and add

Dilute sulphuric acid, 3ij;

Simple syrup, 3ij;

Compound tincture of cardamoms, 3iij;

Let two tablespoonfuls be taken every four hours.

The first dose of this mixture was ordered at 2, P.M., on the 14th of September, 1837. At 6, P.M., soon after the administration of the second dose, the uterine energy became slightly excited; and it was interesting as well as satisfactory to observe its gradual

increase soon after the repetition of each dose of the medicine.

On the next day (Friday), at 1, P.M., the parturient pains were tolerably active, but at considerable intervals. A vaginal examination was instituted, and the membranes were distinctly felt pressing against the undilated os uteri.

Saturday, at 11, A.M., the pains had gradually diminished in force and frequency since my last visit, and she had experienced no pain from yesterday at 4 o'clock, P.M., to the present time, and was, to use her own expression, "quite well again." The institution of another vaginal examination demonstrated that the os uteri had not in the least degree increased in dilatation, and that the pressure of the membranes, which had been previously experienced, even during the interval of pain; had now entirely subsided.

I again saw her, about 6, P.M., and found her precisely in the same situation. I was fearful of repeating the *secale cornutum*, lest it might destroy the infant. I therefore thought it most prudent to rupture the membranes, the distention of which had now completely subsided; and this I accomplished with the serrated nail of the index finger, with little trouble.

On the following day she remained in a similar condition, and there had been no accession of the pains of parturition. The next day (Monday) she had not yet experienced any pain, and the bowels being in a constipated state, I thought it prudent to prescribe an aloetic purgative with a carminative addition, which had the effect of freely evacuating the bowels, and exciting the uterus to action; so that early on Tuesday morning the pains of labour commenced with considerable activity, and continued without intermission until six o'clock in the evening, when she was delivered of an infant in a state of asphyxia. The child, however, was restored in about ten minutes by the warm bath and artificial respiration. The foetal head, notwithstanding the severity of the parturient paroxysms, occupied several hours in its passage through the contracted pelvis, and, after expulsion, presented on its lateral portion an evident indentation, and was also considerably flattened. The whole process terminated as in a common accouchement. The child is now three years old, and is remarkably healthy and vigorous.

She this day (August 27, 1840,) called on me, and stated that she had again arrived at the seventh month of pregnancy, and that she wished me to institute the same means for her premature delivery which three years ago had been so successfully employed. I this time resolved to give the ergot a more complete trial; and having found, from multiplied examples, that the oxytocic powers of the powdered *secale cornutum* were much superior to any

other preparation of that substance, I determined to administer it in that form. I may here be permitted to quote the authority of Velpeau (to whom I am indebted for much of my information on obstetrical subjects). In his "*Traité Complet de l'Art des Accouchemens*," tome iii., page 67, he thus alludes to it:—"La poudre fine de tout l'ergot me paraît préférable aux décoctions, aux extraits, pourvu quelle soit récente et tirée de grains bien complets et bien conservés." I accordingly prescribed a scruple of the powder every four hours. She continued it for four days, during which period she took an ounce of it. It had the effect of exciting uterine action in nearly the same manner as in the preceding illustration of its operation; but after the interval of one day in which the parturient pains were entirely absent, I was reduced to the alternative of rupturing the membranes, from a well-grounded fear that a continuance in the use of the ergot might exert an injurious effect upon the infant. She was delivered after several hours of severe suffering of a living infant, which was born under similar circumstances to the preceding one. The mother is rapidly recovering, and the child at the present time is healthy, and there is every probability that it will continue to live.

REMARKS.

The necessity for the induction of premature labour, with a pelvis constituted as in the present instance, must, I think, be evident to every well-informed obstetrician; and I am also of humble opinion, that the means so carefully adopted for the production of so desirable an object were based upon the soundest principles of obstetrical science. I am inclined to believe, and I have had many opportunities of testing the powers of the ergot during the process of natural labour, that it is dependant for much of its energetic action upon individual idiosyncrasy; for I have found that on some constitutions it exercises no influence, whilst others are peculiarly susceptible of its operation. This may explain why the ergot did not, in the instances just recorded, succeed in effecting (*per se*) the completion of the parturient process. It is almost impossible to state, with any certainty, the maximum quantity which may be taken into the system, without risk of injury to the infant or its parent; but I think it may be reasonably concluded, that if one ounce of that drug be insufficient to excite and complete delivery, it would be of no utility, but, probably, dangerous to persevere in its administration. In the artificial induction of parturition in the cases under consideration, I was fully aware of the great importance of maintaining the membranes entire as long as possible, in order to be able with greater certainty to insure the safety of the infant; but as the *secale* failed to produce the anti-

cipated result, I was compelled to rupture the membranes, even with some risk to the infant, rather than hazard, perhaps, irretrievable injury both to the mother and child, by persevering in the administration of the ergot.

