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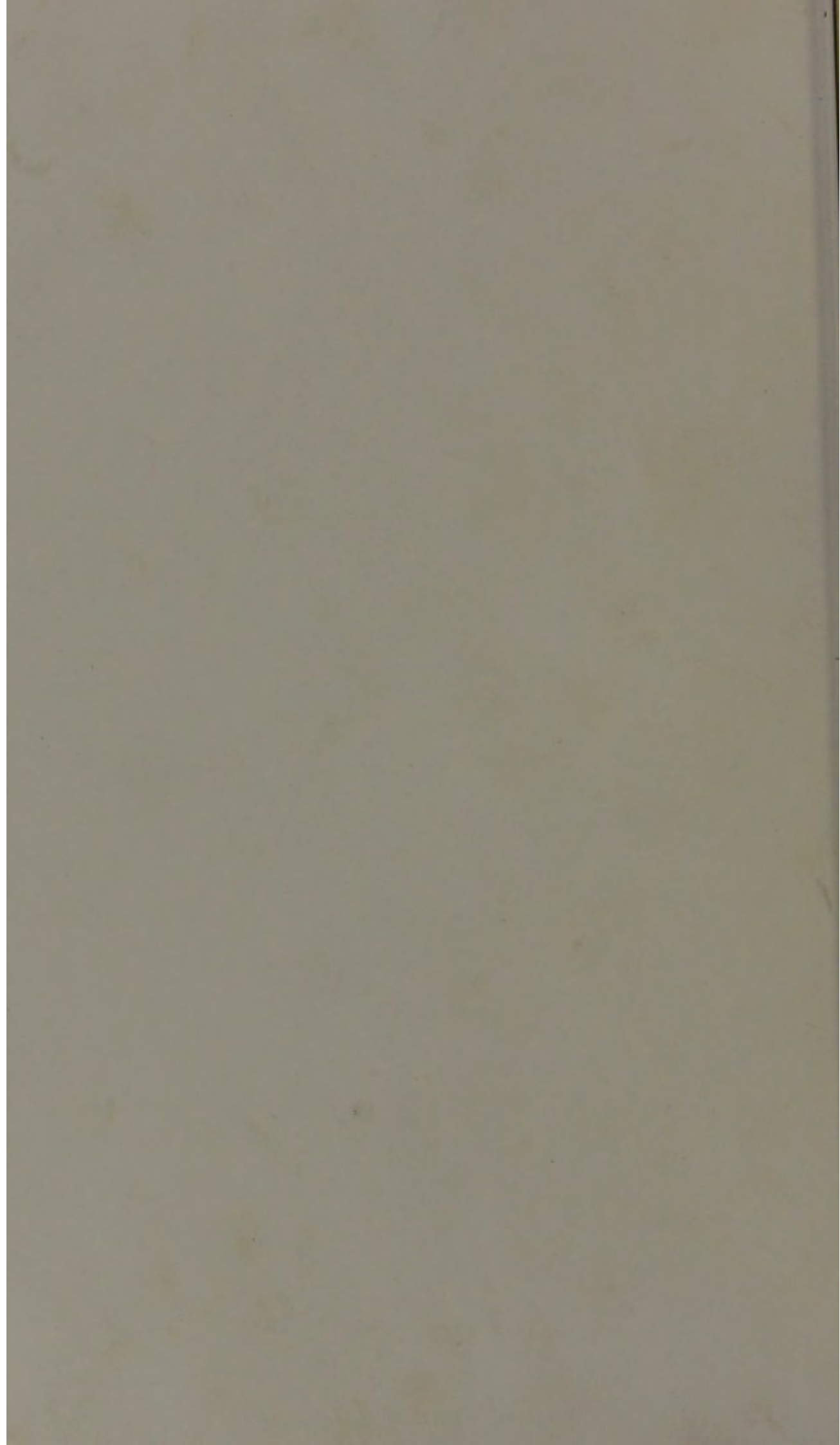
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BASILYSIS FOR DYSTOCIA

FROM

HYPERTROPHIC ELONGATION OF THE CERVIX UTERI.