The induction of premature labour appears to have been practised by the ancient physicians, more particularly by Otius and Paulus Egineta, who recommended it in cases of extreme contraction of the pelvis; but it was not until about the middle of the last century that the most eminent practitioners in London decided on its propriety and morality. It may be laid down as an incontrovertible obstetrical axiom, that if there be less than the space of three inches, and more than two and a half between the sacral promontory and the pubes, that the induction of parturition at the seventh month of utero-gestation becomes indispensably necessary, and its utility will be rendered more evident when we consider the disproportion between a structure thus constituted and the foetal head at the full period of intra-uterine maturity. From many and very accurate observations, Madame Lachapelle has arrived at the conclusion, that the biparietal diameter of the foetal head at the seventh month of pregnancy, does not measure more than three inches, and sometimes even less; and therefore, allowing for its compressibility in consequence of incomplete ossification, it may be easily imagined that no very considerable impediment will be experienced in its passage through such a pelvis as I have described. The records of the science prove most satisfactorily that the woman is not subjected to greater risk by premature labour induced artificially, when carefully performed, than by spontaneous parturition at the full period of gestation. The existence of some morbid affection, rupture of the uterus, or some accident entirely independent of premature delivery, has been invariably discovered in those cases which have had a fatal termination. Denman operated eight times with complete success ("Introd. to Midwifery," vol. ii., p. 224). M. Salomon mentions sixty-seven, Kluge twelve, and Ferraris six, which also terminated successfully. ("Journal Compl. des Sc. Méd., &c.," tome 34, p. 339.) In the practice of Reisenger ("Dict. de Méd.," 2nd edit., tome i., p. 429), one died in fourteen; but Merriman ("Synopsis of Diff. Parturition, &c.," p. 161.) has not lost one in forty-six, upon whom he appears to have operated.

Artificial premature delivery does not, however, terminate so happily with regard to the infant. In forty-seven cases which occurred in the practice of Merriman ("Synopsis, &c.," p. 180), twenty-six were dead, five were born living, but not possessed of viability, and sixteen lived. Hamilton has been more fortunate, and in twenty-

seven cases has succeeded in preserving the lives of twenty-three ("Ryan's Manual"); Ferraris, five in six; Kluge, nine in twelve; Salomon, thirty-four in sixty-seven; and Burckhard ("Thesis, Strasburgh," Jun. 20, 1830), thirty-five in fifty-two.

Premature delivery has also been recommended in cases entirely unconnected with pelvic distortion. Its performance has been proposed by Mai, Ritgen, and Carus, in those instances where the foetus habitually dies some time before the expiration of the full period of gestation, as well as in some diseases induced by pregnancy, which are dangerous to the mother, as metrorrhagies, retroversion, &c. Siebold, according to Kilian, ("Die Operative Geburtshulfe," vol. i., p. 380,) practises it in ascites and hydrothorax, and M. Costa ("Revue Médicale," 1827, tome i., p. 343,) considers it necessary in diseases of the heart. Conquest ("Outlines of Midwifery"); Ingleby in his valuable work on "Uterine Hæmorrhage;" Busch ("Lehrbuch der Geburtshulfe," 2nd edit., 1833,) and other authorities, have also recommended it in cases entirely independent of pelvic distortion.

My limits will not permit me to discuss the propriety of its adoption in the various morbid conditions just alluded to; but it is evidently the only rational means of relieving the woman who has the misfortune to be affected with diminution of the natural dimensions of the pelvis, and of rescuing her infant from inevitable destruction. The operative methods which have been proposed and practised for the induction of premature labour are very numerous; but the one most usually had recourse to, and upon which the greatest reliance can be placed, is the sudden evacuation of the liquor amnii either manually or instrumentally. Some writers of celebrity have advised its gradual discharge, but the majority have decided in favour of the former, as by the sudden vacuity of the uterus, that organ is more likely to take on a brisk parturient action, by which means there will be a greater probability of saving the life of the infant. I would, however, recommend in all cases, the previous administration of the ergot, either in the form of powder, or according to the formula of my much-respected friend, Dr. Francis Ramsbotham, to whom is decidedly due the credit of having first introduced to the notice of the profession, the important fact that the secale cornutum possesses the undoubted power of exciting, *per se*, the parturient action of the uterus, and in many instances of completing the process of labour, without the necessity of any other interference.