BY

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BASILYSIS FOR DYSTOCIA.

THE problem how best to comminute the foetal head is not yet solved. It is not to be reckoned among the problems of prime importance in obstetrics that wait their solution. Improved hygienic conditions have been lessening the kinds of disease that lead to the pelvic deformities which formerly oftener necessitated the sacrifice of the child; whilst the induction of premature labour, improvements in the method of turning, the application of axis-traction rods to the forceps, and modifications in the details of the Cæsarean operation, have all tended to limit the number of labours in which the head must be broken down to allow of its extraction. Still there remain, and ever will remain, a group of cases where the best thing the accoucheur can do is to reduce as much as possible the bulk of the foetal head; and I believe one renders a good service to obstetrics if one offers any help towards the solution of the problem as to how the process of head-reduction can be perfected.

I thought to render such a service in laying before the Society, three years ago, some suggestions for breaking up the base of the skull after perforation of the vault by a process which I described as Basilysis, and with an instrument which I designated the Basilyst. The process was recommended on theoretical grounds, and the instrument from experiments made on the dead subject and the phantom. Last year I recorded a case in which I had carried out the operation with satisfactory results.

In the Maternity lately a patient was delivered in whom the basilyst again gave saving help, and I now lay the history before you as it has been drawn up by Dr Keppie Paterson, one of the house surgeons. I give the history all the more that the condition which necessitated operative interference is not of every-day occurrence.

CASE.

"A. R., ii.-para, age 28, last residing at South Leith Poorhouse, was admitted in labour on 21st December 1882. Her last menstruation took place at the beginning of March; quickening was first felt in end of June, and, according to her own account, she probably conceived on the 13th or 14th of March.

Condition during Pregnancy.—Morning sickness was absent. She has had leucorrhœa for a number of years, but did not notice any change in the amount of the discharge, nor did she suffer any pain before April, when pain in the back began to trouble her, and then for the first time she noticed something come down on making water and while at stool; it receded, however, on lying down. The discharge shortly after became yellow and with an offensive smell. In June difficulty of walking was experienced, and the pain in the back and hips had increased so much that towards the end of the month she found it necessary to take to bed. She was then admitted to South Leith Poorhouse, and remained there until labour started. During all this time, from the middle of July to December 20th, she was wholly confined to bed, with the exception of about half an hour in the morning. In bed there was no pain present, but it became very severe on rising, the pain being situated in the lower part of the abdomen, back, and hips. A strong sense of weariness was always present, and she also describes a feeling of heaviness, and seems to have slept a good deal. The tumour appeared externally in July, and gradually grew larger. In August a red discharge came on, and returned every now and then, lasting from one to two days. During this month an attack of shivering developed itself, and lasted more or less for about six days, the rigors evidently being severe, as she describes them as shaking the bed; each rigor was followed by a feverish attack. After August the rigors and fever came on about every fortnight, but they were never so severe as at the first. She experienced great difficulty in micturition for a few months before labour. She could not walk over a few yards, from the pain and weight, and while doing so had to support the tumour with her hand.

Previous Obstetric History.—Patient was married in October 1877, and had a miscarriage in the beginning of January. On 21st September 1879 she gave birth to a female child in the Maternity Hospital. Her labour was natural. The child, which weighed 3 lbs. 11 oz., died three days after, being premature and very feeble from the first. During her puerperium some mental aberration showed itself in muttering to herself and taking no notice of anything; she had to be watched, and was screened off from the rest of the patients. Her convalescence was slow, and on dismissal on the nineteenth day she was rather weak. The uterus was retroverted.

Labour.—Patient was admitted on 21st December at half-past

eight in the morning. Her appearance was pale, thin, and weak, and on examination a double lateral curvature of the spine was noticed, the upper being a gentle curve to the left of the greater number of the dorsal vertebræ, the lower curve being more marked, and including the lower one or two dorsal and upper lumbar vertebræ. The external pelvic measurements were, inter-spinous $8\frac{3}{4}$ inches, inter-cristal $10\frac{5}{8}$ inches, and external conjugate $7\frac{1}{8}$ inches. The uterus was directed to the right, its size small, and of ovoid form. The bladder was lifted up and distended above the pubes. No foetal heart could be heard, nor had the patient felt movement for four days previous to her admission. The labour had started at 11 o'clock the night previous. She described a continual bearing-down sensation with intermitting uterine pains; but she suffered more from the bearing down than from the pains; there was also a feeling of heavy weight, and "just as if the whole was coming away from her." She was seen by Professor Simpson at 10.30 A.M.

On inspection a tumour was noticed projecting two inches from the vulva, with a transverse division in the centre. Its consistence was very hard, and it was of a red colour, except in some places where it was ulcerated and covered by a gray pellicle, showing that the erosions had existed for some time, and from these there was a discharge of sanguineous purulent matter. The vulva was distended by the tumour, the parts around being white and indurated. The os just admitted two fingers, and at a full finger's length from the os the vertex of the child was felt presenting with the membranes unruptured; the occiput was directed to the right and a little posterior to the right extremity of the transverse diameter. The bones of the head felt lax.

The cervix was pushed back into the vagina, and the anterior lip supported during the pains. Its tissue became somewhat softer, and the os dilated to about two inches in diameter, and the lips would be about $\frac{1}{2}$ inch thick. During this time the upper portion of the cervix and lower part of the uterus were becoming thinned out and in danger of rupture.

On Professor Simpson again returning, the membranes were ruptured about 12.30, and meconium-stained liquor escaped, after which the parts were thoroughly douched with carbolized water. It being very clear that the child was dead, he determined to basilyze it, so as to facilitate the delivery. The patient was anæsthetized and placed in the lithotomy position, in presence of Dr Guido Jochner, jun., of Munich, Dr Anderson of University College, London, and several of the Maternity students. The house-surgeon kept the uterus fixed by pressure on its fundus with one hand, while the other fixed the head by pressure above the pubes. The vault having been perforated on the side next the anterior wall of the cervix, the point of the basilyst was guided to

the anterior part of the base, in front of the sella turcica, and screwed in to the shoulder. When the blades had been separated it was felt that the structures were broken up. To effect more complete comminution the instrument was again applied just behind the sella turcica, and on its withdrawal the base of the skull felt relaxed. No blood escaped during this proceeding, showing that the child was dead, and the maternal structures were not injured. Some brain matter escaped during the operation, and the rest was evacuated by douching. Traction on the head was made by the fingers, support and counter-pressure being applied to the lips of the cervix during its extraction. The head was delivered easily, but difficulty was experienced with the shoulders, the circle of the os fissuring in different directions, especially at the left side, where the parts were somewhat thin. The distention by the shoulders also wounded the left nympha and adjacent portion of the vestibule anteriorly and the right posteriorly. The cervix was well douched with carbolized water, and digital pressure applied to the wound of the left nympha in order to stop the bleeding. The placenta was expelled in about twenty minutes, and shortly after some (post-partum) hæmorrhage occurred. Ergotin was injected freely into the buttocks. The patient's pulse was now very feeble, and her condition critical, from the loss of blood with her previous weak state. Ether was administered intra-muscularly, and stimulants and digitalis by the mouth. Bandages were applied firmly to the legs from below upwards, and combined external and vaginal pressure to the uterus maintained for about two hours.

The patient gradually rallied, and the passages having been again carefully douched with carbolized water, the lacerated surfaces were dusted with iodoform before the patient was put to rest. The child was born at 1.20 P.M., 13 h. 20 min. after commencement of labour; third stage, 20 min.