I may add, in conclusion, another mode of procedure, which is in some degree of repute with the practitioners of the French school, although I cannot recommend it on my own individual experience. Velpeau

("Traité Complet, &c.," tome ii., p. 413.) thus mentions it:—"La dilatation au moyen d'un morceau d'éponge, comme l'a imaginé M. Kluge, est d'un effet beaucoup plus certain. L'irritation qu'en résulte est permanente, progressive, régulière, et soutenue par la pression qu'exerce l'espèce de tampon qu'on maintient en même temps dans le vagin. Sous l'influence d'une pareille excitation, la matrice entre bientôt en action, et il est difficile que le travail n'acquière pas rapidement une énergie suffisante."

ON THE INSTANT TREATMENT OF CHOKING, AND OF ASPHYXIA.

BY PHILAETHES.

To the Editor of THE LANCET.

SIR:—In my former communications, pp. 104, 135, I forgot to caution the operator, in his attempt to produce artificial œsophageal, or, rather, pharyngeal vomiting, in the case of choking, to seize the little patient and place him between his knees sideways; and in this, or some other manner, *to compress the abdomen*, otherwise the power of the blow will be lost by the yielding of the abdominal parietes, and the respiratory effort will not be produced.

In the present communication, I wish to call your reader's attention to the treatment of *asphyxia*. I shall suppose the case to occur at a distance from any station of the Royal Humane Society, and, indeed, from any efficient aid whatever. Let it be that of a skater taken out of the water. The *first* thing to be done is, *to induce respiration*. Let two persons of muscular power make tourniquets, as it were, of their handkerchiefs, *across the thorax and across the abdomen*, and let both use their strength at the same instant to produce *expiration*; let them relax their tourniquets suddenly, and at the same instant, so as to allow the force of the elasticity of the ribs, and of the weight of the abdominal viscera, to act in inducing *inspiration*. Let these efforts be repeated. Meanwhile, let the wet clothes of the patient be cut off, and let a bed and cover be prepared with those of the bystanders, each sparing what his heart may prompt.

Now, let the active, not the busy, set to, and try what *frictions* with their *warm hands* may do, in restoring warmth and promoting the circulation, rubbing firmly and briskly from the extreme parts upwards towards the heart. All on a sudden let cold water be dashed on the face and abdomen, to effect, if possible, an excited act of *inspiration*, and then let the rubbing be again pursued with energy. With the same view and hope, the nostrils and the fauces should be irritated, for sneezing and vomiting are alike preceded by an act of *inspiration*.

If these measures have failed, *inspiration* must now be attempted by the force of the

expiratory muscles of another person, placing his own mouth on that of the patient, whilst closing the nostrils of the latter. Such are the means which are always in readiness, and which the unprofessional person may use. The rest will be suggested by professional knowledge and skill; and it is not my present object to dilate on this subject.

I need scarcely say, that what I have stated seems to constitute the *first* remedies in cases of congenital asphyxia, and of suspended animation from hanging, the vapour of burning charcoal, &c. In these cases the full, fresh air should be allowed to fall on the patient's face; and, indeed, this is true of the cases of drowning, and, therefore, the crowd of the busy and useless should be dispersed, and the real helpers alone retained near the scene of action.

I may also suggest that, in the *first* use of the tourniquets, the patient should be placed on the face, so that any fluid or mucus in the mouth may escape, and not be drawn into the larynx or trachea.

If, Sir, I may judge from all I have heard, your readers will not regret the little space occupied in your pages by this short note. I am, Sir, your obedient servant,

PHILAETHES.

Oct. 20, 1840.

P.S.—Mr. Read is usefully employed in devising instruments for the purpose of effecting artificial respiration. One of his designs is, that of *drawing* the respired air out of the cavity of the bronchia and trachea. This he effects by means of a syringe applied to the mouth, the nostrils being closed. The *principle* of this is the admitting the *external* atmosphere to *press* upon the chest and abdomen, by removing its pressure from within. Whether this plan be more efficacious than that of the tourniquet remains to be proved.

CARBONIC ACID GAS, AS A REMEDIAL AGENT.

To the Editor of THE LANCET.

SIR:—In your report of the proceedings of the London Medical Society on Monday, October 5th, there is a mistake as to my remarks on the subject of the action of carbonic acid gas on the organs of generation in females, I merely threw out the suggestion, that knowing the effects of undiluted oxygen and of undiluted carbonic acid gases, when taken into the lungs, upon the blood and system generally, was it not probable that carbonic acid gas, when applied to the mucous membrane of the vagina and uterus, might have an effect upon the blood contained at the time in the capillary vessels, which would help to account for its local effects on these parts? I am, Sir, your obedient servant,

WILLIAM SIMPSON.

110, Guilford-street, Oct. 10, 1840.