Examination of Child.—Child, female, was 18 inches long, and without the brain weighed 4 lb. 7 oz. Its development was full time. It had been dead for two or three days, the cuticle being peeled off in the places exposed to manipulation. The basilyst had broken up the left parietal and the upper edge of the left temporal bones, and, internally, the ethmoid and the anterior portion of the base of the skull.

Placenta.—Pale, somewhat oval, a projecting portion being thin and flat. The insertion of the cord was marginal. The two vessels to the thin portion left the cord at its termination, passed on to the membranes, and then entered the detached lobule at its margin. The umbilical vesicle was situated on the foetal surface of the placenta, beneath the amnion, at the centre of the thin lobule. It was of yellow colour, and about $\frac{1}{4}$ inch in diameter.

Puerperium.—During the first night patient very restless, and was talking during night. For the first week her speech was stuttering, only being able to speak a few syllables at a time; this

was always worse in the morning, and existed to a less extent during the day.

The average temperatures for first few days:—First 12 hours, $98^{\circ}7$; second day, $100^{\circ}7$; third day, 101° ; fourth day, $100^{\circ}3$; fifth day, $99^{\circ}9$; sixth day, $99^{\circ}5$; seventh day, $99^{\circ}5$; eighth day, $99^{\circ}3$; ninth day, $99^{\circ}4$; tenth day, $99^{\circ}6$; eleventh day, $99^{\circ}5$; twelfth day, 99° ; thirteenth day, $98^{\circ}9$; and gradually down to normal. Patient is now much stronger and in a fairly good condition. Hæmic murmurs can be heard at the base of the heart, and venous hum in the neck. Lochia for first few days was copious, then pale, and now there is very little.

Examination on Dismissal, Jan. 15.—Vulva rigid, and tender towards posterior part; cervix broadly conical, fissured transversely; anterior lip $\frac{5}{8}$ inch long, posterior, over an inch. Uterus large, to the left, and retroverted."

REMARKS.

This case, as I have hinted, is interesting in more than one respect. The complication of labour with Hypertrophic Elongation of the Cervix Uteri is rare. The patient, it seems, had sought advice at my ward in the Royal Infirmary when she was about two months pregnant, but failed to return on the day appointed for her examination. In the only other case which I have had an opportunity of watching to the close, as the uterus rose up into the abdominal cavity the elongation of the cervix became less pronounced, and the labour, having come on at the seventh month, was not attended with any difficulty. It was specially remarked in the present instance that although the os externum projected from the vulva, the bladder and other loose retropubic structures were lifted up, as usual, above the pubes during the labour.

Many of the cases recorded as instances of labours complicated with prolapsus uteri have doubtless been instances of dystocia from hypertrophic elongation of the cervix. In the series of illustrations collected by Hüter¹ several of the patients, such as those of Wagner, Lipman, and Hüter himself, had the cervix morbidly elongated and protruding through the vulva. We get an impression of the danger and difficulty associated with this complication of labour when we find Hüter stating, that of fifty-six women in full time labour with prolapsus uteri six died during or after the labour, giving a maternal mortality of nearly one in nine. As for the children, only nineteen were born alive, and fourteen dead; and he adds, that of other twenty-four children the fate of which is not recorded, the probability is that the greater proportion of them were still-born.

A great variety of procedures have been employed in effecting the delivery in such cases. Sometimes the canal has been dilated

¹ "Der Vorfall der Gebärmutter bei Schwangeren und Gebärenden," in *Monatsschrift für Geburtskunde*, xvi. 186, 259, 1860.

with the fingers or dilating bags. Sometimes a series of incisions have been made in the circle of the os, extending an inch more or less up the cervix. Sometimes the child has been extracted with the forceps. Sometimes turning has been had recourse to. Occasionally, as in our patient, the mother has got the best chance when the head of the child has been broken down.

The following history of a case by Benicke¹ of a primipara with elongated cervix is interesting as illustrating the difficulty attending the management of this kind of dystocia. The patient, æt. 28, was last unwell in August 1876, and fell in labour on 7th May 1877. "As the labour did not progress, notwithstanding some shallow incisions made in the os by a physician who had been called in, help was brought from the Lying-in Hospital, and I saw the patient for the first time at midday. Out of the vulva projected a tough bluish-red protuberance of about 15 centimetres in circumference, on its anterior part the os externum permeable for the finger, and below, on the posterior part, a granulating ulcer. Introducing the finger into the vagina, one could feel that the anterior vaginal fornix as well as the posterior were completely intact, also that one dealt with the much elongated cervix, now abnormally swollen with the influence of pregnancy and labour. If one introduced the finger into the cervix, it came upon the head, at a distance of about 6 centimetres, arrested in the upper part of the cervix. I ordered her to be conveyed to the Lying-in Hospital. Here, in the first place, a small Barnes bag was introduced, which was replaced in a few hours by another of larger size. In spite of this the dilatation of the cervix did not progress favourably. At 6 o'clock in the evening, therefore, an incision was made with a knife through the os externum and slightly the cervix. Meanwhile frequent injections of carbolic acid were ordered on account of bad-smelling discharges making their appearance. This incision was also of no use; therefore, at 11.30 P.M., an incision somewhere about 5 cm. long was made with the scissors on each side, the head seized with the forceps, and now completely drawn out of the cervix, the lips meanwhile being pushed up over it. The incision tore up a little further. The child was a well-developed living girl, and weighed 3156 grammes. After the birth the interior was washed out with carbolic lotion and the incised surfaces cauterized with the strong acid. Notwithstanding this in the childbed, the temperature rose high; in about eight days symptoms of mania made their appearance, for which the woman was removed to the hospital. She has been discharged from thence cured."

In the same paper Benicke describes several cases where the pregnancy was interrupted at various dates. The case which most resembles the one I have related to-night was in a multipara, who gave birth to a full-time dead fœtus after a tedious labour, which

¹ "Ueber Geburtsstörungen durch die weichen Geburtswege," in *Zeitschrift für Geburtshülfe und Gynäkologie*, ii. 240, 1878.

was ended by means of powerful expression from above while the margin of the os externum was pushed back over the head.

In a paper on "Amputation of the Cervix Uteri," read by Dr A. K. Gardner before the New York Academy of Medicine,¹ a very graphic account is given by his friend Dr S. D. Shelton of the difficulty he experienced in effecting the delivery of a patient in whom labour was delayed from hypertrophy of the cervix.

"Her last confinement," he says, "commenced at 11 A.M. Saturday, 27th July 1861. I was not sent for until late in the afternoon, when she had been some six hours in the pains of labour. The pains had been regular, though short and little propulsive. I found the cervix uteri protruding from the vulva with the child's head somewhat engaged within it—that is, at its upper extremity. I do not mean that the head itself had as yet emerged from the vagina. I watched patiently and anxiously the slow progress of the case; but finding, after many hours, that the pains were inefficient and having little propulsive force, I administered cautiously and timidly (at first) ergot in the form of fluid extract. This was attended with a slight degree of propulsion, and the head advanced to a certain extent, but there it remained hour after hour—and how tedious and wearisome to more than the sufferer those hours!—pain after pain wearing out the strength without avail. I applied the forceps; carefully and gently I used them—employing, at first, a retractor like those used in amputations to antagonize my efforts in traction. But the retractor proved useless, and my efforts with the forceps of very doubtful utility. Still hoping I had made some progress, which the pains would urge on still further to the end, I withdrew the instruments, and left the case again for a while to nature—being myself somewhat fatigued with the force employed, and fearing I might injure my patient by drawing down the whole uterus, having no sufficient means at hand, at that time, to antagonize my efforts at traction.

"Again I administered ergot, giving her at the same time occasionally a little gin toddy to sustain her strength. During this tedious interval I revolved in my mind, over and over, the propriety of liberating the head from its incarceration by making a long and free incision through the whole extent of the cervix—the whole obstacle to delivery consisting in the fact that the propulsive efforts of the uterus forced down, not the head alone, but the head enclosed in the cervix as in a cap. This I should at length have done, but I determined first to make one more effort with the forceps. I applied the instruments, and having this time the assistance of the husband, I directed him to grasp the whole cervix in the palms of his hands, standing himself with his back towards the head of the patient, and, with a firm and steady, but gentle effort of strength, to draw upwards as I drew downwards with the forceps. In this way we both laboured until almost ex-

¹ *Bulletin of the New York Academy of Medicine*, April 1862.

hausted with our efforts, the head yielding slowly and doggedly but yet surely, inchlet by inchlet, until at length I had the happiness to see it emerge. The child, which I was sure would be either dead born or badly asphyxiated, breathed and cried freely immediately after birth, but, like all her other children, it soon began to pine and dwindle in spite of every effort to sustain it, and died just at the expiration of its first month of mortal existence. The mother had a very tedious and slow recovery."

Besides the interest attaching to the cause of the dystocia, I may remark that our case illustrates the dangerous influence that the loss of even a small quantity of blood may exert on a patient of enfeebled constitution. The blood-loss in the third stage subsequently was not great. It would only have been regarded as free, not excessive, in another patient. But in this instance it was followed by symptoms of great collapse that made her condition appear to us, for some minutes, to be very critical.

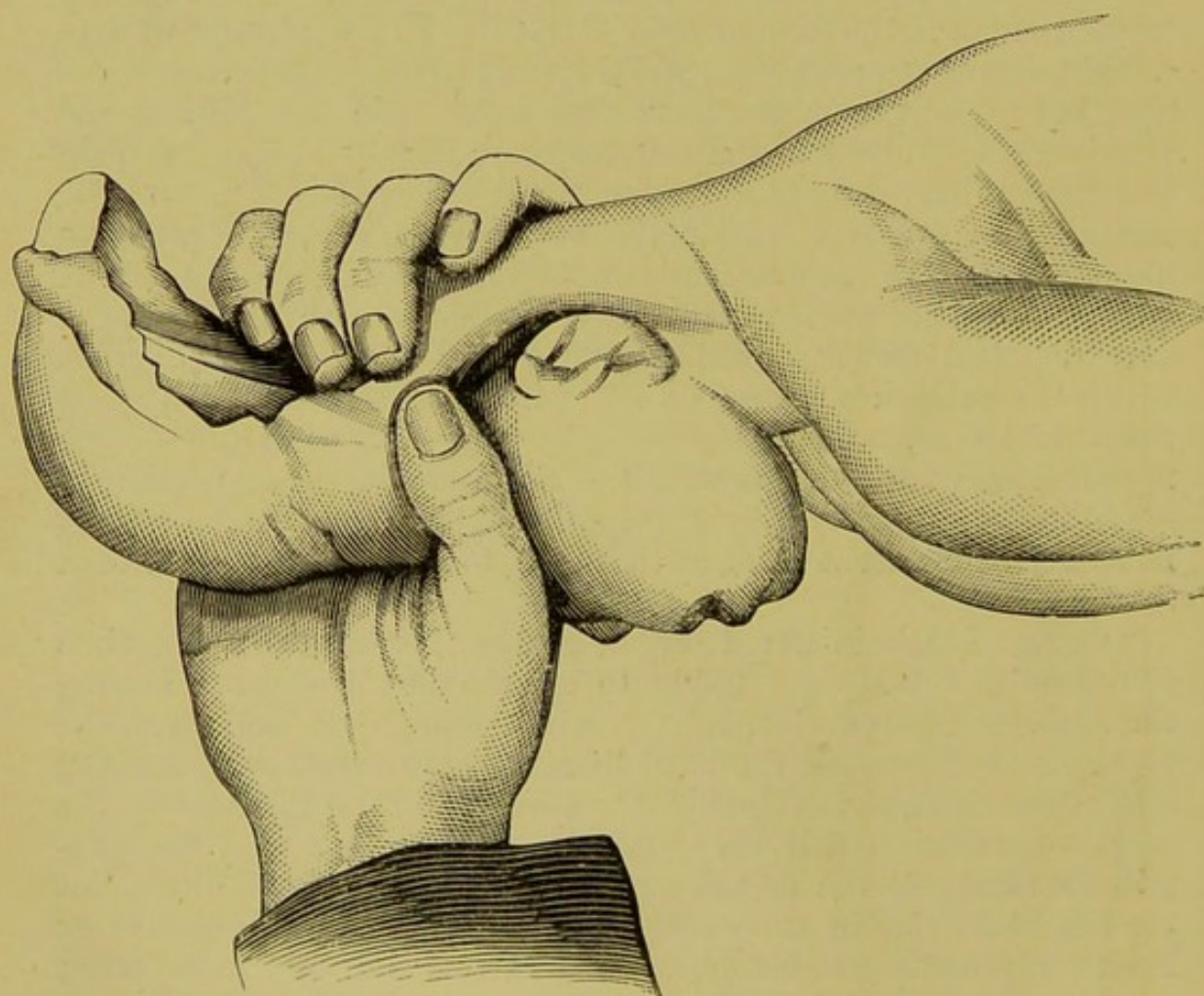


FIG. 1.—Basilyzed Head in the grasp of the hand.

The chief interest, however, lay in the opportunity it afforded of testing the working of the basilyst. It was clear that the patient could not be left to the unaided efforts of the parturient powers. To have applied the forceps would have been to endanger the diseased and friable tissues of the mother without any advantage

to the dead child. My only hesitation was as to the desirability of using the new instrument in a patient so debilitated and so likely to succumb to the dangers of the process of labour, however it might be terminated.

The employment of the basilyst in this case convinced me that it is safer in its principle of action than any of the other methods of dissolving the head. The conditions were, of course, exceptionally easy. The left parietal bone, lying next the anterior wall of the pelvis, was easily reached, pierced with the screw point, and torn widely opened when the handles of the instrument were compressed. When the cavity of the skull had been washed out it was easy to direct the point inside the skull towards the left side of the mother so as to pierce the ethmoid bone and fracture it and the sphenoid. This might possibly have sufficed, but I thought it well to pierce the base of the skull yet again further back, and effect more complete dissolution of the structures. The result was, as stated in the report, that it was now easy to bring about the escape of the head without producing any laceration of the maternal structures. Considerable fissuring took place, both in the circle of the os uteri and of the external pudenda, as the bulkier shoulders were being dragged through, but the head was so reduced and relaxed that its transit was effected without compromising the integrity of the cervical tissues.

FIG. 2.



FIG. 3.



FIG. 2.—The Basilyst closed, as when it is being screwed into the bones.
FIG. 3.—The Basilyst opened, as when the bones are being torn up.

I have brought the basilyzed child with me, and you will get a clear impression of the degree to which the skull has been comminuted in the base. When I grasp it with the thumb passing round the forehead at the level of the orbital processes, and the fingers passing round the hindhead (see Fig. 1), you will see that the tip of the medius, which embraces the sub-inial part of the occiput, comes close to the tip of the thumb just above the ear. The head has been so much diminished that it traverses a canal with a diameter of only two inches.

I show you, further, the instrument which was employed on this occasion (see Figs. 2, 3). You will perceive that it is somewhat modified from the basilyst of three years ago. It is simplified in its construction, the two halves of it, in the new instrument, being of equal thickness. Again, the joint has been brought closer to the handles, with the effect that when the handles are squeezed together the points are more widely separated, so as to effect a

more complete dilaceration of the perforated structures. Withal, the new basilyst has become lighter and cheaper. It does not cost more than the perforator in common use amongst us, and has the immense advantage that, whilst it as easily and effectively perforates the vault of the cranium, it can further break up the unyielding base, and thus in many cases render us independent of any further head-crushing implement or apparatus.



